SPONSORED BY THE

Federal Ministry of Education and Research



UNIVERSITÄT BAYREUTH

Educational Concepts on the Move: The Example of PISA in India. A Network Theoretical Perspective.

A Thesis submitted for the Degree of Doctor of Philosophy
Dissertation zur Erlangung des Grades Doktorin der Philosophie in der Disziplin der Erziehungswissenschaft an der Kulturwissenschaftlichen Fakultät der Universität Bayreuth

Submitted by
Vorgelegt von

Maria Theresa Vollmer

Bildungswissenschaft, M.A.

theresa.vollmer@uni-bayreuth.de

Bayreuth, February 2023

1st Supervisor / Erstbetreuerin: Prof. Dr. Iris Clemens, Lehrstuhl Allgemeine Erziehungswissenschaft, Universität Bayreuth
2nd Supervisor / Zweitbetreuer: Prof. Dr. Dhruv Raina, Zakir Husain Centre for Educational Studies, School of Social Sciences, Jawaharlal Nehru University New Delhi

Table of Content

Table of Figures 7

Short project description 8

Keywords 8

Abstract 9

Preface 16

1. Introduction 19

1.1. Thesis of the study 23

1.2. Relevance 24

1.3. Limitations 25

1.4. Advanced organizer 28

2. Education in India: policies, programmes and the landscape of assessment 29

2.1. Educational policies in India 29

2.1.1. National Policies on Education (NPE 1968, 1986) 29

2.1.2. Review of the evolution of the new National Education Policy (NEP 2020) 32

Understanding the aims and desired effects of the new National Education Policy 33

Critique on the new National Education Policy 35

2.1.3. National Curriculum Framework 2005 (NCF 2005) 36

2.1.4. Right to Education Act 2009 (RTE) 37

2.2. Educational programmes in India 38

2.2.1. District Primary Education Programme (DPEP) 38

Critique of the DPEP programme 40

2.2.2. Sarva Shiksha Abhiyan (SSA) 41

2.2.3. Rashtriya Madhyamik Shiksha Abhiyan (RMSA) 42

2.3. Educational assessment in India 43

2.3.1. State testing instruments 45

NCERT and its National Achievement Survey (NAS) 47

2.3.2. Non-governmental local Organizations 49

Pratham and its Annual Status of Education Report (ASER) 49

Educational Initiatives (EI) 50

Azim Premji Foundation (APF) 51

2.3.3. International organizations 51

UNESCO 52

UNICEF and UNICEF India 54

World Bank 55

DFID/FCDO 57

ACER and ACER India ... 58
OECD ... 59
The PISA study ... 62
2.4. (Inter-)national influences on the educational assessment landscape in India and the link between assessment and quality ... 66
3. The crisis of learning and the need for reform of education in India: Educational testing as a tool for improving the quality of education? ... 67
3.1. State of the art: India's participation in PISA in literature and documents ... 69
3.1.1. A review of the Indian academic discussion of quality in education ... 70
3.1.2. OECD-fication of the world? The spread of OECD's PISA ... 75
3.1.3. Rationales for a participation in PISA ... 86
3.1.4. Researching the emergence and circulation of knowledge – selected approaches ... 89
3.2. Research desideratum, research questions and objectives of the study ... 94
Three sets of questions ... 97
4. Theoretical framework ... 98
4.1. Globalization processes and local contexts: Transnational encounters, context and diversity ... 98
Working with a critical and reflexive comparative education perspective ... 103
Implications for educational research ... 105
4.2. Concepts on the move: Theorizing the emergence and circulation of knowledge ... 106
On concepts ... 108
On the circulation of concepts in network structures ... 110
On the concept of travelling ideas ... 112
Context-dependency of knowledge ... 113
On new materialism ... 115
On the complexity turn ... 118
On interdisciplinary knowledge flows ... 120
4.2.1. Diffusion: Ideas spread (in)directly via communication ... 121
4.2.2. Translation: Analysing power and change in the movement of ideas ... 124
4.2.3. Contact zones: knowledge emerges in social interactions ... 128
4.2.4. Epistemic communities: knowledge is shared by professionals in a network ... 129
4.2.5. Bazaar: Hot and cold platforms of information flows, exchange, and negotiation ... 132
4.2.6. Trading zones of knowledge: epistemic spaces where knowledge is negotiated, and exchange and collaboration is possible ... 134
4.3. Network Theory: Focusing on relationality as alternative approach ... 137
4.3.1. Networks ... 139
4.3.2. Relata ... 140

4.3.3. Relations ... 143
4.3.4. Netdoms ... 144
4.3.5. Switchings ... 145
4.3.6. Stories ... 146
4.3.7. How meaning emerges and circulates ... 148
Points of departure ... 149
5. Research perspective and methodological approach ... 151
Network analysis and ethnography ... 152
Network analysis and field theory ... 155
5.1. Research perspective of the study ... 158
5.2. Methods ... 162
5.2.1. Mapping the field ... 164
Getting access and making entrée in the field ... 164
5.2.2. Methods of data collection ... 166
Journals ... 166
Documents ... 169
Interviews with experts ... 171
Description of the interview setting and interview guide ... 174
5.3. Processing and documentation of the collected data ... 177
5.3.1. Data set ... 177
5.3.2. Transcription and anonymization of the interview data ... 178
5.3.3. English as mediating language ... 179
5.3.4. Ethics ... 180
5.4. Analysis of data ... 182
5.4.1. Outlining the analytic framework of this study ... 184
Combining qualitative content analysis and network theory (White) ... 184
Combining network theory, qualitative content analysis and ethnographical research methods ... 189
Including the material dimension and being sensitive to postcolonial theory perspectives ... 190
Bringing everything together ... 192
5.4.2. Coding frame ... 194
5.5. Network visualization ... 197
On the history of network visualization ... 197
Recent developments and challenges ... 198
Depicting nodes and links, proximity, and distance ... 198
On network maps ... 199
On interpreting network maps ... 199

The use of network visualization in this study ... 200
6. Results of the analysis: India's participation in PISA 2009 Plus ... 204
6.1. India and PISA 2009 Plus ... 204
6.1.1. Test administration of PISA 2009 Plus in India ... 206
6.1.2. Results for India in the PISA 2009 Plus Project ... 206
6.2. Key nodes and their embeddedness in the Indian educational assessment landscape ... 207
6.2.1. Organisations as nodes of influence ... 207
State bodies and their embedding ... 207
NGO's and their embedding ... 209
APF ... 209
Pratham's ASER ... 212
International organizations and their embedding ... 213
UNESCO ... 213
World Bank ... 214
UNICEF ... 214
ACER and ACER India ... 216
OECD ... 220
6.2.2. Events as nodes of influence ... 221
International conference at Udaipur 2009 ... 221
The PISA study ... 224
6.2.3. Material nodes of influence ... 225
Money ... 225
Memorandum of Understanding (MoU) ... 226
Right to Education Act 2009 (RTE) ... 226
6.3. Subnetworks ... 227
6.4. Outlining the process: The administration of the PISA 2009 Plus project in India ... 229
6.4.1. General proceedings of an application in PISA ... 229
6.4.2. Organization and preparation of the PISA test in India ... 231
6.4.3. Single perspectives on the process gathered from interview material ... 235
Perspectives from outsiders ... 236
Perspectives from insiders ... 250
6.5. Shared stories on the administration of PISA 2009 Plus in India ... 261
6.5.1. Standard story: OECD approached India ... 261
6.5.2. Alternative story: Private organisations lobbied to participate in PISA ... 262
6.5.3. Rationales for the participation of India in PISA 2009 Plus ... 263
6.5.4. Critical concerns about OECD's PISA ... 268

6.5.5. Selection of the participating states: Expectations on Himachal Pradesh and Tamil Nadu 270
6.5.6. From a bird's-eye view: Through organized meetings ... 273
6.5.7. Outlook: Selected post-PISA 2009 developments ... 277
7. Discussion ... 280
On India's participation in PISA 2009 Plus ... 280
On the different subnetworks and positionings ... 280
A summary of the circulation routes of the knowledge flows ... 282
Domestication and reconfiguration of the PISA test for the Indian environment ... 283
Integrating the results in the recent academic discussion ... 283
On development, global education policy, and the spread of ILSA's ... 286
On educational assessment ... 289
On the theoretical concepts and methodology of the study ... 293
8. Conclusion ... 299
References ... 303
APPENDIX ... 334
Journals ... 335
An overview of the analysed journals ... 335
Documents ... 340
Table overview documents ... 340
Description of the DPEP programme by the World Bank ... 343
Description of the DPEP programme by the Indian government ... 343
Results for Himachal Pradesh and Tamil Nadu in PISA 2009 Plus ... 344
OECD-website on requirements for an application for PISA ... 345
Parliament question nr. 2852 from December, 10th 2014 ... 347
Blogpost by prayatna December, 28th 2011 ... 348
Interviews with experts ... 349
Semi-structured interview guide ... 349
Revised semi-structured interview guide ... 350
Key for transcription ... 352
Table overview of interview data ... 353
Analysis ... 354
Coding frame ... 354
Reading questions ... 359
Key for the colours of the network maps ... 360
Key for the shapes of the network maps ... 361
List of Abbreviations ... 361

Table of Figures

Figure 1 List of journals 167
Figure 2 Methods of data collection 178
Figure 3 Theoretical-methodological framework 193
Figure 4 Overview main categories 196
Figure 5 Visualisation of nodes 201
Figure 6 Visualisation of trading zones 201
Figure 7 Visualisation of the background field 202
Figure 8 State bodies and their embedding 209
Figure 9 APF and their embedding 211
Figure 10 Pratham and their embedding 213
Figure 11 UNICEF and their embedding 215
Figure 12 ACER's embedding 220
Figure 13 The conference at Udaipur as node of influence 223
Figure 14 Different, overlapping subnetworks 229
Figure 15 ACER's perspective on the PISA test administration in India 235
Figure 16 Perspective of outsider 1 237
Figure 17 Perspective of outsider 2 239
Figure 18 Perspective of outsider 3 241
Figure 19 Perspective of outsider 4 242
Figure 20 Perspective of outsider 5 244
Figure 21 Perspective of outsider 6 246
Figure 22 Perspective of outsider 7 248
Figure 23 Perspective of outsider 8 249
Figure 24 Perspective of insider 1 252
Figure 25 Perspective of insider 2 254
Figure 26 Perspective of insider 3 256
Figure 27 Perspective of insider 4 257
Figure 28 Perspective of insider 5 260
Figure 29 A tentative synopsis map of the circulation routes of knowledge 276
Figure 30 A prospective map of the organisation of the next PISA round 279

Short project description

Gegenstand des Forschungsprojekts ist die Untersuchung der globalen Vernetzung von Knotenpunkten (Menschen, Organisationen, Dinge u.a.m.) und Semantiken im globalen Bildungssektor und die daraus resultierenden Transformationsprozesse, welche auf lokaler Ebene analysiert werden. Anhand des Beispiels von Indien wird nachgezeichnet, wie global kursierende Konzeptangebote – konkret die Testideologie der OECD – lokal aufgegriffen und prozessiert werden. Das Beispiel eignet sich gerade deshalb zur Diskussion der beschriebenen Prozesse, da das globale Konzeptangebot nach negativen Erfahrungen zwar zunächst abgelehnt wurde, sich jedoch darauf bezogene Transformationsprozesse im indischen Bildungssystem beobachten lassen. Das diesem Bericht zugrundeliegende Vorhaben wurde im Rahmen der gemeinsamen „Qualitätsoffensive Lehrerbildung“ von Bund und Ländern mit Mitteln des Bundesministeriums für Bildung und Forschung unter dem Förderkennzeichen 01JA1901 gefördert. Die Verantwortung für den Inhalt dieser Veröffentlichung liegt bei der Autorin.

The project explores global relationships of nodes of influence (human beings, organisations, things and others more) and semantics in the global education sector and thereof resulting transformation processes that will be analysed at the local level. Based on the example of India the project investigates, how globally circulating concept offers – precisely the ideology of testing of the OECD – are taken up and processed. This example is suitable, because the global concept offer has been opposed for a decade, even though therewith correlated transformation processes in the Indian education system can be observed. Scope of the study is the process of India’s participation in the OECD PISA 2009 Plus project. This project is part of the “Qualitätsoffensive Lehrerbildung”, 01JA1901, a joint initiative of the Federal Government and the Länder which aims to improve the quality of teacher training. The programme is funded by the Federal Ministry of Education and Research. The author is responsible for the content of this publication.

Keywords

Allgemeine Erziehungswissenschaft**,** Vergleichende Erziehungswissenschaft**,** Netzwerkforschung, Globalisierung, Aktuelle Bildungskonzeptionen, Indien

Educational Science, Comparative Education, Network Theory, Globalisation, Current Educational Concepts, India

Abstract

Gegenstand des abgeschlossenen Forschungsprojekts ist die Untersuchung der globalen Vernetzung von Knotenpunkten (Menschen, Organisationen, Dinge u.a.m.) und Semantiken im Feld des internationalen erziehungswissenschaftlichen Assessments (PISA, TIMMS etc.) und die daraus resultierenden Transformationsprozesse im globalen Bildungssektor, welche auf lokaler Ebene analysiert wurden. Anhand des Beispiels von Indien wird nachgezeichnet, wie global kursierende Konzeptangebote – konkret die Testideologie der OECD – durch die einmalige Teilnahme am PISA 2009 Plus - Projekt lokal aufgegriffen und prozessiert wurden. Das Beispiel eignet sich gerade deshalb zur Diskussion der beschriebenen Prozesse, da das globale Konzeptangebot nach negativen Erfahrungen zwar zunächst abgelehnt wurde, sich jedoch darauf bezogene Transformationsprozesse im indischen Bildungssystem beobachten lassen (vgl. Vollmer 2019b). Die jüngste Entscheidung der indischen Regierung erneut an PISA teilzunehmen, verweist auf die enorme Dominanz und Durchschlagskraft der OECD-forcierten Testkonzepte. Die Ausbreitung dieser Testkonzepte und die damit einhergehende Transformation von staatlicher lokaler Bildungspraxis durch private Akteure (internationale Organisationen, Philanthropen, Firmen etc.) wird in der Studie kritisch betrachtet. Herauszufinden, wie die OECD PISA Studie in Indien aufgegriffen und prozessiert wurde, war einer der Ausgangspunkte für die vorliegende Forschung.

Untersuchungsgegenstand der Studie ist Indiens Teilnahme am OECD PISA 2009 Plus Projekt. Das Verhältnis der indischen Bildungspolitik gegenüber der OECD PISA Studie wird beschrieben und die Wege der Zirkulation von Wissen über diesen bisher einmaligen Teilnahmeprozess werden analysiert. Die Studie zielt darauf ab, relevante Knotenpunkte (*nodes of influence*) oder Relata und deren Argumente zu identifizieren. Sie untersucht, wie Bedeutung entsteht und Wissen durch das Erzählen von Geschichten über (Sub-)Netzwerke hinweg verbreitet bzw. ausgehandelt wird (*trading zones of knowledge*, Galison 1997). Zahlreiche (Sub-)Netzwerke werden visualisiert, welche Bildungsexperten, Publikationen und Events als Knotenpunkte miteinschließen um der Dynamik des Prozesses im Forschungsdesign Rechnung zu tragen. Ziel des Projekts ist es, Antworten auf die folgenden Fragen zu erhalten: *(1) Wie kam es dazu, dass Indien am PISA 2009 Plus Projekt teilnahm? Was ist passiert? Wann ging die OECD zum ersten Mal auf Indien zu? (2) Wer war an diesem Prozess beteiligt? (3) Welche Geschichten werden von wem erzählt und geteilt? Welche Hoffnungen und Befürchtungen werden von wem geäußert?*

Aus der Analyse des Datenmaterials geht hervor, dass die Beweggründe Indiens an der OECD-PISA Studie teilzunehmen, nicht allein durch die gewaltvolle Überredung durch die

OECD, noch allein durch das erfolgreiche Lobbying privater Akteure, oder allein durch die Empfehlung angesehener internationaler Assessment-Experten hervorgegangen sind. Vielmehr haben viele verschiedene, zum Teil gleichzeitig stattfindende Prozesse dazu beigetragen. So kam PISA durch zahlreiche organisierte und informelle Zusammentreffen nach Indien. Verschiedene Menschen und Organisationen waren involviert, um Ideen auszutauschen, Strategien zu diskutieren, und Vorgehensweisen zu finalisieren. Weiterhin, um Geldmittel und andere Dinge, technische Expertise und Wissen anzubieten, sowie an Fortbildungen und Trainings und weiteren Events teilzunehmen. Die OECD PISA Gruppe erhielt Zugang in Indien, indem sie auf bereits existierende Verbindungen und Netzwerke zwischen lokalen und internationalen Organisationen, wie beispielsweise zwischen indischen Regierungsorganisationen, indischen regierungsnahen Organisationen, ACER und der Welt Bank Gruppe, zurückgriff. Diese Verbindungen und Netzwerke sind sehr heterogen und überlagern sich mit anderen Subnetzwerken, da Assessment-Experten und deren ‚know-how', sowie Assessment-Konzepte von einer Institution bzw. Organisation zu einer anderen übertragen werden. Der Prozess der Teilnahme Indiens an der OECD PISA Studie kann auch als Prozess des Erschließens von und Zugang-Findens zu neuen Netzwerken und der Einbindung und Einbettung in die internationale erziehungswissenschaftliche Assessment Gemeinschaft gesehen werden (basierend auf Clemens 2015: 367ff).

Die Studie untersucht die Verbreitung von Wissen – genauer: zirkulierende Konzepte in epistemischen Räumen rund um Indiens Teilnahme am OECD PISA 2009 Plus Projekt – indem sie das Konzept der *Aushandlungszonen* (Galison 1997), Perspektiven des *Neumaterialismus* und der *Science and Technology Studies* (STS) (Knorr Cetina 1999; Haraway 1988), mit der *Netzwerktheorie* Harrison Whites und anderen (White 1995, 2008; Godart/White 2010), sowie mit *Methoden der qualitativen Sozialforschung* (Mayring 2015; Schreier 2014; Howard 2002; Forsey 2008; Desmond 2014) zusammenbringt. Die Idee ist zunächst das Konzept der Aushandlungszonen mit Aspekten der Netzwerktheorie zu verknüpfen. Zweitens, beides um Perspektiven des Neumaterialismus und STS zu erweitern. Schließlich drittens, diesen theoretischen Rahmen mit Methoden der qualitativen Sozialforschung zu kombinieren. Antworten auf die Forschungsfragen sollen durch die Erhebung und Auswertung verschiedener Datenmaterialien gefunden werden, diese sind Dokumentenanalyse, Literaturrecherche und Experteninterviews.

Das Konzept der global reisenden Ideen (*globally travelling ideas*, Czarniawska/Sevón 2005) wird aufgenommen und in Bezug gesetzt mit dem Konzept der Aushandlungszonen (*trading zones of knowledge*, Galison 1997; Raina 2016). Das Thema wird weder mit einem

diskursorientierten Zugang (vgl. bspw. Czarniawka/Sevón 2005) noch mit einer neo-institutionalistischen Perspektive (vgl. bspw. Krücken 2005) bearbeitet, sondern netzwerktheoretisch. Der Fokus liegt auf der Thematisierung des Begriffs *Netzwerk* und darauf das *Netzwerkparadigma als theoretische Basis* zu stärken. Deshalb wird aus einer *relationalen Perspektive* (vgl. bspw. Häußling 2010) heraus gearbeitet und die Netzwerktheorie nach White als Basis der Forschung genommen (vgl. White 2008; Godart/White 2010). Dies lohnt sich, weil mithilfe des Ansatzes von White, Prozesse der Bildung, Erziehung und Sozialisation kulturwissenschaftlich und kultursensitiv untersucht werden können (vgl. Clemens 2015). Solch ein Vorgehen einer Netzwerkanalyse mit dem Ziel einer Rekonstruktion von (Sub-)Netzwerken, die sich auf Netzwerktheorie bezieht, ist zu großem Teil ein neues Unterfangen. Deshalb untersucht das Projekt das Thema explorativ und beispielhaft und so postkolonial-sensitiv wie möglich. Die Ausrichtung der Studie ist transnational (vgl. bspw. Münch 2012), transdisziplinär (vgl. bspw. Mittelstraß 2007; Sukopp 2010) und transkulturell (vgl. bspw. Raina 2016) und ist grob in einer kritischen und reflexiven vergleichenden erziehungswissenschaftlichen Perspektive verortet (vgl. bspw. Parreira do Amaral/Amos 2015). Darüber hinaus betrachtet sie *Diversität* (vgl. Budde 2017; Walgenbach 2017) als Grundpfeiler des Forschungsdesigns.

Aufgrund seiner reichhaltigen kulturellen, religiösen und sozialen Heterogenität, bietet Indien zahlreiche Ansatzpunkte dafür, Diversität in Bildungsprozessen zu erforschen (vgl. Auernheimer 2015; Clemens/Srivastava 2007). In der vorliegenden Studie wird kulturelle Diversität in ihrer epistemologischen und konzeptionellen Dimension untersucht. Gegenstand der Untersuchung ist nicht die Frage nach der Passung globaler Bildungskonzepte für diverse lokale Konzepte, sondern eine Analyse der globalen Verflechtung von Akteuren, welche beim Transmissionsprozess dieser Konzepte beteiligt sind. Um das Auftreten neuer Bildungskonzepte in lokalen Kontexten zu analysieren und verstehen zu können, ist ein Blick auf größere Zusammenhänge – wie beispielsweise das Zusammenleben in einer vernetzten, globalisierten Welt – sowie auch die stärkere Berücksichtigung postkolonialer Theorieperspektiven hilfreich und notwendig.

Das Forschungsprojekt zu der Verbreitung von Bildungskonzepten unter Bedingungen von Globalisierung mit Fokus auf den indischen Kontext, ermöglicht es neues Wissen über die OECD und die von ihr gesteuerten Reformen zu generieren. Dieses neue Wissen ist nicht nur für den europäischen oder indischen Kontext hilfreich, sondern für die globale Diskussion über die Organisation von Bildung und die Gestaltung von Bildungspolitik. Ein Ertrag der Forschung ist in der Kritik der PISA-Studie bzw. der OECD zu sehen. In weiterer Forschung wäre eine

vergleichende Untersuchung zwischen Deutschland und Indien lohnend, um Wissen zum Umgang mit dem sogenannten *PISA-Schock* zu generieren, aber auch daraus hervorgehende Transformationen im Bildungssystem zu untersuchen.

Die Arbeit leistet einen Beitrag zur globalen erziehungswissenschaftlichen Diskussion über international-vergleichende Schülerleistungstests und über die Qualität von Bildung. Sie bietet eine Grundlage dafür, Akzente in der Bildungsforschung hinsichtlich einer stärkeren Berücksichtigung von Diversität zu setzen, Handlungsempfehlungen für einen Wandel von Bildungspolitik zu entwickeln und die Verbesserung der Lehrerbildung zu forcieren. Nach Fossum (2015), stellt die Beschäftigung mit vergleichender erziehungswissenschaftlicher Forschung einen wichtigen Beitrag zur Lehrerbildung dar. Sie bietet Lehramtsstudierenden die Möglichkeit, interdisziplinäre und interkulturelle Kompetenzen zu erwerben, Neugierde sowie auch Teilhabefähigkeit und die Fähigkeit zum kritischen Denken zu entwickeln. Dies beispielsweise im Hinblick auf die Umsetzung aktueller Bildungsreformen im Bildungssystem. Die vorliegende Studie ist interessant für Lehrer:innen und Erzieher:innen, sowie für Wissenschaftler:innen verschiedener Disziplinen und Felder in Deutschland und in Indien, sowie auch in anderen Regionen weltweit.

The project explores global relationships of *nodes of influence* (human beings, organisations, things and others more) and semantics in the field of international educational assessment (PISA, TIMMS etc.) and the thereof resulting transformation processes in the global education sector that will be analysed at the local level. Based on the example of India's participation in the PISA 2009 Plus project, the study investigates, how globally circulating concept offers – precisely the ideology of testing of the OECD – are taken up and processed. This example is suitable for the discussion of the above outlined processes, because due to the negative experience with PISA 2009 Plus the global concept offer has been opposed for a decade, even though therewith correlated transformation processes in the Indian education system can be observed (see Vollmer 2019b). The recent decision of the Indian government to take part in PISA again, points out to the enormous dominance and power of the OECD-driven educational testing concepts. The spread and expansion of these and the therewith correlated transformation processes within local state education sectors through private actors (international organisations, philanthropists, companies and others more) is considered with high concern in this study. Finding out, how the OECD PISA study had been taken up and processed in India, has been one of the points of departure of the research at hand.

Scope of the study is the process of India's participation in the OECD PISA 2009 Plus project. The relation of the Indian education policy towards OECD's PISA will be described and the circulation routes of knowledge flows will be analysed. Particularly, the study aims to identify relevant *nodes of influence* or relata, and their arguments. It explores, how meaning emerges, and knowledge is transmitted or traded through the sharing of stories in and across networks (*trading zones of knowledge*, Galison 1997). Manifold (sub-)networks will be visualised, including experts on education or other important nodes of influence, such as publications and events. to catch the dynamic of this process and to give justice to it in the research design. Goal of the project is to find answers to the following research questions: *(1) How did it come that India participated in the PISA 2009 Plus project, what happened? When did OECD approach India for the first time? (2) Who was involved in the process? (3) Which stories are shared and expressed by whom? What kind of expectations and hopes, resp. what kind of constraints have been there?*

The analysis of the data material revealed that the rationales for India to take part in the OECD PISA study evolved not merely because of the forceful persuasion by the OECD, nor only because of the successful lobbying by private actors, nor merely because of the recommendation by knowledgeable international assessment experts. Rather, there have been happening multiple, and in parts simultaneous processes, where different organisations, people, things, and events came together in formal and informal meetings for exchanging ideas, discussing upon strategies, and finalizing proceedings. Moreover, to offer money and funding or other material resources, technical 'know-how' and other forms of knowledge, or to participate in capacity building workshops, round tables, trainings, and other events. Further, the analysis showed that OECD's PISA people gained access and *footing* in India by drawing on existing connections and networks between local and international organisations, such as Indian government and quasi-government bodies, ACER, and the World Bank. These connections and networks had been quite heterogeneous in nature and were overlapping with other subnetworks, as experts in assessment and their' 'know-how', as well as assessment concepts and tools were transferred from one institution or organisation to another. Based on Clemens (2015: 367ff), the process of India joining PISA can likewise be seen as a process of finding access to new networks and embeddedness in the international educational assessment community.

The study at hand explores the transmission of knowledge – or more specifically: circulating concepts in epistemic spaces around the OECD PISA 2009 Plus project – by bringing together the concept of *trading zones* (Galison 1997), perspectives of *new materialism and Science and*

Technology Studies, (hereafter STS), (Knorr Cetina 1999; Haraway 1988), *network theory* according to Harrison White and others (White 1995, 2008; Godart/White 2010) and methods of *qualitative social research* (Mayring 2015; Schreier 2014; Howard 2002; Forsey 2008; Desmond 2014). Thus, the idea is firstly to link the concept of trading zones with aspects of network theory. Secondly, to widen both with perspectives of new materialism and STS. Thirdly, to combine this theoretical framework with methods of qualitative social research. Answers to these questions shall be find out by collecting and analysing diverse types of data - document analysis, literature research and interviews with experts.

The conception of *globally travelling ideas* (Czarniawska/Sevón 2005) is taken up and correlated to the conception of *trading zones of knowledge* (Galison 1997; Raina 2016). The topic is neither examined with a discourse-oriented approach (see Czarniawka/Sevón 2005) nor with neo-institutionalism (see Krücken 2005) but rather network theoretically. The focus is set on the thematization of the term *network* and on strengthening the *network paradigm* as theoretical foundation. Therefore, a *relational perspective* (see Häußling 2010) is considered and the approach of network theory according to Harrison White is taken as a basis (see White 2008; Godart/White 2010). This is worthwhile, because with White's approach educational and social processes can be examined in a culture-theoretical and culture-sensitive manner (see Clemens 2015). Such a procedure of a network analysis with the aim of a network reconstruction taking recourse to network theory is largely a new endeavour. Therefore, the project examines the topic in an exemplary, explorative way, and as postcolonial sensitive as possible. The study is transnational (see e.g., Münch 2012), transdisciplinary (see e.g., Mittelstraß 2007; Sukopp 2010), and transcultural (see e.g., Raina 2016) in its nature and is located very broadly in a critical and reflexive comparative education perspective (see e.g., Parreira do Amaral/Amos 2015). Furthermore, it considers *diversity* (see e.g., Budde 2017; Walgenbach 2017) as a basic pillar of the research design.

Due to its vast cultural, religious and social heterogeneity (see Auernheimer 2015: Clemens/Srivastava 2007), India offers manifold starting points for examining diversity in the realm of the education sector. In this study, cultural diversity is studied in its epistemological and conceptual dimension. Focus of this study is not the question of the fitting of global concept offer and local context, but rather the analysis of the underlying relationality of these transmission processes and the global entanglements of the participating nodes of influence. When analysing and understanding processes of the emergence of new educational concepts in local contexts, a look at the bigger picture – as e.g., living in an entangled, globalized world – is needed and helpful, as well as the greater consideration of postcolonial theory perspectives.

The research project on the transmission of educational concepts under condition of globalization with focus on the Indian context allows to generate new knowledge about the OECD and its headed educational reforms. This new knowledge shall be helpful not only for the European or Indian context, but for the global discussion on education and education policy making. A gain of this study is a critique on the PISA study resp. the OECD. In further research processes, a cross-case analysis of India and Germany (or other countries in Europe) with the focus on coping with the so-called *PISA Shock* and therewith correlated transformations in the local education sector will be a worthwhile investigation.

The study contributes to the global educational discussion on international large-scale assessment, (hereafter ILSA), and on the quality of education. It provides a basis and starting points for placing stronger emphasis on the consideration of diversity in the realm of educational research, for developing implications for a change of educational policy and for a betterment of teacher education. According to Fossum (2015), doing comparative education research complements teacher education. Teacher education students may acquire interdisciplinary and intercultural competence, curiosity as well as participation skills and the ability of critical thinking, as e.g., in view of the implementation of current reforms in the education system. This study is of interest for teachers and educationists, academic scholars of different fields and disciplines in Germany and India resp. in other regions and contexts worldwide.

Preface

Based on preliminary works on the educational philosophy of Mahatma Gandhi (Vollmer 2015 (unpublished), Vollmer 2016), since long my interest has been to conduct research and to publish on how globalisation processes – more precisely thought of as global circulating educational concepts – impact on local contexts. Elsewhere, I ask: „[h]ow will challenges concerning education be discussed in India" (Vollmer 2016: 108)? The motivation for conducting the study on India's participation in the OECD PISA study has been to learn more about the recent challenges and developments in the Indian education sector. When travelling to India for a study visit in 2011 and later for the purpose of conducting research for this project, I came to know about many innovative and alternative concepts in educational assessment, such as the concept of *CCE*, *Pratham's ASER tool*, or the concept of *ABL* (which all will be explained in detail later in the thesis). What has been striking me is, that some of these concepts have been circulating to other contexts in the world, such as to countries in East Africa or to Bavaria in Germany, to name only a few. I care about studying the subject of internationalisation of local educational processes because in view of the dominance and power of prominent international large-scale assessments, (hereafter ILSA's), such as *PISA* and *TIMMS*, the diversity in concepts and practices in the field of global but also local educational assessment is under threat and a homogenisation of test concepts, meaning an alignment of local test concepts with the PISA model, is a likely development in the near future.

I gained an inspiration for the first part of the thesis' title "Educational Concepts on the Move", through a talk I gave at ZHCES at JNU in New Delhi in 2017. As I figured back then that for me the central question of the thesis and likewise to the discipline of educational science is: *What happens when concepts – stories – circulate from one context to another? How does this exchange between two contexts lead to transformation processes in both of these contexts?* Thus, I assembled the story of how it came that India joined OECD's PISA 2009 Plus project along the concept of *trading zones* (Galison 1997) and the notion of *epistemic spaces* (Raina 2019), as well as on the concept of *stories* in network theory (White 2008). The framework of the study explores linkages between different disciplines and approaches, and is not set back by contradictions. Instead it aims at finding starting points for connecting different approaches and in doing so it contributes to the realm of network theory and educational science.

There is not only one story on how it came that India participated in PISA, but rather many. The analysis showed that there have been happening multiple, and in parts simultaneous processes, where different organisations, people, things, and events came together in formal and informal meetings for exchanging ideas, discussing upon strategies, and finalizing

proceedings. The aim of the presentation of the findings of the study has been to give voice to the many, often differing perspectives. The reader is invited to learn more about these, but is cautioned to not shy away from reading in view of the number of different actors, relations, and transactions involved in this process. For guidance, a table of figures, a list of abbreviations, as well as keys for the network maps are given.

This thesis has been submitted to the Kulturwissenschaftliche Fakultät of University of Bayreuth for the Degree of Doctor of Philosophy on July, 18th 2022, and it has been accepted as dissertation by the doctoral committee of the Kulturwissenschaftliche Fakultät of University of Bayreuth on November, 9th 2022. This publication differs barely from the thesis that had been submitted for graduation. So far, only minor revisions have been made in the book cover and text, allowing the possibility of an updated version of the thesis as a book to see the light of day very soon.

The thesis has been supervised and reviewed by Prof. Dr. Iris Clemens, Lehrstuhl Allgemeine Erziehungswissenschaft, Universität Bayreuth and Prof. Dr. Dhruv Raina, Zakir Husain Centre for Educational Studies, School of Social Sciences, Jawaharlal Nehru University New Delhi. I would like to express my big thanks to Iris Clemens and Dhruv Raina. For their great supervision and immense encouragement. Furthermore, for their advice, inspiration, and help at every stage of the research project, especially during the research stays in India.

My sincere thanks goes to the members of the Zakir Husain Centre for Educational, Studies, School of Social Sciences, at Jawaharlal Nehru University in New Delhi, for the possibility to repeatedly stay, to do research, to present and discuss my research. Likewise, my thanks extends to the members of the Department of International Relations and Governance Studies at Shiv Nadar University, Greater Noida, for the possibility to present and discuss my research. I am grateful for the possibilities for an in-depth research in several libraries. These were in Germany the libraries of the Universities of Bayreuth, Berlin, and Heidelberg. In New Delhi, libraries of JNU, libraries of NIEPA and NCERT, as well as the Nehru Memorial Museum & Library (NMML). In South India, the National Institute of Advanced Studies, NIAS in Bangalore and the Connemara Public Library in Chennai. I would like to express my special thanks for their critical feedback and their valuable insights to all the experts, I could meet in India and Germany: First of all, the experts that I could interview, but also Manish Jain, Hardy Dewan, Christian Stegbauer, Roger Häußling, Stefan Bernhard and Carmen Hack.

I would like to express my warm thanks to the big financial, technical help and expertise I received through the University of Bayreuth and the project “Qualitätsoffensive Lehrerbildung”. I would like to extend my thanks to the technical help of Sarah Fuchs, Matthias

Erdmann, Sylvia Becher, Sarah Gruhl, Elena Kerling, Sandra Hörl, Leon Häfner, Matthias Tvaruzek and Viktoria Fahsig. My warm thanks is especially addressed to Karin Heinz for reminding me that going out for hiking and walking in the nature helps ideas to grow and flourish. I am grateful for her support, inspiration, and her *Apfelkuchen-Seminar*.

My sincere thanks goes to my international PhD-peer-group who has been in itself a *trading zone* of knowledge, support, and feedback: Julia Thibaut, Alireza Madadi, Issa Tamou, Vandana Vyas, Shalaka Torane, and Sunaina Arya. Especially the Friday meeting discussion group during the COVID-19 pandemic years had been a lifeline and valuable corrective. My sincere thanks extends to all of its members. My heartfelt thanks are due to my family and friends in particular Miriam Hirt, Anja Kühn, and Sarah Bies for their never ending support and love. Lastly, to everyone who had been with me on this long and winding road. Thank you for your support!

Maria Theresa Vollmer

1. Introduction[1]

Global transformation processes as for example migration, new technologies and the economic penetration of educational research and practice are challenging educationists and educational agencies worldwide (see UNESCO 2015). Especially in times of crisis such as the recently experienced COVID-19 pandemic, but even before. Starting point of the many endeavours in education reform in India (but also elsewhere), is the narrative of a *deep education crisis* and the aim to provide better *quality of education* to children and the youth (PROBE 1999; De et al. 2011; Tilak 2003; Drèze/Sen 2014). The pending problem and urgent question is: *how can this be solved?* De Haan (2010: 26f; T.V.: translation)[2] describes a „changed learning culture" with special focus on Education for Sustainable Development (ESD).[3] Learning in this notion is best described as „independent learning, discovery learning as well as learning which considers the complexity of the issue" (ibid., T.V.: translation). A set of „new competencies" (ibid; T.V.: translation) is required which encompasses „self-organized acquisition and evaluation of information" (ibid; T.V.: translation), „communication skills and cooperation capability" (ibid.; T.V.: translation), a „shifting in perspective in view of differing life worlds and contexts" (ibid.; T.V.: translation) and finally the „forward planning in networked systems" (ibid; T.V.: translation). From a highly economic-oriented perspective, Andreas Schleicher, the Head of the OECD PISA test, describes the changing notion of education as follows:

> „In the past, education was about teaching people something. Now, it is about making sure that students develop a reliable compass and the navigation skills to find their own way through an increasingly uncertain, volatile and ambiguous world." (Schleicher 2017: 113)

The phenomenon of economization of education is critically discussed internationally (see e.g., Beichel/Fees 2007; Resnik 2006; Karatzia-Stavlioti/ Lambropoulos 2009; Kumar 2006a, 2014).

In the past decades[4] an expanding use of large-scale assessment tools at national and international levels can be observed (Lockheed 2013; Addey et al. 2017). The spread and

---

[1] This project is part of the "Qualitätsoffensive Lehrerbildung", 01JA1901, a joint initiative of the Federal Government and the Länder which aims to improve the quality of teacher training. The programme is funded by the Federal Ministry of Education and Research. The author is responsible for the content of this publication.

[2] De Haan (2010) and Schleicher (2017): This paragraph had been firstly written by me for an unpublished, not finished working paper of the working group "Education" with the title: "Learning for the Future – Transdisciplinary Perspectives on Knowledge Transmission in Africa and beyond". This project took place at University of Bayreuth in the Winter term 2017/2018.
See the information brochure of Bayreuth Academy of Advanced African Studies: https://www.academia.edu/35528315/_Learning_for_the_Future_Transdisciplinary_Perspectives_on_Knowledge_Transmission_in_Africa_and_Beyond [31.05.2022].

[3] The author highlights that it is difficult to define the borders of ESD and that the understanding of ESD varies in relation to life worlds and contexts.

[4] This paragraph had been firstly written by me for an unpublished, not finished working paper of the working group "Education" with the title: "Learning for the Future – Transdisciplinary Perspectives on Knowledge

acceptance of the idea of testing knowledge and skills as indicator for future developments (societal and economical) is viewed in this study with critical concern. Whereas in the beginning, the PISA test intended to measure cognitive skills, the range of skills to be tested has been widened over the course of the development of the test. In the „OECD Learning Framework 2030"[5] prominently – but as well already earlier (OECD 2018a) – the goal of the development of *global competencies* is promoted. These shall be measured through multiple choice testing items. In a 2018 position paper, brought out jointly by the OECD and worldwide partners, the aim to „developing future-ready education for all" (OECD 2018b: 03) is postulated. The second pending question is: *What is a global competency? What is future-ready education for all? Is it possible to think about one concept of future, competency-based learning, as well as good education for all children and youth worldwide?* [6]

The OECD does not only give recommendations for national educational policies, moreover this organisation sets standards, that give orientation for local educational policies[7]. For example, in Germany, after its bad results in the first participation round of PISA in 2000 and the often cited *PISA Shock* (e.g., Waldow 2019), the orientation of educational policy has been changed. In the German educational academic and public discussion it becomes visible that PISA changed the discussion on education as well as the very notion of education (e.g., Jahnke/ Meyerhöfer 2008).[8] There is a growing pressure to cite PISA in educational research projects and to refer to it in teaching processes, especially in teacher education programmes. According to PISA, the German education system is highly unfair in terms of access to and equality in education. The conducted PISA cycles show again and again, that the German education system reproduces social injustice (see e.g., OECD 2010, 2016; Klieme 2018[9]). PISA led to discussions about and research on social (in)justice, heterogeneity and diversity (see Kiel et al 2015; Walgenbach 2017), and about educational reforms in Germany in general (see Rekus 2005, 2007; Beichel/Fees 2007; Vollmer 2019a).

At focus of this study is not, how Germany deals with PISA, but rather to learn about *how PISA is seen and discussed in other contexts*. In 2012 the government of India decides after its

Transmission in Africa and beyond". This project took place at University of Bayreuth in the Winter term 2017/2018. See the information brochure of Bayreuth Academy of Advanced African Studies: https://www.academia.edu/35528315/_Learning_for_the_Future_Transdisciplinary_Perspectives_on_Knowledge_Transmission_in_Africa_and_Beyond [31.05.2022].

[5] See: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_concept_note.pdf [12.05.2022].

[6] This question will be taken up later in the discussion section (chapter 7).

[7] See: https://www.oecd.org/about/how-we-work/ [26.05.2022].

[8] This observation has been stated by Addey/Gorur (2021), too.

[9] Source: https://www.zeit.de/2018/07/pisa-studie-oecd-politik-eckhard-klieme and https://www.zeit.de/gesellschaft/schule/2018-02/bildungspolitik-pisa-studien-daten-oecd-kritik [26.05.2022].

first participation in the PISA 2009 Plus project with the two states Himachal Pradesh and Tamil Nadu[10], to not participate in future cycles of PISA. This withdrawal lasted for almost a decade, until the Indian government decided in 2019 to take part in PISA again. This rather seldom procedure of withdrawing from PISA after a first participation is the departing point of the study. However, it is important to state that India is not the only participant in PISA, that withdrew from another participation after it joined the test for the first time. As of now, Mauritius and Miranda-Venezuela did likewise only participate in PISA 2009 Plus.[11] The Kyrgyz Republic participates in PISA for example in 2006 and 2009, but not in the following rounds.[12] Azerbaijan joined the PISA test in 2006, 2009 and then again in 2018 and 2022.[13] After joining PISA in 2009, Georgia, Moldova and Malta withdrew from the PISA 2012 cycle, but joined again in PISA 2015 and PISA 2018.[14]

Similar to Germany and other OECD countries, Costa Rica, Malaysia and the United Arab Emirates participated in all following cycles after their first participation in 2009.[15] Mexico participated in every round since it joined the test. However, until 2017 it could not obtain any betterment of its results.[16] Contrary to this, Estonia is an example for a participant that after becoming member of the OECD could achieve a betterment in performance over the course of time. Estonia joined the PISA test in 2006. It became OECD-member in 2010 and in 2015 it was the best participant in Europe.[17] Lastly the case of Peru. Peru joined already the first round of PISA 2000, but re-joined only in 2009 and every following round.[18] Jaime Saavedra, the former education minister from Peru, who is now associated with the World Bank, compares educational planning with *flying an aircraft*. He says, you can't afford flying without sight. In times of a worldwide education crisis, educational planning and evaluation is needed to provide

[10] Himachal Pradesh is a state in northern India with Shimla as its capital city and Hindi as the state language. As literature holds – and often quoted in the expert interviews – education is strong and the literacy rate is high. Tamil Nadu is a state in southern India, of which Chennai is the capital city. The state language is Tamil. Likewise, to Himachal Pradesh, Tamil Nadu is considered as a state where education is strong.
[11] https://nces.ed.gov/surveys/pisa/countries.asp [12.05.2022].
[12] https://nces.ed.gov/surveys/pisa/countries.asp [12.05.2022].
[13] http://www.oecd.org/pisa/aboutpisa/azerbaijan-pisa.htm [12.05.2022].
[14] https://nces.ed.gov/surveys/pisa/countries.asp [12.05.2022]; https://www.oecd-ilibrary.org/sites/d2db6cb0-en/index.html?itemId=/content/component/d2db6cb0-en [12.05.2022]; https://curriculum.gov.mt/en/international_studies/Pages/PISA.aspx [12.05.2022].
[15] https://nces.ed.gov/surveys/pisa/countries.asp [12.05.2022].
[16] This journal article holds, that the results for Mexico did not show any betterment over the course of years and participations in PISA: http://mexiconewsdaily.com/news/mexican-students-not-at-top-of-the-class/ [29.09.2017]. OECD analysis of the Mexican case: http://www.oecd-ilibrary.org/education/lessons-from-pisa-for-mexico_9789264107243-en [29.09.2017]. see also: http://www.oecd.org/pisa/pisa-2015-mexico.htm and http://www.oecd.org/pisa/aboutpisa/mexico-pisa.htm [06.02.2023].
[17] https://www.oecd.org/pisa/PISA-2015-estonia.pdf , http://estonianworld.com/knowledge/oecd-estonian-elementary-education-best-europe/ , http://www.oecd.org/estonia/pisa-2015-estonia.htm
[18] https://nces.ed.gov/surveys/pisa/countries.asp [12.05.2022].

quality education.[19] Looking at concept offers by international organisations, Oza/Bethell (2013: 12) mention TIMMS and PISA as the "most influential and technically sophisticated surveys of learner achievement". Referring to the fact that more and more low- and middle-income countries take part in these international large-scale assessments (ILSA's), this expansion of ILSA's would mirror the developments in the global economic system. The third pending question is therefore: *how does it come that (inter-) national large-scale assessments obtain such popularity?*

Based on these examples it appears as if the PISA test expands from one context to another rapidly, in a linear manner, and without any changes. However, flows of knowledge and resources are not always transmitted from one link of a chain to the next. Sometimes a link is skipped (see Stegbauer 2016). Furthermore, not every link of the chain is identical, rather actors, or *nodes of influence* as I would like to call them, constitute themselves out of social processes and vary in different contexts (*netdoms*) as well as over time. Knowledge flows often start simultaneously and independently in different contexts and with multiple directions (see Raina 2009; 2016). An investigation of the many *circulation routes of knowledge flows* and theories thereof is at the heart of my study. The central question of the thesis and likewise to the discipline of educational science is: *What happens when concepts – stories – circulate from one context to another? How does this exchange between two contexts lead to transformation processes in both of these contexts?* Thus, I assembled the story of how it came that India joined OECD's PISA along the concept of *trading zones* (Galison 1997) and the notion of *epistemic spaces* (Raina 2019), as well as on the concept of *stories* in network theory (White 2008). The framework of the study explores linkages between different disciplines and approaches, and is not set back by contradictions. Instead it aims at finding starting points for connecting different approaches and in doing so it contributes to the realm of network theory and educational science.

The investigation of how it came that India took part in OECD's PISA study brought the dimension of inequality of knowledge flows as well as inequality in getting access to knowledge to our attention. The suggested theoretical and methodological approach helps in problematising capacity building endeavours and financial aid in contexts of the so-called global south. This means being critical about standard stories of collaboration on an equal footing and instead look closely at unequal flows of knowledge.

[19] See: http://blogs.worldbank.org/education/print/measuring-learning-avoid-flying-blind [14.01.2019] and OECD TopClass Podcast, Episode 13: What can low- and middle-income countries learn from PISA?, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/episode-13-what-can-low-and-middle-income-countries-learn-from-pisa [31.05.2022].

The study is complex in its research design, which had been developed to look at the process of India joining PISA differently, and to make a contribution to the theory and methodological development of network theory, and lastly, to integrate postcolonial theory perspectives at every layer of research and as much as possible. The thesis contributes to the state of the art on the spread of ILSA's by not focussing on investigating one actor and its influences on another, but rather in looking at multiple actors and their entanglements with each other. In terms of researching the phenomenon of knowledge flows, the thesis brings different concepts together. Furthermore, it shows how different theoretical and methodological approaches are merged, to find a framework that is suiting the problem and objective of the study. I see an epistemological gain in the aspect, that the thesis thoroughly ponders over the questions of what an *actor* is, and what constitutes a *relation between actors*. This fundamental research informs further studies on the problem of *agency*, or on the question of how to conceptualise *power*.

1.1. Thesis of the study

From a bird's-eye view, it is not sufficient to say that India joined PISA either only because of the *forceful persuasion by OECD*, or only because of the *successful lobbying by private players*, e.g., World Bank, or the *recommendation by knowledgeable assessment experts*, as e.g., ACER (see Mendelovits 2009, Turner 2010). Rather, there have been happening *multiple simultaneous processes*, where different organisations, people, things, and events came together for exchanging ideas, discussing upon strategies, and finalizing proceedings. Further, the analysis showed that OECD's PISA-people gained *footing in India* by drawing on existing connections and networks between local and international organisations, such as Indian government and quasi-government bodies, ACER, and the World Bank. These connections and networks had been quite heterogenous in nature and were overlapping with other subnetworks, as experts in assessment, as well as assessment concepts and tools were transferred from one institution or organisation to another. *PISA came in through several organized and informal meetings*. Several workshops, round tables, and informal meetings etc. have been held. Different organizations, and human beings have been involved, by providing funding, technical expertise, know-how, capacity building workshops, and other things and events more. An additional reading of the process of India joining PISA is that this process can be seen as *a process of finding access to new networks and embeddedness in the international educational assessment community* (as based on Clemens 2015: 367ff).

1.2. Relevance

India offers a lot to examine diversity in education due to its vast cultural, religious and social heterogeneity (see Auernheimer 2015; Clemens/Srivastava 2007). In this study cultural diversity is studied in its epistemological and conceptual dimension. This study examines the transmission of global concept offers and their local implementation processes. Focus of this study is not the question of the fitting of global concept offer and local context, but rather the underlying relationality of these transmission processes. This example is suitable, because the global concept offer has been objected even though therewith correlated transformation processes in the Indian education system can be observed (see Vollmer 2019b). However, the recent decision of the Indian government to re-join PISA alters the setting up of the research topic.

When analysing and understanding processes of the emergence of new educational concepts in local contexts, a look at the bigger picture – living in an entangled, globalized world – is needed, as well as the consideration of postcolonial theory perspectives.[20] The research project on the transmission of educational concepts under condition of globalization with focus on the Indian context allows to generate *new knowledge about the OECD and its headed educational reforms.* This new knowledge shall be helpful not only for the European or Indian context, but for the global discussion on education and education policy making. The contribution that is to be made here is enriching the global educational discussion on international large-scale student assessment, (hereafter ILSA), and on the quality of education. It provides a starting point to develop implications for a change of educational policy and for a betterment of teacher education. In further research processes, a comparison between India and Germany (Europe) with the focus on coping with ILSA's (e.g., PISA) could be a worthwhile investigation. The

[20] On the meaning and differentiation of the terms *post-colonial*, *postcolonial*, *post-postcolonial* and *decolonial*: The term *post-colonial* points out to a temporal description of the phase after the end of the colonisation period. The term *postcolonial* refers to a content-related differentiation, it is used for instance in the term *postcolonial theory*. Postcolonial theory has its origin in Asian, African and Arabian research contexts. However, it is globally discussed today, but also criticised. Recently, the term *post-postcolonial* is being used by researchers to criticize postcolonial theory (see e.g. O'Connor 2003; Buchanan et al. 2022). It is a temporal description for recent research that aims to demarcate itself from older postcolonial research work. Likewise, the term *decolonisation*, that has its origin in South-American contexts, is globally discussed today. But in comparison to the term *postcolonial* it finds itself less exposed to criticism. Both terms aim to examine the effects of the colonising periods, and secondly, to decolonise knowledge and the world. Two differences shall be highlighted here. Firstly, there has been temporarily and geographically different periods and phases of colonisation in history, leading to different terms and discourses of postcolonial, or decolonial theory. Secondly, the term decolonisation is broader in its connotation than postcolonial. Decolonisation understands itself as an imperative for a socio-cultural transformation to a more sustainable, just, participative, and inclusive future. It encompasses several dimensions of decolonisation practices, e.g., gender, language, and governance. It is not confined to a geographic region – for instance the so-called global south – rather it relates to every corner of the world. These elaborations are based on my reading on postcolonial theory perspectives (Bhambra 2014; Castro Varela / Dhawan 2020; Clemens 2020, 2021; Kerner 2017; Woldegiorgis 2020; Woldegiorgis et al. 2021; Raina 2016),

gain of this study is a critique on PISA resp. the OECD. More specifically, finding implications for educational science and educational policy and providing orientation for action.

According to Fossum (2015), doing comparative education research complements teacher education. Teacher education students may acquire interdisciplinary and intercultural competence, curiosity as well as participation skills and critical ability, e.g., in view of the implementation of current reforms in the education system. This study is of interest for teachers and educationists, academic scholars of different fields and disciplines in Germany and India resp. worldwide.

1.3. Limitations

Given the complexity of India in size and diversity (see Srivastava/Clemens 2007) a limitation of the field of investigation is necessary to examine processes in-depth and in detail. The study focuses on the process of India joining the PISA 2009 Plus project. The interest lays in examining the perception and discussion of this process: *How did it come that India joined the PISA 2009 Plus project?*

Since the very beginning of the 21st century, there is interest in an examination of the OECD, its organizational structure and culture, its influence and role on the international level (e.g., Henry et al. 2001; Porter/Webb 2007; Woodwards 2009; Caroll/Kellow 2011; Bloem 2016). However, until today almost no research exists that examines the role of the OECD in India (see Addey/Gorur 2020, 2021). Within the framework of this study, only a few remarks are possible. Similar to ACER, that established ACER India in 2011, there might be an institutionalisation of OECD's practices in India, for instance through the opening of an OECD office in New Delhi. Future research is necessary to gain better data and more insights on this.

An in-depth examination and discussion of the theory and methodology of ILSA's had been excluded due to the frame of the study. However, background studies were conducted to gain basic knowledge on the test construction of the PISA test in general, on the construction of test items within the PISA 2009 Plus project, on recent developments in OECD's PISA test (e.g., PISA-D, Learning Compass 2030), as well as on the test construction of local Indian national, state and private assessment tools (see chapter 2 and chapter 6).

India's participation in PISA is often considered as *on-off experiment* with hardly any influence on the Indian educational landscape, as stated by experts within the data set of this study. Addey/Gorur (2020: 02) speak of an "one-off exercise". In a background study on the transformation of the National Achievement Survey (NAS) of NCERT, I showed however, that this national assessment tool had undergone major transformation processes during and after

India's participation in PISA 2009 (see Vollmer 2019b). The question concerning changes in the education system in India that can be seen in relation to PISA is an interesting question and is worthwhile to investigate in future research processes, especially since the Indian government decided to re-join PISA in 2019. Likewise, this study does not contain any in-depth analysis of current educational reforms in India (see e.g., Priyam 2015). However, as a background study the discussion and implementation of a new National Education Policy (NEP 2020) had been analysed (see Clemens/Vollmer 2019; chapter 2).

Lastly, a comparison of India with other countries or economies – for instance, India and Kyrgyzstan or India and Germany, or India and Mexico – would be interesting and worthwhile to do. However, this has not been possible within the framework of this study.[21] I am not doing a comparison – for instance of India's participation in PISA 2009 Plus with other PISA 2009 Plus countries – for the reason that doing a comparison is full of prerequisites, as will be elaborated in chapter 4. Rather, I am doing a case study on India's participation in PISA 2009 Plus that is broadly situated in comparative education research, allowing me to analyse processes that led to India's participation in-depth and as postcolonial sensitive as possible. At the beginning of the research, almost no research had been conducted on India's first participation in PISA 2009 Plus. Thus a research desideratum had been identified here (see chapter 3).

A basic problem in network research is the definition of borders and limitations of the network (see Häußling 2009). Emirbayer/Goowdin (1994: 1447) define the boundary problem as follows: „The problem of defining the population of actors to be studied through network analysis in a way which does not depend on a priori categories; in other words, the problem of delimiting the study of social networks which in reality may have no limits." As solution for the problem of limitations of a network, Albrecht (2010) brings in suggestions of Laumann et al. (1983): These are the definition of actors based on positions or belonging, the selection of actors that have participated at events and lastly the limitation of research and data collection in the beginning to a small part of the network and an expansion of the research at a later point of time according to the snowball practice. In this study, the selection of nodes of influence, defined as human beings that are based on a specific position or that belong to an institution (see Albrecht 2010), had not been helpful. The analysis of the interview material showed that there is a high rate of fluctuation in the bureaucratic institutions. At the time of the conduct of

[21] For a comparison of India amongst other countries (e.g., BRICS), see Drèze/Sen (2014). For a rough comparison between China and India, see Chakraborty et al. (2019).

the interviews, the current position holders often had almost no insights in the process of participation of India in the PISA study, and were hardly connected to their predecessors.

A limitation to actors that have been participating in the conduct of the PISA 2009 Plus study would have been possible, however, the fall out of actors, that have been involved during the publication of the PISA 2009 Plus report and in the following post-PISA 2009 phase would be the consequence. A restriction to actors based in the Indian context has not been recommended, because the object of research is in its nature international and the aim of this study is to outline the transnational connections. International organisations such as UNESCO, UNICEF, World Bank, OECD, ACER and many more would not be included in the analysis.

There is also the danger of the reduction of the unit of analysis due to focussing only on human beings. The study makes a plea for including non-human nodes. Ball (2012, 2016), Addey/Gorur (2020) and others have considered this aspect, too. For an analysis of the PISA test-items, see Gorur (2012) and Maddox (2014), both using the approach of Latour. I considered people, organizations, things and concepts as nodes of influence, only when there had been a connection to the PISA 2009 Plus project in India or national assessments in India. I excluded nodes that pointed out to other currently active international large-scale assessments due to the limited framework of the study.

The process of India joining PISA is complex. There are manifold linkages between many diverse nodes. It is impossible to depict each and every edge and node. The aim of the study is therefore to do justice to the complexity of the (sub)networks to the most possible extend, to identify major nodes of influences and edges that show the connectedness and to establish a reading that stresses the underlying relationality. I define *major nodes of influence*, as nodes that have been mentioned frequently by other nodes of influence, by other experts or in the literature.

It appeared to be fruitful, to begin with a small set of nodes of influence and their connected edges and to extend the focus according to the *snow ball practice* in small steps to other nodes of influence and edges within subnetworks and the broader network. Interview partners were identified through literature research and by recommendation of other interviewed experts. This enabled me to map the dynamic of the process, to cross-check the importance of nodes of influence, and to find nodes of influence that otherwise would have been left out. The data collection had been conducted in Berlin, Heidelberg and Bayreuth in Germany, and in New Delhi in India as well as in the states of Tamil Nadu and Karnataka in Southern India. Field research in the northern part of India had not been possible. Thus, for further research it would

be interesting to include perspectives from Himachal Pradesh, as well as from non-residential Indians and other experts in education in the study.

1.4. Advanced organizer

The study is organized in eight chapters. Chapter one contains the introduction. Chapter two informs about educational policies and programmes, and discusses the setting up of the educational assessment landscape in India. Chapter three outlines the underlying problem of the study and depicts the state of the art of research. It also states the research question and objective of the study. The heart of the study stretches from chapter 4 to chapter 6. Chapter 4 discusses the theoretical framework of the study and chapter 5 outlines the methodology of the study. Chapter 6 shows the analysis and results. Based on the literature and interview data, key nodes, subnetworks, and stories will be displayed, an outline of the dynamic of the processes will be sketched out and the network resp. subnetworks will be visualized. Ascriptions on and critiques of PISA will be highlighted. In chapter seven these results are discussed and integrated in the recent academic discussion. Lastly, chapter eight contains the conclusion of the study.

2. Education in India: policies, programmes and the landscape of assessment

To set the background for understanding the processes that led to India's participation in the PISA 2009 Plus project, in this chapter relevant educational policies in India, recent educational programmes and selected organisations that conduct educational assessment in India are depicted. The aim of this chapter is twofold. Firstly, conceptual and milestone policy positions shall be discussed, and secondly, the most important national quasi-governmental and private organisations, as well as international organisations shall be introduced. This is necessary to become familiar with the landscape and the state of the art of educational assessment in India.

2.1. Educational policies in India

The National Policy of Education (NPE) from 1968 and 1986/92 are two conceptual milestones in the period of post-independence in India (see Clemens/ Vollmer 2019). The implementation of the NPE 1986 led to the creation of the National Curriculum Framework 2005 (NCERT 2005), (hereafter NCF 2005) and the enactment of the Right to Education Act 2009 (MLJ 2009), (hereafter RTE). During the making of the latest National Education Policy, between 2014 and 2020, several drafts have been published and publicly discussed between 2016 and 2020 (see MHRD 2016a, MHRD 2016b, MHRD 2019; Clemens/Vollmer 2019). Only recently, in July 2020, the new National Education Policy was enacted (see MHRD 2020). To contextualise recent educational thinking and educational programmes in the Indian context, the two educational policies from 1968 and 1986, including the recent policy from 2020, and the NCF 2005 and RTE 2009 have been analysed as part of the background of the study. These policy events are outlined in the following section.

2.1.1. National Policies on Education (NPE 1968, 1986)

The aim of the National Policies on Education from 1968 and 1986, had been to realise the goals of the constitution, meaning to build a common national education system and to ensure the universalisation of primary education for every child in India. During the enactment of the first education policy, it was two decades since India had become independent and in the 1960s India was still committed to its versions of socialism. The NPE 1968 document states, that education played a significant role in overcoming oppression and alienation during the freedom struggle. The document refers to Mahatma Gandhi's basic education scheme and also to the educational ideas of other thinkers.[22] Education was seen „as a factor vital to national progress and security" (MHRD 1998: 38). The document further elaborates:

[22] See also Vollmer (2015, unpublished; 2016).

> "The Government of India is convinced that a radical reconstruction of education on the broad lines recommended by the education commission is essential for economic and cultural development of the county, for national integration and for realising the ideal of a socialistic pattern of society. This will involve a transformation of the system to relate it more closely to life of the people; a continuous effort to expand educational opportunity; a sustained and intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values. The educational system must produce young men and women of character and ability committed to national service and development. Only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening the national integration. This is necessary if the country is to attain its rightful place in the comity of nations in conformity with its great cultural heritage and its unique potentialities." (MHRD 1998: 38f)

According to the paragraph above, education builds the foundation for economic and cultural development and for processes of nation building in general. The policy aims for providing increased access to education and in enhancing the quality of education. It is stated already here that skilled citizens are required for the purpose of national and societal development, as well as for being internationally competitive.

In the realm of primary and secondary education, NPE 1968 resulted in a substantial expansion of the reach of education to remote areas, the establishment of schools, and a standardization of the structure of schooling tracks on the model of 10+2+3.[23] Furthermore, it defined the school curriculum, it focused on the education of boys and girls, and it has been emphasizing science, mathematics and work experience (see MHRD 1998). The aim of NPE 1968 has been to encourage the further development and the amelioration of the education system. Moreover, an attempt has been made to change the notion of education from evoking a sense of alienation amongst students to being meaningful for the everyday life of the common people (ibid.). The subsequent NPE 1986/92 critically values the achievements of the NPE 1968:

> "1.8 While these achievements are impressive by themselves, the general formulations incorporated in the 1968 Policy did not, however, get translated into a detailed strategy of implementation, accompanied by the assignment of specific responsibilities and financial and organisational support. As a result, problems of access, quality, quantity, utility and financial outlay, accumulated over the years, have now assumed such massive proportions that they must be tackled with the utmost urgency.
> 1.9 Education in India stands at the crossroads today. Neither normal linear expansion nor the existing pace and nature of improvement can meet the needs of the situation." (MHRD 1998: 03)

[23] The model of 10+2+3 had been already suggested in the Kothari commission 1964-66: "Under this, it was said that primary and secondary education should be of 10 years. Higher secondary education should be of 2 years and vocational education should be of 3 years." (https://ncert.infrexa.com/kothari-commission-objectives-and-major-recommendations/ [13.07.2022]).

In the 1980s it became clear, that the ideas presented in the policy paper of 1968 had not been sufficiently implemented at the local level. The NPE 1986/92 mentions complex and manifold problems such as the unsatisfying achievements in providing access to education, in enhancing the quality and the utility of education, and in providing financial resources for education. The document points out to impediments such as rural-urban disparities, to the growth of population and to the slow expansion of women and girls' education. It holds that education must respond to current trends. Hence, in the beginning of the NPE 1986/92 document the understanding of education and the current status of education in the country is presented. It is stated that there has been progress in development, however there is still a long way to go. Education is seen as a "highway" to future progress:

> "1.1 Education has continued to evolve, diversify and extend its reach and coverage since the dawn of human history. Every country develops its system of education to express and promote its unique socio-cultural identity and also to meet the challenges of the times. There are moments in history when a new direction has to be given to an age-old process. That moment is today.
> 1.2 The country has reached a stage in its economic and technical development when a major effort must be made to derive the maximum benefit from the assets already created and to ensure that the fruits of change reach all sections. Education is the highway to that goal.
> 1.3 With this aim in view, the Government of India announced in January 1985 that a new Education Policy would be formulated for the country. A comprehensive appraisal of the existing educational scene was made followed by a countrywide debate. The views and suggestions received from different quarters were carefully studied." (MHRD 1998: 02)

While Sood/Shukla (2006: 339) state that the NPE 1986 already puts emphasis on the need for the universalisation of education and quality of education, Sadgopal (2006) looks more critically at the document. He writes on the consequences of the NPE 1986:

> "[T]he policy was designed to basically promote exclusion of millions of children from elementary education and introduce inequality by institutionalising low-quality multiple tracks or parallel systems of education. It was this character of NPE (1986) that provided both the foundation and the necessary socio-political space to international funding agencies, including the World Bank, to exacerbate abdication, accelerate the pace of exclusion, and further marginalise people's aspirations for a Common School System and genuine neighbourhood schools." (ibid.) (Sadgopal 2006: 95).

According to him, the NPE 1986/92 paved the way for the construction of educational programmes that rely on the tenets of neoliberalism. With the onset of processes of liberalization in India in the 1980s and 1990s, the educational sector faced changes, too. Privatisation and internationalisation (external funding) became two major trends, whereas the goal of building a public school system moved to the back of the educational discussion. Sadgopal mentions the role of the World Bank, which will be taken up and presented later in this chapter. Since the early 1990s there has not been another policy document and the process

of drafting the new National Education Policy of 2020 took several years. This process shall be reviewed in the following section.

2.1.2. Review of the evolution of the new National Education Policy (NEP 2020)

The policy making process of the new National Education Policy, short: NEP, has been discussed extensively in the media and academic journals (see e.g., Ramamurthy/Pandiyan 2017; Mehendale/Dewan 2015; Dewan 2017, 2018; Madan 2017). Andersen/Damle (2018) give an overview on the context and timeline of the policy making process. From 2004 to 2014 the aspiration of the Congress Party had been to 'de-saffronize' (ibid: 69) textbooks.[24] In contrast, the formulation of a new National Education Policy that is focused on '[i]ndianizing' (ibid.) education has been a promise of BJP during the 2014 election campaign (see BJP 2014). After winning the election, the new minister of education Smriti Irani, who belongs to the BJP, did set up meetings between education ministers and affiliates of the RSS.[25] The process of the development of the New Education Policy commenced. In autumn 2015 the T.S.R. Subramanian Committee had been mandated to come up with a draft. The report of this first committee was published in May 2016 (MHRD 2016a). In 2016 Prakash Javadekar, a right-wing politician, did become the new minister of education and more meetings between RSS and BJP affiliates took place (see Anderson/Damle 2018). In 2016 a response document to the Subramanian Committee Report had been published by the ministry (MHRD 2016b). The goal of framing a new National Education Policy in 2016 could not be achieved. The Subramanian Committee Report was rejected and a new committee under guidance of Kasturirangan had been constituted. In the policy making process stakeholders and private actors were involved, as for example the Centre for Civil Society (CCS).[26] In May 2019 the report of the Kasturirangan committee was published with the aim to finalize the new National Education Policy by the end of 2019 (see MHRD 2019). In July 2020 the new National Education Policy was finally enacted by the government of India (see MHRD 2020).

---

[24] The term saffronization means: "The politics of right-wing Hindu nationalism (Hindutva) that seek to make the Indian state adopt social policies that recall and glorify the ancient Hindu cultural history and heritage of India while de-emphasizing the more recent Islamic or Christian heritage." (https://www.yourdictionary.com/saffronization [13.07.2022].

[25] BJP stands for Bharatiya Janata Party, and RSS stands for Rashtriya Swayamsevak Sangh. Both are extreme-right-wing, hindu-nationalist organisations.

[26] Centre for Civil Society (CCS) is a non-profit organisation which exists since 1997 and which is based in New Delhi. CCS describes itself as "India's leading liberal think tank" (https://ccs.in/ [08.07.2022]). CCS' mission is enhancing development through public policy making. They strive for the spread of neo-liberal thinking, the enhancement of individuals' choices, and they demand the accountability of institutions within the Indian education sector. See e.g., CCS' comments on the development of the new education policy (https://ccs.in/nep [26.05.2022]). There has been also a platform for the public to make comments, called "NEP Wiki". This platform is however no longer accessible.

Understanding the aims and desired effects of the new National Education Policy

According to MHRD (2016a), the new National Education Policy is a reaction to the current situation and problems that have accumulated. As a key concern it emphasizes the need for the improvement of the quality of education. This becomes visible in the management oriented wording that is used: „Empowering India through Quality Education" (ibid.: vi), „Governance in Education" (ibid.:vii), or „Teacher management" (ibid.). MHRD (2016a) provides a framework for change and holds that a balance between tradition and modernity is needed.

Given current challenges like the impacts of processes of globalization in local contexts, Sikka (2017) offers a rationale for the need of a new National Education Policy. She writes in the preface of an edited volume of policy texts in the realm of education:

> „There is now, a need for devising a new **National Education Policy**, keeping in view the impact of globalization on the education system in India, as well as the aspirations of pupils for the domestic and world market (…). The education system of the 20th century cannot fulfill or meet the It-related requirements of the 21st century let us make INDIA great again." (Sikka 2017: xi; T.V.: accentuation in bold letters as in the original).

> „India is now a developing country, or rather a transforming one, ready to meet challenges of the modern world by using the combined strength of science, technology and socio-economic sectors, and very soon we shall be competing with the very best in the world. We forsee a glorious vision of India, of the 21st century, as the biggest and most vibrant economy in the world and a self-sufficient global super power. A clear understanding of the issue faced by India and their innovative solutions as India transitions from poverty to prosperity will form a guide to future generations of countries attempting similar transitions." (Sikka 2017: xif)

> „India is not an [island]. We are part of the global economy, and what happens in the globe will affect India. Globalization is a central reality of our time. Globalization has transformed every aspect of our economic, political and social life. No government delivers growth. Government only delivers the conditions for growth. There is no doubt that the best is yet to come and we will take our rightful place as the third largest economy in the World in 2030." (Sikka 2017: xii; T.V.: correction)

In this statement by Sikka's (2017), ideas about national development and the belief in the neo-liberal order as the right path to prosperity becomes visible. This thinking is also evident in the newer draft from 2019, which holds the following vision for India:

> „The National Education Policy 2019 envisions an **India centred** education system that contributes directly to transforming our nation **sustainably** into an **equitable** and **vibrant** knowledge society, by providing **high quality** education to all." (MHRD 2019: 41; T.V.: accentuation in bold letters as in the original)

There is a hypertextual allusion here to the OECD and the global education policy. But elsewhere in the document, a clear reference to the ideology of the OECD is given. Human

capital, competence, learning outcomes and knowledge society are seen as natural, compatible, and desired:

> "Such an articulation of a broad view of education encompassing the holistic development of students with special emphasis on the development of the creative potential of each individual, in all its richness and complexity, has grown increasingly popular in recent years, and many recent reports from UNESCO, the OECD, the World Bank, the World Economic Forum, and the Brookings Institution have highlighted the broad consensus that has developed. Students must develop not only cognitive skills – both 'foundational skills' of literacy and numeracy and 'higher-order' cognitive skills such as critical thinking and problem solving skills - but also social and emotional skills, also referred to as 'soft skills', including cultural awareness and empathy, perseverance and grit, teamwork and leadership, among others. The process by which children and adults acquire these competencies is also referred to as Social and Emotional Learning (SEL). Based on the developments that have taken place in the world of cognitive science, there is now deep engagement with the idea that these social and emotional competencies must be acquired by all learners and that all learners should become more academically, socially and emotionally competent. The Policy recognises that it is important to conceive education in a more encompassing fashion, and this principle should inform and guide reforms in relation to the reorientation of the contents and processes of education." (MHRD 2019: 25)

Subsequently, the document ties the knot between the Indian education policy and global education policy, when it declares, that the transformation of the Indian education system according to achieving the SDG 4 – quality education for all – is desirable (MHRD 2019: 27f).

Further, the 2019 document makes reference to an often posed critique on the earlier draft from 2016 – namely that it denies the diversity of the many different Indian contexts and life worlds (see Clemens/Vollmer 2019) – by stating that Indian culture was enriched by its diversity of cultures, however, only to the extent, that they became domesticated by a uniformed (Hindu) India:

> „Education in India was only enriched through the mixing of cultures that arose from the very first invasions, till the arrival of the British. The country has absorbed many of these influences and blended them into a unique culture of its own." (MHRD 2019: 26.)

The document proceeds in valuing the contribution of different sections of the Indian society in building up the education system:

> „Several philanthropic organisations as well as many other cultural, faith-based and community organisations from the Hindu, Muslim, Buddhist and Sikh communities, the Christian Missionary groups, Jain sects, and so on stand out in the large numbers of early institutions they started, many of which are still some of the leading educational institutions in the country today." (Ibid.: 34).

The new National Education Policy has been critiqued several times. Even after its approval by the Indian government in 2020, the criticism continues. Some of the criticism – stated in review of the draft from 2019 – is discussed in the following section.

Critique on the new National Education Policy

Raina (2019) critiques that the draft of the new National Education Policy of 2019 aligns with the idea of educational assessment and competency-based learning without setting up measurements to ensure quality education and access to education to every child in India. Instead, "[s]chool education is characterised by a divisive stratification – a [multi-layered] hierarchy of access – and an unequal schooling regime" (ibid.: 15; T.V.: correction). Raina particularly sees the responsibility here with the state.

From a different perspective, Nanda (2019) takes up the aspect that the draft of 2019 postulates centralisation. It envisions the building up of a new national education commission (RSA)[27] under the direct leadership of the Prime Minister. This means that the federal organisation of education is disenfranchised. Education is a matter for the 'boss' now. There is a lot of protest on the set up of this commission, expressed for instance by the education ministers of Gujarat or Kerala. It is not yet clear whether the RSA commission will be implemented or ceased.[28]

Suresh (2019) states that the goal of this policy draft is an extension of schooling also in the stage of early childhood. The author warns against a 'schoolification' (ibid.: 17) of young children. Gowda argues that the importance of secularism is not given its due place. But it is exactly in the schools that children might learn about tolerance and diversity.[29] Other opinions suggest that by emphasizing vernacular languages, children from poor and marginalised backgrounds have little possibility to learn English. However, this is an important and crucial competency for future adult life and employment.[30] Kaushal (2019) sees the closing of schools in rural areas as a possible consequence, which would further impede the access to education of marginalised groups.[31] Finally, Roy (2019) claims that the efforts achieved in democratising the educational system in the past are neglected, and this leads to further segregation of society.[32]

[27] RSA stands for Rashtriya Shiksha Aayog.

[28] Source: https://www.hindustantimes.com/education/government-may-drop-plan-to-set-up-pm-led-national-education-commission/story-cSxOMZXhhSCvxjdNxs7GxO.html [26.05.2022].

[29] Source: https://www.livemint.com/education/news/missing-secularism-in-new-education-policy-1561564775831.html [25.05.2022].

[30] Source: https://www.indiatoday.in/education-today/gk-current-affairs/story/draft-national-education-policy-2019-divd-1606269-2019-10-04 [25.05.2022]

[31] Source: https://www.newsclick.in/not-so-national-education-policy [24.05.2022].

[32] Like Roy (2019), also Maniar (2019) deals with the thread of a further segregation of the Indian society as a consequence of the new National Education Policy.

Policy making doesn't happen in a vacuum or in a laboratory. For instance, political tensions and conflicting interests (e.g., the Jamia protest in 2019)[33] and the experience of the COVID-19 pandemic feed into the process of decision making. The processing of the latter evoked worldwide an intensification of neo-liberal thinking and processes of governmentality and did shed light on the existing digital divide.[34] World Bank (2020), for instance, highlights the installation of Google Loon Balloons as an example of best practice in providing digital learning and access to an internet connection for remote areas in Kenya.[35] There has been an attempt to install Google Loon Balloons earlier in India, too. However, the implementation had been neglected as critical aspects as e.g., surveillance were raised. Nevertheless, the recent developments in Kenya are observed in the Indian media and it is possible that a new Google Loon Project will take place in India.[36] The development of a new National Education Policy and the recent policy responses to the Covid-19 pandemic show how political events influence national and international educational research and practice.

2.1.3. National Curriculum Framework 2005 (NCF 2005)

Since the last forty years, there have been initiatives to reform the Indian education system (if it is possible to speak of it in the singular (see Clemens/Vollmer 2019)).[37] Especially during the Congress-led period, innovative educational practices in the realm of teaching and assessment have been introduced and textbooks have been reworked. Ahuja/Arora (2006) see the background for these endeavours in the NPE 1986/92. The NCERT was established to bring out guidelines for educational reform in the realm of school education. One influential document has been the National Curriculum Framework 2005 (NCERT 2005), (hereafter NCF 2005), published by NCERT and endorsed by the Central Advisory Board of Education, (hereafter CABE). The NCF 2005 makes a strong plea for understanding and not learning by rote as the goal and medium of education. Secondly, it is emphasizing diversity in teaching and

[33] See: https://thewire.in/rights/cab-jamia-protest?fbclid=IwAR2fv_5xQHrzpELmvWgs-L9qSl-Y5aPKA3ZRWdHedMY_7DJHutDBwIQiRos [24.05.2022].
[34] See: https://scroll.in/article/960939/indian-education-cant-go-online-only-8-of-homes-with-school-children-have-computer-with-net-link [24.05.2022].
[35] See also: https://www.nation.co.ke/news/Google-Loon-Balloons-airborne-in-Kenyan-space/1056-5513162-unc58cz/index.html [26.05.2022]).
[36] See: https://indianexpress.com/article/technology/technology-others/project-loon-dgca-to-study-balloon-powered-internet-project-from-next-month-4884206/; https://economictimes.indiatimes.com/tech/internet/google-may-get-government-nod-to-conduct-pilot-for-project-loon-in-india/articleshow/52408455.cms?from=mdr and https://indianexpress.com/article/technology/tech-news-technology/google-loon-balloon-web-service-taps-board-to-lift-business-5541073/ [26.05.2022].
[37] This remark is further inspired by Clemens/Wulf (2011) who ask, if it is possible to speak of the 'West' in the singular, see chapter 4.

reacting to the needs of different kinds of children, therefore making the schooling more inclusive and more connected with the actual life worlds of children (see Ahuja/Arora 2006: 08). NCF 2005 also suggested changes in the examination system through introducing the concept of CCE (see 2.3.1). Finally, the NCF 2005 wishes to see more autonomy for teachers. Batra (2006), however, stresses that teacher education in India needs to be strengthened and reformed to productively implement the NCF 2005. The NCF 2005 had been followed by the passing of the Right to Education Act (RTE), which shall be discussed later.

2.1.4. Right to Education Act 2009 (RTE)

The Right to Education Act 2009, (hereafter RTE), was enacted in 2009 resp. 2010 (MLJ 2009). Govinda/Sedwal (2017: 05) see the enactment of the RTE as a "landmark event in the history of Indian education". They write:

> "The new law provides a justifiable legal framework that entitles all children between the ages of 6-14 years to an education of reasonable quality, based on principles of equity and non-discrimination. It provides for children's right to free and compulsory admission, attendance, and completion of elementary education. More importantly, it provides for the child's right to education that is free from fear, stress, and anxiety." (Govinda/Sedwal 2017: 05).

This law, approved as Article 21A of the Indian Constitution, formulates standards and norms in terms of infrastructure, pupil-teacher-ratio, and the daily organization of school, e.g., working days of school and working hours of teachers. As written in the RTE document, a School Management Committee shall "monitor the working of the school" (MLJ 2009: 07). The law also puts emphasis on providing quality education for every child. The implementation of the RTE 2009 in practice has been criticized. One critique holds, that the practical implementation of the RTE focused too much on providing infrastructure and on monitoring the efficiency of schools and teachers (see e.g., Dewan 2017). By that the RTE impeded the autonomy of the school staff and students, and caused instead tremendous pressure, operationalised in (external) testing and assessment. Even worse, the RTE focused too little on improving the quality of the teaching-learning processes, e.g., creating learning environments that are child-friendly (ibid.). Another critique has been, that the obligatory reservation of seats for marginalised children has led private schools to find ways to circumvent this order (see e.g., Mehendale/Mukhopadhyay 2014).[38]

[38] A further selection of critical voices on the RTE: Sadgopal 2010; Mehendale 2010; Mehendale et al. 2015; and Rishikesh 2017.

The enactment of the RTE by the government of India was concurrent with India's decision to participate in PISA 2009 Plus. This aspect will be further analysed in chapter 6. Furthermore, the RTE has been and is still guiding educational policy and the drafting of educational programmes in India, of which some will be described below.

2.2. Educational programmes in India

There have been many educational programmes in India that address the importance of well-being as foundation for any learning process. One of these programmes has been the Mid-Day Meal Scheme, (hereafter MDMS), that was launched in 1995.[39] Mondal (2017: 26) states that the idea of the programme had been "to give a boost to the universalization of primary education by influencing enrolment, attendance, retention of students of primary schools and also relate primary education with nutrition, health and Integrated Child Development Services (ICDS)." Malnutrition is still an unresolved problem in many Indian contexts.[40] Vidyasagar et al. (2017: 228) mention that the state Tamil Nadu envisions that "all children are well-nourished, educated, and gain equal access to opportunities for development." But they also state that "one finds persistent inequality among rural and urban areas, districts, communities and sexes" (ibid.). The diversity of life worlds in India and the corresponding injustice, – e.g., disparities between urban and rural areas, living and health conditions in slums, poverty in general, and child labour in particular – have been an important topic of discussion in the interviews with experts, too.

It would be too exhaustive to describe all of the recent programmes. Thus, only the following three big, influential, and nationwide educational programmes for primary and secondary education in India – these are DPEP, SSA, and RMSA – shall be discussed. The overall goal of all three programmes is to enhance the achievements of universalisation of education at the primary and secondary levels in India. They aim particularly at the betterment of the quality of education.

2.2.1. District Primary Education Programme (DPEP)

The District Primary Education Programme, (hereafter DPEP), has been initiated in 1994 with the purpose of realising the goal of the universalisation of education at the primary level in the

[39] See website of MHRD: http://mhrd.gov.in/mid-day-meal, [26.05.2022]. In 1995 the MDMS was launched at the national level. However, at state level there have been similar programmes much earlier. For instance, Tamil Nadu introduced a meal programme already in 1982, see: https://middaymeal.tn.gov.in /[13.07.2022].

[40] But also, in other parts of the world, including contexts of the so-called global north (see e.g. Beisenherz 2000; Holz 2010).

participating Indian states (see MIB 2010). Sood/Shukla (2006) see the background of the DPEP programme in the national goal of the universalization of education and ensuring quality education to every child in India – documented in the NPE of 1986 –, and on the other hand in the upcoming global education policy discussion of the need for educational reform after the Jomtien conference in 1990. Sadgopal (2006: 109) mentions that DPEP has been largely funded by the World Bank and other international development partners. These other development partners have been amongst others the DFID and UNICEF (see MIB 2010: 234f).[41]

According to Sadgopal (2006), DPEP had actually been one of the first Indian educational programmes since 1947, that has been receiving substantial international funds and credit. Though the government had been issuing cautionary instructions to remain independent in policy making in view of the received international financial aid, the reality on the ground had been different. Together with the coming of external financial aid, the internal policy making process shifted, incorporating external concepts (ibid.).

DPEP extended from 1994 until 2003. Whereas the programme started only in some Indian states in the beginning, there has been an expansion towards more Indian states over the course of time. DPEP had been implemented in Kerala and Tamil Nadu right from the beginning, but not in Himachal Pradesh. Sood/Shukla (2006: 340) state that Himachal Pradesh joined the programme only in 1996-97 with four "educationally backward" districts. According to them, DPEP sought to promote "**replicable, sustainable, and [cost-effective] educational programmes**" (ibid: 340; T.V.: accentuation in bold letters as in original, correction by me).

Following Dhankar (2003: 05), the aim of this programme had been to ameliorate „the quality of primary education", understood as for instance "the quality of classroom interaction and the teaching-learning materials used" (ibid.). Mondal (2017: 26) again states that the programme pursued "a holistic approach to universalize access, retention and improve learning achievement and to reduce disparities among social groups." Furthermore, it operated at the district level for the purpose of being able to react sensitively to the local conditions and to integrate the participation of the local communities.

The government of India mentions major achievements of the DPEP project. These have been in sum: the establishment of new schools, the improvement and setting up of school infrastructure, the enhancement of the enrolment of children in schools, and in particular of the enrolment of girls and disabled children, the implementation of local management committees and of resource centres, and lastly, the enlargement of the numbers of teachers and para-teachers

[41] See the project descriptions of World Bank and the MIB resp. government of India in the appendix.

as well as the development of their training (see MIB 2010: 234, see appendix). Academic scholars have been constantly critiquing the DPEP programme, discussed in the next section.

Critique of the DPEP programme

Dhankar (2003) analyses and criticizes the underlying notion of quality in the DPEP programme as well as its basic educational tenets. According to him, the programme focuses on the acquisition of competencies and in three main subjects, whereas aesthetic and vocational education are not given any space. In his view, teachers are not able „to develop a coherent vision of education" (Dhankar 2003: 30), because they have to cope with „inconsistencies" (ibid.) of the education programme. Lesson planning and development of assessment forms, „testing methods" (ibid.), are viewed as more important than the ideal of „child-sensitive, free-paced learning" (ibid.). The author criticizes the underlying notion of education of the DPEP programme as too narrowed down and not sufficient to do justice to the aim of the programme of ameliorating the quality of education in India. He cautions:

> „short-term projects due to shortage of time is going to cause long-term damage to the professional development of teachers and development of educational thought in the country in general" (Dhankar 2003: 31).

This view of seeing the narrative of cost-effectiveness as dominating the process of shaping educational policy and programmes had been expressed also in the interviews conducted in the study (see chapter 6). Sadgopal's (2006: 110f) critique on DPEP and its subsequent SSA programme is likewise manifold and multi-layered. Here, three aspects shall be taken up. First, Sadgopal mentions the "[t]rivialisation of educational aims" (ibid: 110). He criticizes the reduction of education to literacy and "competency-based market-oriented" (ibid.) learning outcomes. Furthermore, he mentions the fact that international girl's education policy often serves the hidden goal of birth control. Education gets instrumentalised by big international organisations, such as the World Bank, to serve the productivity of a nation or in fact the productivity of the world. Second, he brings in the "[f]ragmentation of knowledge" (ibid.). He sees a divide between the 'world of work' and the 'world of knowledge'. The implementation of DPEP has contributed to the increase of social inequality within the education system. Especially due to the reductive scope of promoting only five years of schooling instead of eight. Third, Sadgopal sees the "[w]ithdrawal from policy commitment to build a common school system" (ibid.: 111) as a serious problem. DPEP continued in the direction the NPE of 1986 had suggested, thereby differing from the long-term goal of building a common school system for all and focussing instead on short-term low-quality solutions. Govinda/Mathew (2018) point

out that DPEP had been implemented firstly in states that were educationally well situated, like Kerala, and only later in states that were not doing well in terms of providing access to education for all children. Secondly, they criticize the way it had been administrated at the local level, enabling, and disenabling the reach of the goal of universalization of education in the states at the same time. Thirdly, they criticize the too narrowed down framework of focusing on achieving universalisation of education only up to grade five. On the consequences of DPEP, they write:

> "Implementation of NPE 1986 initiatives for UEE in the form of major Central government programmes made an impressive beginning but faced serious disruption with the launch of DPEP, a programme that came with structural adjustment policies and acceptance of external funding, including a loan from the World Bank. Fragmented approach to dealing with UEE, with focus only on five years of schooling, and a fractured framework, dividing the country vertically as DPEP and non-DPEP districts, distorted the national perspective as well as the role of State Governments in moving towards the goal of UEE. In sum, the combined effect of the compulsions of structural adjustment policies, coupled with the trappings of external financing and the lure of saving public expenditure through cost-saving measures in teacher recruitment and school infrastructure, was too deep and damaging that the country is still struggling to come to terms with. It would not be wrong to say that 1990s turned out to be a decade of serious disruptions in the national perspective, policies and programmes of UEE." (Govinda/Matthew 2018: 36).

Major consequences of the DPEP programme had been the separation of the Indian nation into "DPEP and non-DPEP districts" (ibid.), differing tremendously from the vision of building up a common school system for all, as well as the disempowerment of state governments and the empowerment of the financial aid regime with its narratives of cost-effectiveness in policy making and programme shaping. Nevertheless, DPEP had been the template for its subsequent programme Sarva Shiksha Abhiyan which is discussed below.

2.2.2. Sarva Shiksha Abhiyan (SSA)

The education programme Sarva Shiksha Abhiyan, (hereafter SSA), exists since 2000-01. It has been implemented by several national and international actors. Amongst them the Indian national government, governments of the states of India and development partners such as World Bank, European Union, and the Department for International Development, (hereafter DFID), (see Oza/Bethell 2013).[42] The SSA is to be seen in the framework of NCF 2005 and RTE 2009-10. Govinda/Sedwal (2017: 03) describe it as "the culmination of a number of major programmes launched in the 1990s" as well as "a comprehensive and integrated flagship programme of the Government of India to attain Universal Elementary Education (UEE)"

[42] See also: https://www.aicte-india.org/reports/overview/Sarva-Shiksha-Abhiyan [26.05.2022].

(ibid.). As DPEP has had its limitations in geographical reach, SSA sought coverage on a nation-wide level. DPEP served in many ways as a template for SSA though. Like DPEP, SSA aimed to "improve quality through decentralized and context specific planning" (ibid.) and to enhance social justice in education by promoting the education of socio-culturally and economically marginalised groups of children. The goal of SSA has been "to provide useful and relevant elementary education" (ibid.). As different from DPEP, SSA extended the range of education from age 6 up to age 14 and is still an ongoing project. Govinda / Sedwal (2017) highlight the fact that the SSA and MDMS programmes were positively influencing each other and the contexts in which they were both at play. Like the DPEP, SSA got funding by external partners. However, recently the programme is being conducted without external funding. An effect of SSA has been that the government took up the leadership in promoting and defining universal education, though education is really a matter for the state governments. Mondal (2017: 15) points out that with the advent of RTE 2009, the SSA programme had to change, too. Important changes have been a focus on a broad understanding of education in line with NCF 2005, an intensified focus on equity in and access to basic education, as well as a profound commitment to foster a positive approach to diversity and to react to the needs of different groups of children (such as girls), and an impetus on teacher education amongst others. SSA shall serve as an instrument for realising the RTE 2009. An advantage of SSA is, that states can adjust the programme to their contexts and specific needs. As the SSA programme reached out to the children from 6- to 14-year-olds as target group, a follow up programme had been implemented.

2.2.3. Rashtriya Madhyamik Shiksha Abhiyan (RMSA)

The Rashtriya Madhyamik Shiksha Abhiyan, (hereafter RMSA), programme was implemented by the Indian government in 2009 to enhance the development of secondary education in India.[43] The RMSA programme „demonstrates the government's ambition for a secondary education system that can support India's growth and development."[44] Govinda/Sedwal (2017) state the programme aims at the betterment of the quality of secondary education as well as at the improvement of access to and affordability of secondary education. The target group is therefore 14- up to 18-year-olds. Like the DPEP and SSA, RMSA focuses on the improvement of school infrastructure, on the encouragement of youth from socio-culturally and economically marginalised backgrounds, and on the betterment of the quality of education in teaching-

[43] See MHRD's website for RMSA: http://mhrd.gov.in/rmsa, [26.05.2022].
[44] Source: http://rmsaindia.gov.in/en [26.05.2022].

learning processes. Noteworthy is the RMSA aim to foster more diversity in the teaching faculty, as it encourages more women to teach in secondary schools. As stated by Govinda/Sedwal (2017), RMSA has been funded solely by domestic financial resources. Recently, the two programmes SSA and RMSA have been integrated into a bigger scheme called Samagra Shiksha. This scheme aims to "treat school education holistically without segmentation from pre-nursery to Class 12"[45]. Its objective is to improve "school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes" (ibid.) at all levels – from the national level downwards to the local level. States and local authorities shall be encouraged to contribute to the goal of betterment of the quality of education.[46] As it had been already mentioned earlier, educational assessment is an important feature of these programmes. Thus, the next section explores the landscape of educational assessment.

2.3. Educational assessment in India

The discussion on educational assessment in India has a long history, as a selection of papers shows:

Wright, B. / Panchapakesan, N. (1969): A Procedure for Sample-Free Item Analysis. In: *Educational and Psychological Measurement*, April 1969, 29, 1, 23-48.

Shukla, S. (1969): India. In: Lauwerys, J.A./Scanlon, D.G. (1969): World Yearbook of Education 1969: Examinations, 218-222.

Shukla, S. et al. (1993): Achievements of Primary School Children in Indian States, Delhi: National Council of Educational Research and Training.

Rampal, A. (2002): Where Exams Can be Fun!: Evaluation of Children's Learning Achievements in Kerala DPEP. A Study conducted for the Ministry of Human Resource Development.

Singh, A. (2003): Effect of Randomisation on Award of Grades in Public Examination. In: *Journal of Indian Education*, 29,1, 50-57.

Agrawal, M. (2003): Evaluating Answer Scripts. In: *Journal of Indian Education*, 29,2, 61-69.

Agrawal, M. (2005): Examination Reform Initiatives in India. In: *Journal of Indian Education*, 31, 1, 27-35.

Chandrasekhar, K. (2005): A Critical Appraisal of Examination at Plus-two Level. In: *Journal of Indian Education*, 31, 3, 52-56.

[45] Source: https://www.education.gov.in/en/overview-se [26.05.2022].
[46] Source: Website of Samgra Shiksha: https://samagra.education.gov.in/ [26.05.2022].

Agrawal, M. / Chandrasekhar, K. / Sreekanth, Y. (2006): Changing the Typology of Questions in Examinations. In: *Journal of Indian Education*, 31,4 , 40-52.

Chandrasekhar, K./ Kumar, S. (2006): Students Achievements in Mathematics and Languages in relation to Non-detention Policy. In: *Indian Educational Review,* 42, 2, 111-122.

Chandrasekhar, K. (2007): A Critical Analysis of Class X English and Social Science Question Papers. In: *Indian Educational Review,* 43, 2, 36-47.

Sreekanth, Y. (2007): An Analysis of Question Papers of Different Boards of Examinations in Social Sciences, in: *Indian Educational Review*, vol. 43, no. 2, 18-35.

Oza, J. /Yagnamurthy, S. /Srivastava, S./Pennells, J. (2015): Evidence for learning: supporting the development of the Government of India‘s National Achievement Survey, Conference Paper: „Learning for Sustainable Futures. Making the Connections“, 13th International Conference on Education and Development, Sep. 15-17, 2015, University of Oxford, UK, 1-15.

Going through the above-cited titles, it becomes visible that student achievement was already an issue of concern in the late 20th century. In the early 2000s, reforming school examinations has been the focus, whereas from 2007 onwards the focus shifts to student achievements and evidence-based learning. Sreekanth (2007) analyses the content and type of items in questionnaires in the social sciences. He concludes that the quality of the questions is not adequate and that the questionnaires must be reworked. Further, he cites the NCF 2005 by saying that assessment is essential to ameliorate the teacher-learning processes, the curricula as well as the teaching materials. Assessment facilitates the evaluation of acquired „capabilities" (Sreekanth 2007: 18). Sreekanth is also part of the publication by Oza et al. (2015), as he oversaw the National Achievement Survey by NCERT back then (Sreekanth et al. 2015; see chapter 2.3.1).

Oza/Bethell (2013) observe a change from access to education to assessing learning outcomes. The value of assessment lies in „[providing] diagnostic information to policy makers" (ibid: 06; T.V.: alignment of the wording) and it helps in „putting the country on track to achieve two critically important Millennium Development Goals (…)" (ibid: 01), namely MDG 2 access to primary education and MDG 3 gender equity.[47] India has been successful in reducing the number of pupils, that are not enrolled in school as well as in providing access to school for girl children. This resulted in a fast growth of its education systems, as similar to other countries and contexts, without however enabling learning amongst students. Thus, the

[47] MDG stands for Millennium Development Goal.

focus is now set on the improvement of quality in education and of learning outcomes. What is characteristic of the Indian context is that some pupils are „top achievers" (ibid.), however the most students show „low average levels of learning" (ibid.). They state, „students are performing far below their potential" (ibid.). The aim is to enhance the score in learning outcomes.

Following Oza/Bethell (2013), the implementation of educational programmes such as SSA led to an increased assessment activity in India. The realisation of the NAS by NCERT and ASER by Pratham are two big developments. The NAS is limited to government schools leaving out the many private schools. Thus „by design, NCERT surveys could not give the whole picture across India's huge and diverse education system" (Oza/Bethell 2013: 16). This is why private organisations such as Pratham's ASER came into the field. Oza/Bethell (2013) identify four key players in the Indian educational assessment landscape. These are NCERT with NAS, Pratham with ASER, Educational Initiatives with its "Quality education Study" and OECD/NCERT with PISA (Oza/Bethell 2013: 18f). But there are many other small studies and tools on educational quality (e.g., Iyer/Moore 2017).[48] At the state level, many small tests exists, e.g. Karnataka School Quality Assessment Organisation, (hereafter KSQAO), in Karnataka (see Mukopadhyay/ Sriprakash 2011). Oza/Bethell (2013: 19) state that this heterogeneity of different organisations engaged in educational assessment is "a great strength in India". Thus, in the following, the most important and relevant groups shall be discussed, beginning with Indian state's testing instruments.

2.3.1. State testing instruments

There are several state instruments of educational measurement in India of which some selected instruments shall be briefly discussed. The *Educational Development Index (EDI)* for instance, looks at access, infrastructure, the situation of teachers and at learning outcomes (see Little 2010). The idea behind EDI is to create a detailed database to rank and compare Indian states with each other.[49] The foundation of EDI is in the *District Information System for Education (DISE)* which is a huge database of school education in India. DISE emerged in 1995 as a collaboration of the Indian education ministry (MHRD), the National Institute of Educational

[48] Iyer/Moore (2017) analyse the "Young Lives" study according to its underlying conception of learning quality. "Young Lives" is a longitudinal study which analyses and compares cases in India, Ethiopia, and Vietnam with behalf of large-scale measurements tools. Iyer/Moore discuss challenges of international large-scale student assessments, especially when comparing different contexts with each other.

[49] „The basic purpose of computing an Educational Development Index (EDI) is to know position of a state vis-à-vis other states. The EDI can be computed at different levels of education, such as, primary, upper primary, elementary and other levels of education." (Source: Website: http://dise.in/Downloads/suggestive-framework-for_EDI-compution%202009.pdf) [26.05.2022].

Planning and Administration (NIEPA) and UNICEF, while UNICEF provided the funding.[50] The introduction of educational programmes such as DPEP showed, that there was the need to establish a detailed database for educational planning. DISE looks at enrolment, the background of students, the situation of teachers, and the infrastructure of a school.[51] Sood/Shukla (2006) state that DPEP relied on DISE and state testing tools (predecessors of NAS).

Another tool at the state level is the *School Education Quality Index (SEQI*) that came into existence after India's participation in PISA 2009 Plus. SEQI provides the first data for the year 2015-16 and serves as a basis for policy reform processes with the goal of improving the quality of education.[52] It looks firstly at learning outcomes, access, social justice, and infrastructure. Secondly, it looks at governance processes such as teacher and student attendance and accountability (ibid.).[53] SEQI aims to measure the learning outcome resp. performance of the Indian states and union territories. This index is based on thirty indicators, which serve as benchmarks to improve the betterment of school education at all levels. SEQI highlights "effectiveness, quality and efficiency of the Indian school education system" (ibid) as the gold standard, that shall be achieved by all means. It becomes evident that the SEQI "aims to bring an outcomes focus to education policy" (ibid.) in India. This endeavour shall "foster the spirit of competitive and cooperative federalism" (ibid.). SEQI "strives to facilitate the sharing of knowledge and best practices across States and UTs" (ibid). SEQI emerged as a collaboration between the Indian education Ministry (MHRD), the World Bank, educational experts and others more.

Furthermore, there is the Karnataka School Quality Assessment undertaken by the Karnataka School Quality Assessment Organisation, (hereafter KSQAO), in the Indian state of Karnataka (see Varghese 2010). The Karnataka School Quality Assessment emerged in the early 2000s out of a collaboration between the state government of Karnataka with the World Bank – which provided funds – and Azim Premji Foundation, (hereafter APF), which provided expertise, and

[50] Next to the Indian EDI, there is also an EDI conducted by UNESCO's. It would be interesting to examine how both are related. For UNESCO's EDI see: https://en.unesco.org/gem-report/education-all-development-index [18.05.2022].

[51] See the website of DISE: http://udise.in/dise2001.htm [18.05.2022]. For the data report for the status of secondary education in Himachal Pradesh in 2016-17, see: http://udise.in/Downloads/SEMIS-STRC-2016-17/02.pdf [18.05.2022]. For the data report for the status of secondary education in Tamil Nadu in 2016-17, see http://udise.in/Downloads/SEMIS-STRC-2016-17/33.pdf [18.05.2022]. In 2012-13 DISE had been upgraded to Unified District Information System for Education (UDISE), and since 2018-19 to UDISE+, see: https://udiseplus.gov.in/#/home [28.05.2022].

[52] Source: website of SEQI: https://www.niti.gov.in/index.php/content/school-education-quality-index [15.05.2022].

[53] "SEQI aims to drive policy reforms that will improve the quality of school education. The index seeks to institutionalise a focus on enhancing education outcomes by driving improvements in learning levels, access, equity, infrastructure and governance processes." (ibid.)

which will be discussed shortly afterwards. Varghese, who was an assessment expert at IIEP/UNESCO and who reviews the assessment tool, says that the "State of Karnataka has made good progress in expanding facilities and increasing enrolments in basic education" (Varghese 2010: 144) and in "defining quality, measuring and assessing quality, and [that this] indicates a serious effort to monitor the quality of basic education at the system and institutional levels" (ibid.: 144; T.V.: insertion). The author values "the capacity of the state to organise tests on such a large scale" (ibid.: 147). Further, he highlights the fact that the project has been sustainable. This means that knowledge transfer between participants had been enabled through accompanying training programmes. This effort led to a profound and vast capacity building process amongst the assessment community in Karnataka (ibid.). Varghese states that work is needed to build up the theoretical foundations of the test, e.g., advancement in defining the notion of quality and its indicators. He also stresses, that a continuity of the conduct of the test is important, to build up a reliable data base and to use it as a monitoring tool for educational planning in the state of Karnataka (ibid.: 148).

The most prominent bodies in conducting assessment at the state level as well as nationwide are NCERT and its related state organisations SCERTs as well as regional organisations RIEs. From which here the NCERT, the micro assessment CCE and the National Achievement Survey (NAS) shall be depicted in detail.

NCERT and its National Achievement Survey (NAS)

The National Council of Educational Research and Training, (hereafter NCERT), is a quasi-government advisory organisation. It was established in 1961 and is located in New Delhi. NCERT's primary goal is enhancing science and education in India. The main tasks are providing assistance to and consultation to the Indian union government and the Indian state governments in all related questions of school education, teacher education, development of teaching materials, e.g., textbooks and very broadly educational research, including educational assessment.[54]

A government introduced and NCERT developed micro assessment tool is the *continuous and comprehensive evaluation,* (hereafter CCE), instrument that makes a formative assessment. It emerged after India's participation in PISA 2009 Plus against the backdrop of NCF 2005 and RTE. CCE came into existence in 2011 was ongoing until 2016-17. Though it is valued as a good idea, its implementation is contested. Thus, CCE faces a lot of resistance from teachers

[54] Website of NCERT https://ncert.nic.in/about-us.php?ln= [13.07.2022].

and parents at the local level, as well as by experts engaged in teacher education across all levels of state work.[55]

The National Achievement Survey (NAS)[56] of the Indian union government is a nationwide large-scale-assessment. The objective of NAS is to provide information on student performances of grades three, five, eight and ten for educational planning processes. The NCERT oversees the organisation and the conduct of the test. From 2001 until 2012, this has been the task of the Department of Educational Measurement and Evaluation (DEME). After 2012 this department changed its name into "Educational Survey Division (ESD)" (see Oza et al. 2015). To examine the influence of educational programmes like DPEP and SSA on the educational quality in the realm of primary education in India, NCERT conducted preliminary tests that culminated in the NAS (see DEME/NCERT n.D). In a next step, the test had been expanded to the realm of secondary education, to examine the influence of educational programmes like RMSA. The name "National Achievement Survey" was used for the first time in 2009 (see Oza et al. 2015). The Item-Response-Theory (IRT) is introduced in the survey round from 2009 to 2013 (see NCERT 2015). Oza/Betell (2013) state that the conduct of the test had been less efficient before its transformation (meaning the alignment of the test with PISA standards by adopting IRT). The authors see a problem in a manually conducted data collection and data processing which is time-consuming and prone to error. The goal of the international collaboration along the transformation of the NAS was, according to Oza/Bethell (2013), the exchange of knowledge, the building of capacity amongst the Indian assessment community, the improvement of the test concept as well as the sustainable, long-lasting implementation of NCERT's national student assessment concept. Oza et al. (2015) stress that the goal has been to introduce international standards in the area of national large-scale assessments in India. Another goal had been to render the organisation of NCERT more effective. More recently, in a collaborative project between NCERT and UNICEF an app has been developed to help the dissemination of the findings of the National Achievement Survey.[57]

[55] For an impression of the critical discussion of CCE in the Indian media, see e.g., https://timesofindia.indiatimes.com/city/gurgaon/CCE-a-good-idea-poorly-executed-had-to-go-Teachers/articleshow/56209699.cms and https://timesofindia.indiatimes.com/city/chennai/schools-parents-say-goodbye-to-cce/articleshow/56113125.cms and https://www.indiatoday.in/india-today-insight/story/why-the-cbse-introduced-and-then-withdrew-continuous-evaluation-1821304-2021-07-01 [18.05.2022].

[56] This paragraph had been published in German before (see Vollmer 2019b: 156).

[57] Source: http://nas.schooleduinfo.in/ and http://nas.schooleduinfo.in/about.html#mobileAbout [17.05.2022].

2.3.2. Non-governmental local Organizations

There are many non-governmental organizations in the Indian educational sector. The three with the greatest relevance for the research are discussed in the following.

Pratham and its Annual Status of Education Report (ASER)

Pratham Education Foundation, (hereafter Pratham), exists since 1995. The foundation is funded by national and international donors.[58] The objective of Pratham is the betterment of education in Indian contexts. The organisation "focuses on high-quality, low-cost and replicable interventions to address gaps in the education system"[59]. Pratham employs a multilevel approach that stretches from working on the ground with local actors in often remote areas to working with state governments at the meso- and macrolevel. The organisation is proud that some of their concepts, for instance the ASER test tool and also the concept of Teaching at the Right Level, (hereafter TaRL), are taken up in other countries (ibid.).[60] The ASER report of 2016 states that the „ASER methodology has spread organically to several other countries, all of which follow the same set of basic guiding principles while adapting the model to their own context" (ASER centre 2017: 295). Though it would be worthwhile to examine these transmission processes, it is of interest here, to look closer at Pratham's Annual Status of Education Report, (hereafter ASER), which in Hindustani means 'impact'. ASER exists since 2008 and its assessment is conducted every year. This assessment is conducted by ASER Centre, a daughter organisation of Pratham. The objective of the ASER test is to examine the success of development programmes in urban and rural areas. ASER's mission is to educate people in the understanding of assessment. ASER takes initiative to shed light on the „effectiveness" of governmental programmes.[61] According to Pratham, ASER

> "is the largest non-governmental, household survey undertaken in rural India and (…) measures the enrolment status of children between 3-16 years and tests basic reading and arithmetic abilities of children between 5-16 years through a detailed process that uses a common set of testing tools and a comprehensive sampling framework."[62]

Pratham invented and implemented its own testing apparatus to "measure the learning levels of children in rural India, measure the impact of its programs, and review its broad strategies" (ibid.). The organisation is self-conscious about their role in education policy when they note

[58] These flows of money are listed on Pratham's website: https://www.pratham.org/about/legal-financial-information/ [17.05.2022].
[59] Source: Website of Pratham: https://www.pratham.org/ [17.05.2022].
[60] See e.g., Mugo et al. (2015) for Uwezo in East Africa.
[61] Source: website of ASER: http://www.asercentre.org/?p=133 [26.05.2022].
[62] Source: Website of Pratham: https://www.pratham.org/about/faq/ [17.05.2022].

on their website that their testing tool ASER "has also been significant in defining a qualitative agenda in education" (ibid.). Further on, it is proud to be "widely acknowledged in government and policy circles both inside and outside of India" (ibid.). Indeed, Pratham and ASER are well documented in literature (e.g., Banerjee/Duflo 2011; Oza/Bethell 2013; Dréze/Sen 2014; Ramalingam 2017). To make the OECD PISA test more relevant for contexts other than the European one, the test tool of ASER is valued as „probably the best" (Carr-Hill 2015: 58) amongst other alternative test tools of the so-called global south. International organizations such as UNESCO consider ASER as a valuable assessment tool and source of data on learning outcomes (see UNESCO 2017a, UNESCO 2017b). ASER is however often criticised for the simplicity of the test construction (see e.g., Jha 2010).[63] Another important private organisation in the educational assessment landscape in India is Educational Initiatives, which will be presented now.

Educational Initiatives (EI)

The group Educational Initiatives, (hereafter EI), exists since 2001. They state about themselves: "Educational Initiatives believes in making a difference in education through personalised learning and ensuring that students learn with understanding."[64] The group sees the problem of widespread pedagogies of rote learning, and children failing to acquire proper understanding and problem-solving abilities. Educational Initiatives operates in the area of student assessment and teacher evaluation. The organisation developed their own large-scale assessment tools and conducted a study on quality of learning together with the global tech company WIPRO (see Educational Initiatives/Wipro 2011). EI collaborates with private partners, such as companies and foundations, and with Indian states. Educational Initiatives published frequently in Azim Premji Foundation's small journal *Learning curve*. Here, EI makes a strong plea for measuring learning with standardized assessments. Though there are manifold ways for human beings to learn, a thoroughly conceptualised test may provide meaningful insights for both, teachers, and students to get to know what children actually learned. They stress that standardized testing is only one access to measure the quality of education. EI also provides a general overview on formative assessment. The organisation holds that assessment of student's performance should be conducted on a daily basis and not only at specific time periods in the school year (see Rajagopalan et al. 2005; Agnihotri et al. 2009;

[63] How Pratham resp. ASER is linked up with international organisations such like UNESCO and OECD is an interesting question for further research.
[64] Source: website of Educational Initiatives: https://www.ei-india.com/ [13.07.2022].

Kumar et al. 2013). As the Azim Premji Foundation has been already mentioned, this foundation is discussed next.

Azim Premji Foundation (APF)

Azim Premji Foundation, (hereafter APF), is a not-for profit organization founded by the corporate tycoon Azim Premji in 2000.[65] APF's mission statement reads „Towards a just, equitable, humane and sustainable society".[66] The Foundation operates in the area of elementary education, especially with rural government schools and runs several programmes. A popular and successful programme has been the Learning Guarantee Programme, (hereafter LGP), that started in 2002 (Rishikesh 2013). LGP "introduced competency-based testing in all schools under the Karnataka School Quality Assessment programme"[67] in the following participating states: "Gujarat, Karnataka, Madhya Pradesh, Rajasthan, Uttarakhand" (ibid.). In 2011, APF founded its own university called Azim Premji University (APU) in Bangalore. Additionally, APF has its own publication named *Learning Curve*. This periodically published small journal started as a newsletter and got institutionalized in 2010. Over the course of the years, it has established itself as a platform for assessment experts of India and other research contexts. APF itself is considered as an expert in assessment from the perspectives of other assessment organisations. APF is well connected within the Indian educational assessment landscape as well as with international organisations in the field of assessment (this will be taken up in chapter 6 again). In the following, the most relevant international organisations are discussed.

2.3.3. International organizations

This section describes the relevant large international organisations – such as UNESCO, UNICEF, World Bank, DFD, ACER, OECD and the PISA study – their understanding of education policy and assessment, and their specific approach resp. work in India. This task can be done here only briefly. For each of these large international organisations, it would be interesting to analyse, the way how they are working and how they are influencing other bodies. For their engagement in contexts of the so-called global south, it is interesting to ask: *How do these global actors look at questions of education in contexts of the global south? What is their assessment of the situation? What are their recommendations? What kind of challenges do they*

[65] Azim Premji has been the chairman of his software company WIPRO Limited for many years, see: https://www.britannica.com/biography/Azim-Premji [19.05.2022].
[66] Source: Website of Azim Premji Foundation: http://azimpremjifoundation.org/ [17.05.2022].
[67] Source: http://www.educationworld.co/Magazines/EWIssueSection.aspx?Issue=May_2011&Section=Cover_Story&Article=Azim_Premji_Foundation_initiatives [17.05.2022].

face? Do they differentiate between for example African contexts and Indian contexts?[68] To begin with the organisation UNESCO is discussed.

UNESCO

United Nations Educational, Scientific and Cultural Organization, (hereafter UNESCO), is a self-reliant organization that is associated with the United Nations (UN). The general aim of UNESCO is 'constructing humanity', as cited in Droit (2005: 21). Based on the experience of the inhumanity of the holocaust, the objective of UNESCO is to "reconstruct an ethic, a prospect of human dignity and the values it entails" (ibid.: 23). Droit (2005) further elaborates:

> "The commitment that UNESCO embodies is synonymous with a kind of unshakeable confidence in the possibility of human improvement, or at the very least of counterbalancing the forces of destruction to be found in the human being." (Droit 2005: 23)

UNESCO understands itself as an organization that cherishes diversity and freedom and secondly, as an organisation that is not enforcing one model upon another (ibid: 22). In short, UNESCO's mission statement reads as follows:

> "'Following the catastrophes of the twentieth century, there is a need to reconstruct and above all to educate, in a scientific frame of mind, human beings that are equal and different, possessing the means to communicate, in order to protect and safeguard peace, the diversity of cultures and ultimately life itself.'" (Droit 2005: 24)

Thus, education is one of the core areas of UNESCO's engagement and its goal of education is to develop a scientific frame of mind and a disposition that is open-minded in view of cultural diversity. Currently, the website of UNESCO reads as follows:

> "Bring out the best in our shared humanity. Since wars begin in the minds of men and women, it is in the minds of men and women that peace must be built. UNESCO uses education, science and culture to inform, inspire and engage people everywhere to foster understanding and respect for each other and our planet."[69]

Here, there is a remarkable shift from the idea of improving humanity to bringing out the best in humanity. Though, UNESCO still aims at building peace and maintaining cultural diversity, and education is seen as one way to achieve this goal. UNESCO's objective in the realm of education is in detail:

> "Education transforms lives and is at the heart of UNESCO's mission to build peace, eradicate poverty and drive sustainable development. It is a human right for all throughout life. The Organization is the only United Nations agency with a mandate to cover all aspects of education. It has been entrusted to lead the Global Education 2030 Agenda through Sustainable Development Goal 4. UNESCO provides global and regional leadership in education, strengthens education systems worldwide and responds to contemporary global

[68] These questions have been raised by an expert in an explorational interview (see chapter 6).
[69] Source: Website of UNESCO: https://www.unesco.org/en [17.05.2022].

challenges through education with gender equality as an underlying principle. Its work encompasses quality educational development from pre-school to higher education and beyond."[70]

In the context of this work, UNESCO's engagement in the realm of providing quality education is of importance. Not visible in the statement above, is the fact that UNESCO is well-established in the international assessment scene. There are two in-house institutions that are engaged in assessment. These are UNESCO Institute of Statistics (UIS)[71], and UNESCO International Institute of Educational Planning (IIEP)[72]. IIEP's recent slogan is: "Planning education, Building the future".[73] Enhancing the quality of education is one of the core aspects. Here, the international collaboration in assessment of IIEP with education ministries of several states – called Southern and Eastern Africa Consortium for Monitoring Educational Quality, (hereafter SAQMEC) – is mentioned.[74] UIS provides UNESCO with data on education. According to UNESCO sources:

"The UNESCO Institute for Statistics (UIS) is the official and trusted source of internationally-comparable data on education, science, culture and communication. As the official statistical agency of UNESCO, the UIS produces a wide range of state-of-the-art databases to fuel the policies and investments needed to transform lives and propel the world towards its development goals. The UIS provides free access to data for all UNESCO countries and regional groupings from 1970 to the most recent year available. The UIS encourages developers and researchers to build websites and applications that make rich use of UIS dissemination data. In addition to a powerful standards-based API, the UIS supports a data browser and a bulk data download service (BDDS)."[75]

This shows that UNESCO strongly relies on quantitative evidence-based studies as a foundation for their policy recommendations. The collected data also feeds into UNESCO's Global Education Monitoring Report (GEM Report). The authors of this report believe that "the GEM Report is an indispensable part of the global education architecture." [76] The objective of the report is:

"[T]o synthesise, analyse and clearly present the best available data, evidence and research to explain progress and differences in education, and to make recommendations that stimulate reflection and dialogue and thereby improve policymaking" (ibid).

However, some experts in the interviews did shed light on the fact that the dialogue between UNESCO and local actors has not been without any conflict when it comes to the drafting of

[70] Source: Website: https://www.unesco.org/en/education [17.05.2022].
[71] Website of UNESCO UIS: http://uis.unesco.org/ [17.05.2022].
[72] Website of UNESCO IIEP: http://www.iiep.unesco.org/en [17.05.2022].
[73] Source: Website of UNESCO IIEP: http://www.iiep.unesco.org/en ; T.V.: without accentuation in bold letters [17.05.2022].
[74] See: http://www.iiep.unesco.org/en/our-expertise/sacmeq and: http://www.sacmeq.org/ [17.05.2022].
[75] Source: Website of UNESCO UIS: http://data.uis.unesco.org/ [17.05.2022].
[76] Source: Website of UNESCO's GEM Report https://en.unesco.org/gem-report/about [17.05.2022].

the GEM Report and India's presentation in it. UNESCO's engagement in India started in 1945 and India joined UNESCO in 1946. UNESCO has an office in New Delhi since 1948.[77] UNESCO provided funding for an international conference in Udaipur in 2009 (see MHRD 2009a), which as an event is of great importance for understanding the process of India joining PISA, and which will be discussed in chapter 6. UNESCO's latest report on the status of education in India has been published in 2021.[78] Next to UNESCO, UNICEF with its daughter organization UNICEF India has a long history of work and dialogue with India. UNICEF is very prominent in the Indian educational assessment landscape and will be discussed below.

UNICEF and UNICEF India

United Nations Children's Fund, (hereafter UNICEF), is the world organisation for children's rights, with its main focus on providing developmental aid.[79] UNICEF's objective is:

> "UNICEF works in over 190 countries and territories to save children's lives, to defend their rights, and to help them fulfil their potential, from early childhood through adolescence. And we never give up."[80]

The objectives specific of education are:

> "Every child has the right to learn. UNICEF works around the world to support quality learning for every girl and boy, especially those in greatest danger of being left behind."[81]

UNICEF has its own in-house data institution: UNICEF Data. Their mission statement is:

> "We believe that smart demand, supply and use of data drives better results for children. When the right data are in the right hands at the right time, decisions can be better informed, more equitable and more likely to protect children's rights."[82]

UNICEF claims to be "the world's leading source of data on children used by over 3 million people globally" (ibid.). UNICEF conducts a variety of surveys, mainly based on large-scale assessments, to feed their evidence-based policy programmes.[83]

UNICEF is active in the Indian education landscape from the very beginning since India's independence in (1946-47). UNICEF maintains an office in New Delhi, but also offices in some

[77] See the website of UNESCO's office in New Delhi: https://en.unesco.org/fieldoffice/newdelhi/about [17.05.2022].
[78]See the website of UNESCO: https://en.unesco.org/news/unesco-launches-2021-state-education-report-india-no-teacher-no-class-0 [17.05.2022].
[79] See the website of UNICEF: https://www.unicef.org/ [17.05.2022].
[80] Source: Website of UNICEF: https://www.unicef.org/what-we-do [17.05.2022].
[81] Source: Website of UNICEF: https://www.unicef.org/what-we-do [17.05.2022]..
[82] Source: Website of UNICEF Data: https://data.unicef.org/about-us/ [17.05.2022]
[83] See Website UNICEF for an overview on the realm of education: https://data.unicef.org/topic/education/overview/ [17.05.2022].

of the Indian states.[84] UNICEF (India) provides funding, technical expertise and staff. For instance, like UNESCO, UNICEF provided funding for the international conference in Udaipur in 2009 (see MHRD 2009a), which had been mentioned already earlier. UNICEF describes their current mission statement for India as follows: "UNICEF is committed to ensuring all children in India have access to inclusive and equitable quality education."[85] Quality teaching and learning is one key aspect of UNICEF's education programme in India which exists since 2018. The objective of this programme is that

> "Girls and boys including the most marginalised will enjoy sustained and equitable benefit from quality education with learning outcomes focusing on foundational learning and life skills." (ibid.)

UNICEF gives a description of their embeddedness in the Indian educational landscape: "UNICEF is working closely with the Government of India, state governments in 17 states, civil society, academic institutions and private sector" (ibid.). Apart from that UNICEF is collaborating with other international organisations such as for instance the World Bank.

World Bank

The World Bank Group, (hereafter World Bank), exists since 1944. It consists out of five sub-institutions. The organisation pursues two main objectives, these are "to end extreme poverty and promote shared prosperity in a sustainable way".[86] World Bank defines itself as "one of the world's largest sources of funding and knowledge for developing countries".[87] For instance, like UNESCO and UNICEF (India), World Bank provided funding for the international conference in Udaipur in 2009 (see MHRD 2009a). Further on, World Bank provided funding for India's participation in PISA 2009 Plus (see Walker 2011), and as mentioned earlier for the DPEP programme. The organisation has its head office in Washington, D.C., but maintains offices throughout the world, so also in India. The office in New Delhi exists since 1957,[88] but World Banks engagement in India goes back to 1944. On their website, World Bank describes a fundamental management shift from centralised work organisation to a more decentralised work organisation in the late 1990s. For the example of India, they write:

> "Starting in 1997, the Bank began to shift resources, relocate work, and devolve authority and decision-making to its field offices to better understand and serve the needs of its client

[84] See the website UNICEF office New Delhi: https://www.unicef.org/india/contact-us [17.05.2022].
[85] Source: Website UNICEF India: https://www.unicef.org/india/what-we-do/education [17.05.2022].
[86] Source: Website of the World Bank: https://www.worldbank.org/en/home [17.05.2022].
[87] Source: Website of the World Bank: https://www.worldbank.org/en/who-we-are [17.05.2022].
[88] See the website of the World Bank India: https://www.worldbank.org/en/country/india and: http://web.worldbank.org/archive/website00811/WEB/OTHER/355F3349.HTM?OpenDocument [17.05.2022]. Currently, World Bank India's country director is Junaid Kamal Ahmad (see: https://twitter.com/JUNAIDWBG [17.05.2022].

countries. Tasks are increasingly being supervised from the field, and more than half of the Bank's South Asia staff are now based in field offices. The Delhi-based India country director is responsible for the Bank's strategy in India and manages the annual budget for the country program. To better support the Bank's program in country, the number of professional staff in the New Delhi office has increased from 52 in 1998 to more than 80 today. About one-third of the Bank's operations in India are now task-led by Delhi-based staff, of which more than half are managed by national staff."[89]

According to this, the idea is to strengthen the human power at the local ground and to involve as much as possible experts from the local level. Apart from its astonishingly powerful local presence, World Bank is funding research, too.[90] Moreover, World Bank is embedded in a broad network. For instance, it holds connections to the OECD. Like the OECD, World Bank maintains a human capital project and publishes a human capital index[91]. In 2018, Jaime Saavedra, World Bank's Director of Education has been guest in the OECD's Education Podcast.[92] On their website, World Bank describes their partnerships:

"In addition to working closely with governments in our client countries, the World Bank also works at the global, regional, and local levels with a range of technical partners, including foundations, non-profit organizations, bi-laterals, and other multilateral organizations. These collaborations are funded by other strategic partners such as the Bill and Melinda Gates Foundation, UNICEF, and UNESCO. Some examples of our most recent global partnerships include: UNESCO, UNICEF, and the World Bank have joined forces to close the learning data gaps that still exist and that preclude many countries from monitoring the quality of their education systems and assessing if their students are learning. The three organizations have agreed to a Learning Data Compact, a commitment to ensure that all countries, especially low-income countries, have at least one quality measure of learning by 2025, supporting coordinated efforts to strengthen national assessment systems."[93]

Here, it is stated that World Bank maintains strong ties with other large organisations such as UNESCO and UNICEF, but also with foundations such as prominently the Gates Foundation. Furthermore, World Bank gives insights to their understanding of education:

"The World Bank Group is the largest financier of education in the developing world. We work on education programs in 90 countries and are committed to helping them reach SDG4,

[89] Source: Website of the World Bank: http://web.worldbank.org/archive/website00811/WEB/OTHER/355F3349.HTM?OpenDocument [17.05.2022].
[90] Exemplarily some studies on the Indian context are named. Das/Zajonc (2008) did a study in Rajasthan and Orissa on the level of secondary education, with focus set on mathematics achievement. The authors state that India is divided into two poles: for one thing there are top performer, but then again there is a low learning level. Beteille et al. (2014) did a study on student learning in South Asia. Asim et al. (2015) analyse evaluation studies on the improvement of school quality in South Asia. One of their findings is, that evaluation studies should be designed context-specific and input- and incentive- oriented. Being not funded by the World Bank, Basu (2006) critically investigates India's relationship with the World Bank. Lastly, Spring (2015) gives an overview of the organization World Bank.
[91] See: Website of the World Bank: https://www.worldbank.org/en/publication/human-capital [12.05.2022].
[92] OECD TopClass Podcast, Episode 13: What can low- and middle-income countries learn from PISA?, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/episode-13-what-can-low-and-middle-income-countries-learn-from-pisa [31.05.2022].
[93] Source: Website of World Bank: https://www.worldbank.org/en/topic/education/overview#4 [25.05.2022].

> which calls for access to inclusive and equitable quality education and lifelong learning opportunities for all by 2030."[94]

World Bank describes itself as "the largest financier of education" (ibid.) in the so-called global south. Secondly, World Bank aims at reaching the goal of SDG4 which is basically achieving quality education for all. As already stated with UNICEF, World Bank is not the only donor agency in the Indian educational assessment landscape. DFID which will be presented now is equally financing educational assessment in India.

DFID/FCDO

Department for International Development, (hereafter DFID), is a British agency, founded in 1997. This agency has been renamed by the current British government in 2020 as "Foreign, Commonwealth and Development Office", (hereafter FCDO).[95] DFID's resp. FCDO's focus is set on reducing poverty and expanding the reach of universal education worldwide. FCDO has an office in New Delhi. It describes its work in India as follows:

> "The Department for International Development (DFID) leads the UK's work to end extreme poverty, deliver the Global Goals, and tackle global challenges in line with the government's UK Aid Strategy. DFID in India's work has evolved. Traditional financial aid to India ended in 2015. DFID's portfolio focusses on economic development; increasing prosperity in India, notably for the poor & marginalised; developing inclusive markets that work for all Indians – and in due course also for the UK. We also work with India internationally to reduce poverty and increase prosperity & stability in other developing countries, and tackle global challenges. Our work helps build longer term partnerships and influential two-way relationships between the UK and India; in trade, investment business, institutions, technology, government and academia. We do this through programmes that use investment – which DFID refers to as Development Capital - and technical assistance. Our Development Capital usually works through funds; we are often a co-investor in funds with others. We work in partnership with the Government of India to deliver on joint Indian and UK priorities."[96]

Like the World Bank, DFID stresses in this statement that they had changed their approach in how they financially aim to help India. The objective of DFID's work is to enhance India's economic development, as well as to create inclusive markets. DFID puts emphasis on the aspect that they aim for "two-way relationships between the UK and India" (ibid.), that are durable and meaningful. The envisioned goal is on the one hand India's growing wealth and

[94] Source: Website of World Bank: https://www.worldbank.org/en/topic/education [25.05.2022].

[95] See the website of DFID: https://www.gov.uk/government/organisations/department-for-international-development [17.05.2022] and the website of FCDO Website: https://www.gov.uk/government/organisations/foreign-commonwealth-development-office [17.05.2022]. For further research: Ireton (2013) published a book on the idea and history of the organisation DFID.

[96] Source: Website of DFID/FCDO: https://www.developmentaid.org/donors/view/36114/dfid-department-for-international-development-india [25.05.2022].

the ending of poverty in India, on the other hand, DFID's engagement in India shall feed back to the needs of the UK, too. In general, DFID gives financial aid and technical expertise. DFID has been funding many projects and research in India. For instance, the capacity building project of NCERT's National Achievement Survey (see Oza/Bethell 2013; Vollmer 2019b). Together with the above-mentioned international organisations, DFID also provided funding for the international conference in Udaipur in 2009 (see MHRD 2009a). These two projects show that the agency cooperates with other international large organisations, too. One of these international partner organisations is the Australian organisation ACER, which is outlined in the following.

ACER and ACER India

The not-for-profit organisation Australian Council for Educational Research, (hereafter ACER), has been founed in 1930. ACER is located in Camberwell (Melbourne) and maintains offices in Sydney, Brisbane, Perth, Adelaide, Dubai, London, Jakarta, Kuala Lumpur, and New Delhi. ACER's main task is the organisation, production, and transmission of materials for teaching and educational research. A focus is the development of assessment tools. The organisation has developed and conducted the PISA study for the OECD from 2000 until 2015.[97] Further, it has its own journal, called *International Developments*.[98] ACER works in collaboration with the World Bank, DFID and many others more. ACER's engagement in India began in 2007 and in 2011 the subdivision ACER India has been established. ACER India describes its work as follows:

> "ACER India is an independent, not-for-profit research organisation providing world class research, educational products and services to India and the South Asia region. ACER's mission is to create and promote research-based knowledge, products and services that can be used to improve learning across the life span." [99]

In this statement ACER India describes its scope of action, which is not only limited to India, but also to India's neighbouring countries. Secondly, ACER India states that it commits to evidence-based testing and the goal of improving the quality of education. As the main organisation, ACER India also maintains relations to many other organisations. ACER India writes on their partnerships:

> "Working closely with governments and universities in South Asia, international aid agencies and not-for-profit organisations such as the World Bank, the United Nations

[97] See the website of ACER: https://www.acer.org/au/about-us and https://www.acer.org/files/TIMSSandPISA-backgrounder.pdf [26.05.2022].
[98] See the website of ACER: https://research.acer.edu.au/intdev/ [26.05.2022].
[99] Source: Website of ACER India: https://www.acer.org/in/about-us [17.05.2022].

Children's Fund and the British Council, we're improving educational outcomes for children of all ages."[100]

Therefore, main partners for ACER India are the World Bank, UNICEF, and the British Council. Two examples of ACER India's collaboration with other partners in the Indian context are for instance, the transformation of NCERT's NAS (see Vollmer 2019b) and the administration of the PISA 2009 Plus project in India. ACER India's role in it will be examined in greater depth in chapter 6. Finally, the OECD and the PISA study shall be presented now.

OECD

According to Bloem (2016: 17), the Organization for Economic Co-operation and Development, (hereafter OECD), is often called as being a 'rich man's club', as there is a certain similarity of the OECD-member states in terms of their socio-economic status. In view of the recent expansion of the organization – the OECD has currently 38 members - this statement appears as not true anymore. But in my opinion, it never has been true, given the uniqueness of every single OECD member country.[101] What remains from the notion of *being a rich man's club* is the fact that participating in PISA is costly, which will be displayed later, and secondly, the amount of money the organisation itself has. Notably in 2019, the OECD has been in funds of € 386 million.[102]

Following Bloem (2016), the OECD has been set up in 1961, based on its predecessor organisation Organization for European Economic Cooperation, (hereafter OEEC), founded in 1948. The purpose of the OEEC had been the "implementation of the Marshall plan for the enhancement of economic development in Europe" (ibid: 16; T.V.: translation).[103] With the membership of Canada and the USA, the OEEC resp. OECD became an international organisation. Though the main goal of the OECD is since its foundation the support of economic

[100] Source: Website of ACER: https://www.acer.org/in/about-us [26.05.2022].
[101] According to the list of member states, cooperation partners and other alliances on the OECD website, Colombia and Costa Rica are the youngest OECD members. Currently, the OECD deliberates on making Argentina, Brazil, and Peru, as well as Croatia, Bulgaria and Romania to OECD member states (see: http://www.oecd.org/about/membersandpartners/ [15.05.2022]). Negotiations with Russia are paused since 2014, whereas the OECD enforces establishing ties with Ukraine who took part in PISA in 2018 for the first time (see: https://www.oecd.org/newsroom/statement-by-the-oecd-regarding-the-status-of-the-accession-process-with-russia-and-co-operation-with-ukraine.htm [15.05.2022]). This must be seen in view of the ongoing tensions between Russia and Ukraine and the current Russian-Ukrainian war (see: https://www.oecd.org/eurasia/countries/ukraine/ [15.05.2022]). There aren't any hints for negotiations between OECD and India on the question of India joining the OECD as a member country. India is listed by the OECD as a key partner (see: http://www.oecd.org/about/membersandpartners/ [15.05.2022]). The OECD website also provides an overview of cooperation with several international organisations (IOs): http://www.oecd.org/globalrelations/oecdpartnershipswithinternationalorganisations/ [15.05.2022].
[102] Source: https://www.oecd.org/about/budget/member-countries-budget-contributions.htm [15.05.2022]. In comparison, in 2014 this has been € 357 million (as cited in Bloem 2016: 17).
[103] Bloem (2016) makes reference to Carroll/Kellow 2011: 04).

progress, the organisation has been quick in adjusting its goals and missions accordingly to current challenges and trends. This flexibility is seen as a strength of the organization (ibid.).[104] Today, the objective of the OECD encompasses the maintenance of international economic ties, the management of international trade agreements, the international development policy, as well as "the environmental policy and energy policy, agriculture, corruption, migration, and education" (ibid.: 16; T.V.: translation).[105]

The OECD sees itself as an organization with the key role as „to promote policies that will improve the economic and social well-being of people around the world"[106]. The exchange between governments of different nations and economies shall be enhanced and promoted by offering an international platform. The vast field of activity of the OECD includes economic, social as well as environmental matters, as stated above. The mission is to examine and evaluate productivity as well as „global flows of trade and investment" (ibid.), to collect internationally comparable data, and to make recommendations for future action. Moreover, to "set international standards" (ibid.) in the above-outlined field of activity. Here, the PISA study is mentioned: „We compare how different countries' school systems are readying their young people for modern life" (ibid.). Recommendations shall contribute to the goal of the betterment of the living conditions of its members and partnering countries.

Recently, Mathias Cormann became Secretary-General. His predecessor has been Angel Gurría (2006-2021), who had a strong mission to expand the OECD.[107] The OECD consists out of the Council, the Secretariat, and several committees, as well as policy makers and shapers. The OECD Secretariat employs around 3300 employees from various disciplinary backgrounds.[108] The OECD Directorate for Education and Skills is part of the OECD Secretariat.[109] The OECD has its "Headquarters" in Paris, other "centres" do exist in Washington D.C., Berlin, Tokyo, and Mexico.[110] Unlike, the other international organisations presented here, the OECD has not established an office in New Delhi until now. However, there has been a subunit in the OECD Economics Department, called "OECD Economics Department India desk" (Hill/Chalaux 2011:05).

---

[104] Bloem (2016) makes reference to Carroll/Kellow (2011: 65).
[105] Bloem (2016) makes reference to Carroll/Kellow (2011: 63f).
[106] Source: https://knowledge4policy.ec.europa.eu/organisation/oecd-organisation-economic-co-operation-development_en [15.05.2022].
[107] See Angel Gurría's CV: https://www.oecd.org/about/secretary-general/former-oecd-secretary-general-angel-gurria-cv.htm [15.05.2022].
[108] Source: https://www.oecd.org/about/structure/ [15.05.2022]. In contrast, Bloem (2016) mentions 2500 employees.
[109] For an overview of OECD's activities in the field of education, see the section on education on OECD's website: https://www.oecd.org/education/ [15.05.2022].
[110] Source: https://www.oecd.org/about/structure/ [15.05.2022].

The OECD maintains cooperation with trade partners, industrial partners as well as partner international organisations. Amongst others, the World Bank is mentioned in the section "Official OECD Partners", and UNESCO is mentioned in the section "Other Major Organisations" on the OECD website.[111]

In the OECD's 50th Anniversary Vision statement of 2011, it is mentioned that the organization is committed to the values of democracy, economic growth, and welfare for all.[112] The core values of the OECD are being objective, open, bold, pioneering, and ethical.[113] The OECD's 50th Anniversary Vision statement of 2011 further mentions the main objective of the OECD, that is „to make the OECD a more effective and inclusive global policy network."[114] This applies also to the commitment to aid and to contribute to the achievement of the Millennium Development Goals:

> „We reaffirm our commitment to aid as well as the priority we give to achieving the Millennium Development Goals. We will continue our efforts to make aid more effective by better aligning donor and partner priorities, empowering developing countries to build capacity and assume greater ownership for their own futures, and strengthening mutual accountability." (ibid.)

International development policy is seen as an important task. The aim of building an *inclusive global policy network* is stated, as cited above. Purposely, new ties shall be established, and knowledge shall be exchanged (ibid.). The document states: "We welcome these growing ties" (ibid.), and further: "We, the OECD Members, will strengthen co-operation where there is mutual benefit with countries seeking closer ties, including possible membership" (ibid.).

The OECD sees its own role in giving advice to national governments and to enforce policies at the national level, in the OECD's wording by *informing, influencing and setting standards*.[115] Precisely this is what is puzzling educationists in Germany, India, but also in other regions of the world. As stated earlier, until now there is not any OECD office in New Delhi or in other parts of India. However, the OECD maintains a website on OECD's trade and policy affairs with India. Nevertheless, not much information on India's participation in PISA 2009 Plus is to be gathered from here. It is mentioned that the relationship between OECD and India commenced in 1995.[116] Elsewhere, it is stated that India joined OECD's Development Centre

---

[111] Source: https://www.oecd.org/global-relations/oecdpartnershipswithinternationalorganisations/ [30.05.2022].
[112] Source: http://www.oecd.org/mcm/48064973.pdf [26.05.2022].
[113] In more detail: "Objective: Our analyses and recommendations are independent and evidence-based. Open: We encourage debate and a shared understanding of critical global issues. Bold: We dare to challenge conventional wisdom starting with our own. Pioneering: We identify and address emerging and long term challenges. Ethical: Our credibility is built on trust, integrity and transparency." Source: https://www.oecd.org/about/how-we-work/ ; T.V.: without accentuation in bold letters [17.05.2022].
[114] Source: http://www.oecd.org/mcm/48064973.pdf [26.05.2022].
[115] See: https://www.oecd.org/about/how-we-work/ [26.05.2022].
[116] Source: Website: https://www.oecd.org/india/ [17.05.2022].

in 2001. This body aims to establish and deepen the exchange between the OECD and low- and middle-income countries.[117] In the OECD's report "Active with India" of 2019[118], India's participation in the PISA 2009 Plus project is mentioned only in the passing, and the preparations for the new participation in the then supposed to be PISA study of 2021 – which has been delayed to 2022 – are accentuated:

> "Preparations are underway for public schools in the Indian union territory of Chandigarh to take the *Programme for International Student Assessment* (PISA) in 2021. (…) Participation in PISA could provide Indian policy makers with valuable evidence on the factors associated with student outcomes and the types of interventions that could raise performance and narrow achievement gaps across socioeconomic groups. In 2009, two Indian states – Tamil Nadu and Himachal Pradesh – took part in PISA." (OECD 2019: 57; T.V.: accentuation in Italic letters as in original)

There is no comment on the bad results for India in PISA 2009 Plus, or the difficulties in the test administration and sampling processes. Instead, further projects between the OECD and India in the realm of education and vocational education are mentioned, as e.g., India's participation in the "OECD's *The Future of Education and Skills: Education 2030* project" (ibid.; T.V.: accentuation in Italic letters as in original). Even in 2022, OECD's relationship with India seems to be a loosely coupled relationship and the conduct of the PISA 2009 Plus project in the Indian states Himachal Pradesh and Tamil Nadu, as well as the more recent projects enlisted in the document "Active with India" appear as steps to manifest the presence of OECD in the Indian context. This will be analysed in chapter 6 in greater depth. Here, as final international organisation in this section, the PISA study shall be briefly presented.[119]

The PISA study

The Programme for International Student Assessment, (hereafter PISA) is a large-scale assessment tool that measures competencies of fifteen-year-old students in "reading, mathematics, and science knowledge and skills to meet real-life challenges"[120] to compare the efficiency of national education systems: "PISA evaluates education systems worldwide by testing the skills and knowledge of 15-year-old students" (OECD 2019: 57). Following Bloem (2016: 81; T.V.: translation), the PISA study aims at "providing information for countries and

[117] Source: https://www.oecd.org/newsroom/indiajoinsoecddevelopmentcentre.htm [01.06.2022].
[118] Source: https://issuu.com/oecd.publishing/docs/active-with-india-2019?fr=sNmM1ODkzNTk1MQ [01.06.2022].
[119] Further literature on the evolution and history of the OECD: Henry et al. (2001) write on the development of education indicators and on current challenges, as e.g., accountability. Woodward (2009) looks into the OECD and is interested, how the organization works. Carroll/Kellow (2011) give a historical and broad perspective on the evolution of the organisation OECD. Spring (2015) provides an overview of the organisation OECD.
[120] Source: https://www.oecd.org/pisa/ [17.05.2022].

economies on their status of acquired human capital and their rank in the international competition and also at helping those countries and economies to enhance their amount of human capital." Accordingly, the PISA study's-understanding of the contemporary world is that countries must develop human capital within their societies to be and remain internationally competitive (ibid.).

According to Schleicher (2017), PISA has been implemented by the OECD in the late 20th century. The first round of the PISA study took place in 2000. Since then, the study has been conducted every third year, with the exception of the latest cycle that is delayed, which will be discussed later. In each cycle all three subjects are tested. Yet, each cycle particularly focuses on a specific subject or competency. Interestingly, the PISA cycle of 2009 and the additional project PISA 2009 Plus project are not mentioned by Schleicher (2017).

In the PISA 2009 cycle, the study related to reading skills. Here, ten countries, amongst them India with the two states Himachal Pradesh and Tamil Nadu, participated in an additional test, called PISA 2009 Plus Project (see Walker 2011). This test had been conducted in the year 2010. The conduct of the 4th PISA cycle – test construction, administration, and evaluation – had been undertaken by the international organization ACER resp. ACER India.[121] The responsibility for PISA resides with the Directorate of Education and Skills, which is headed by Andreas Schleicher. On the OECD website Andreas Schleicher is described as follows:

> **"Andreas Schleicher** is Director for Education and Skills, and Special Advisor on Education Policy to the Secretary-General at the Organisation for Economic Co-operation and Development (OECD) in Paris.
> He initiated and oversees the Programme for International Student Assessment (PISA) and other international instruments that have created a global platform for policy-makers, researchers and educators across nations and cultures to innovate and transform educational policies and practices.
> He has worked for over 20 years with ministers and education leaders around the world to improve quality and equity in education. Former U.S. Secretary of Education Arne Duncan said that Schleicher "understands the global issues and challenges as well as or better than anyone I've met, and he tells me the truth" (*The Atlantic*, July 11). Former UK Secretary of State Michael Gove called Schleicher "the most important man in English education" – even though he is German and lives in France.
> Before joining the OECD, he was Director for Analysis at the International Association for Educational Achievement (IEA). He studied Physics in Germany and received a degree in Mathematics and Statistics in Australia. He is the recipient of numerous honours and awards, including the "Theodor Heuss" prize, awarded in the name of the first president of the Federal Republic of Germany for "exemplary democratic engagement". He holds an honorary Professorship at the University of Heidelberg." [122]

[121] This was the case from 2000 until 2015. According to Addey/Gorur (2020: 15), OECD and ACER teamed up again for the project "PISA 2021 Core E" recently.
[122] Source: http://www.oecd.org/edu/andreas-schleicher.htm [26.05.2022], T.V.: bold letters as in the original.

Noteworthy here is the description of Andreas Schleicher as the world's number one expert in education who has profound knowledge in the realm of education and the challenges education faces worldwide today, who is honest and finally who is specifically an expert in English education. Left in the shadow are the many experts that work within and with the OECD, providing knowledge on education. Though Schleicher is head of PISA, in the media he often states that the decision making in PISA is happening through democratic processes for instance through regular meetings of the PISA Governing Board (hereafter PGB).[123] The description of this board on the website of OECD reads as follows:

> "The PISA Governing Board (PGB) is composed of representatives of OECD Members and PISA Associates*. Countries or economies who participate in PISA but do not have Associate status are known as Partners and are welcome to participate in PGB meetings as observers. PGB representatives are appointed by their country's Ministry of Education, and the Chair is chosen by the PGB itself. Guided by the OECD's education objectives, the Board determines PISA's policy priorities and ensures that these are respected during the implementation of each PISA survey.
> *Associates are not OECD Members but have membership rights and obligations in regard to specific OECD bodies and programmes." [124]

There is a difference between OECD members and OECD Partner countries. Until now India is not OECD member and is not part of the PISA Governing Board. On the OECD website, there is no clear indication of whether India thinks of joining the board, or at least to join as an observer.

A prominent critique on PISA has been that the organisation hardly shares any information about its study. However, during the last years this has changed. In 2019, the OECD shared information about the costs of PISA for any country willing to participate on its website. Back then the costs of participating in PISA were stated with € 665 000 as fee per PISA cycle which is high and which furthermore comes with extra costs. This is why often funding agencies step in.[125] This aspect as well as the general proceedings of an application for a participation in PISA will be taken up in chapter 6. At this point, a brief look at current challenges and possible future developments of PISA shall round up the presentation of the PISA study.

Other than the PISA study there have always been projects on a small scale such like PISA 2009 Plus (which will be presented in more detail in chapter 6), PISA for Schools (see Lewis

[123] For instance in the OECD TopClass Podcast, Episode 19: What is PISA's role in global education? A conversation, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/what-is-pisas-role-in-global-education-a-conversation [31.05.2022].
[124] Source: https://www.oecd.org/pisa/contacts/pisagoverningboard.htm [31.05.2022].
[125] However, the OECD claims in their PISA FAQ: "PISA is financed exclusively through direct contributions from the participating countries and economies' government authorities, typically education ministries." (Source: https://www.oecd.org/pisa/pisafaq/ [17.07.2022]. Furthermore, the OECD states that "the cost of participation varies between countries" (ibid.) according to their socio-economic situatedness and seize.

2016, 2017; Bloem 2018), or PISA for Development, (hereafter PISA-D). PISA-D was undertaken between 2012 to 2019.[126] Following Addey (2016), the OECD started the PISA-D initiative in view of the bad results of India in the PISA 2009 Plus project. The OECD recognized that PISA is „poorly-relevant for policy" in contexts of countries with weaker income.[127] The idea behind PISA for Development had been to render the PISA study more compatible for low- and middle income countries. Lockheed et al. (2015) write:

> „PISA for Development is an initiative of the OECD and development partners that aims to identify how PISA can best support evidence-based policy making in emerging and developing economies and contribute to the UN-led definition of global learning goals for the post-2015 agenda. In addition, the PISA for Development project will help to build country capacity in assessment, analysis and use of results for monitoring and improvement among participating countries." (Lockheed et al. 2015: 5)

According to this the main goal of PISA-D is capacity building in educational assessment. Cresswell (2015) adds, the PISA-D project:

> „[A]ims to increase developing countries' use of PISA data to monitor progress towards national targets for improvement. It will do this using enhanced PISA survey instruments that are more relevant for the contexts found in developing countries and at the same time produce scores that are comparable to the standard PISA surveys (OECD, 2015)." (Cresswell 2015: 4)

Therefore, the goal of PISA-D is a) making policy more relevant in contexts of the global south, b) being able to better compare data with the main survey, c) capacity building in national contexts, and d) not officially, but apparently, gaining influence and expanding the OECD network. Addey (2016) writes that there has been pressure on PISA-D to become a "success story", and further, that the OECD needs to „innovate and expand"[128].

---

[126] Interestingly, India has not been part of PISA for Development. The participating countries in PISA for Development were : Bhutan, Cambodia, Ecuador, Guatemala, Honduras, Panama, Paraguay, Senegal, Zambia. Organizations that were involved in the conduct of the project have been: OECD, Russia Education Aid for Development (READ) Trust, World Bank, ACER, ETS, Pearson, The Learning Bar, and others more. Human beings that were involved: Marlaine Lockheed, Michael Ward, Marguerite Clarke from World Bank; Andreas Schleicher, Tijana Prokic-Breuer, Anna Shadrova from OECD; John Cresswell, Ursula Schwantner, Charlotte Waters, Juliette Mendelovits, Ross Turner from ACER, and Camilla Addey as independent researcher. See : https://www.oecd.org/pisa/pisa-for-development/ [31.05.2022]. See also the blogpost by Josette Arévalo and María José Guevara Duque on Ecuador's experience: http://oecdeducationtoday.blogspot.com/2018/12/pisa-for-development-results-ecuador-education-school.html [31.05.2022]. And the blogpost by Andreas Schleicher and Claudia Costin : https://oecdedutoday.com/the-challenges-of-widening-participation-in-pisa/ [31.05.2022]. As well as the OECD TopClass Podcast, Episode 13 : What can low- and middle-income countries learn from PISA?, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/episode-13-what-can-low-and-middle-income-countries-learn-from-pisa [31.05.2022].

[127] Source: Addey, C. (2016): PISA for Development: Expanding the Global Education Community Esperanto or Developing a Dialect? https://www.norrag.org/pisa-for-development-expanding-the-global-education-community-esperanto-or-developing-a-dialect/ [31.05.2022].

[128] Source: Addey, C. (2016): PISA for Development: Expanding the Global Education Community Esperanto or Developing a Dialect? https://www.norrag.org/pisa-for-development-expanding-the-global-education-community-esperanto-or-developing-a-dialect/ [31.05.2022].

Looking into the development of the assessment framework of PISA over the last fifteen years and thinking of where it should be heading to, Schleicher (2017:117) states indeed the following: Firstly, there has been and needs to be an ongoing expansion of the scope of competencies that shall be tested through PISA. Secondly, the current challenge the PISA group focuses is providing data that is more useful. Lastly, the PISA group aims to expand its sphere of influence by spreading out to low- and middle-income countries to "fulfil its potential as a global measure of learning" (ibid: 117). Recently, the OECD announces on their website that they covered more than 90 countries and economies over the course of the study. In the current study – PISA 2022 – 38 members and more than 50 partner countries and economies are taking part.[129] It is not likely that the OECD stops the PISA test, as not even the event of COVID-19 could. The OECD announces that it had "decided to postpone the PISA 2021 assessment to 2022 and the PISA 2024 assessment to 2025 to reflect post-Covid difficulties" (ibid.).

2.4. (Inter-)national influences on the educational assessment landscape in India and the link between assessment and quality

The description of the educational assessment landscape in India in chapter 2 showed, how international educational policy – in particular UNESCO's programme *Education for All* and the focus on providing quality in education in SDG4[130] – influences the conceptualisation of educational policies and programmes on local grounds. According to Govinda/Sedwal (2017: 01) the fact that India had been joining the "World Declaration on Education for All (EFA)" led to an orientation of the conceptualisation of Indian national education programmes in line with the tenets of the upcoming global education policy. With the introduction of the DPEP programme in the mid 1990ies, there have been large amounts of flows of international money, claiming for reports and evidence of the effectiveness of these programmes and the received financial aid. Chapter 2 also showed that international financial aid for educational programmes and the assessment of the success and effectiveness of these educational programmes are linked together. It becomes already visible that quality and educational assessment are intertwined in the idea of enhancing quality of education through (large-scale) assessment.

[129] Source: https://www.oecd.org/pisa/ [31.05.2022].
[130] See: https://sdg4education2030.org/the-goal [29.05.2022].

3. The crisis of learning and the need for reform of education in India: Educational testing as a tool for improving the quality of education?

Starting point of the many endeavours in education reform since the 1990s, is the notion of a deep education crisis and the aim and need to provide better quality of education to children in the various and manifold contexts of India. It is often argued that the vision of the independence of 1947 – to enable free and compulsory education for all children – has not been fulfilled until now, as so for instance very prominently in the PROBE report of 1999 (PROBE 1999). The second PROBE report holds that progress has been made in view of the betterment of schooling facilities. However, „an enormous 'quality gap' remains in India's schooling system" (De et al. 2011: 13). The need of the improvement of education is also claimed by EI's "Education quality study" (see Educational Initiatives/Wipro 2011). Likewise, the status quo of vocational education in India is not sufficient and cannot compete with the one of OECD countries, as stated by Tilak (2003).[131] Following him, some Asian countries were successful and made progress, but others not. There is the need for an amelioration of vocational education in India.

Drèze/Sen (2014: 120) say the insufficient supply of education services and the poor situation of learning are two fundamental weaknesses in the Indian educational sector. Though there is progress in the enrolment of students, the teaching quality remains poor. Tests show that students leave school without having acquired basic knowledge and skills. The authors state:

> "Teaching methods are quite often dominated by mindless rote learning, including repetition – typically without comprehension – of what has been read, and endless chanting of multiplication and other tables" (ibid.).

Drèze/Sen (2014) find that „the entire system of school tests is in a state of dangerous disarray" (ibid: 138). The situation of evaluation in India is extremely muddled. RTE and CCE – both equally innovative concepts and events, as presented earlier – were supposed to help realizing the vision of the universalization of education. The idea of CCE had been to break with old practices of excessive examination by introducing a new form of micro-assessment (see chapter 2). However, in practice, the implementation of both was not easy and especially CCE felt like a burden for many practitioners. The authors hold that „[t]here is an urgent need to restore some clarity on this whole issue" (ibid: 138) and they postulate a pressing necessity for reform (ibid: 139). The pending problem and urgent question for policy makers and whomever is involved in the Indian education sector is the question: *how can this be solved?*

[131] Tilak (2003: 61) takes reference to the publication "Education at a Glance: OECD indicators" published by OECD in 2000.

Oza/Bethell (2013: 12) mention the recent large-scale assessments TIMMS[132] and PISA done by the International Association for the Evaluation of Educational Achievement, (hereafter IEA), and by the OECD as the "most influential and technically sophisticated surveys of learner achievement". The authors observe an expansion of these international large-scale assessments. Interestingly, there is more and more diversity amongst the group of participants in these studies. This is mirroring the "changes in the makeup of the global economy" (ibid: 12). Oza/Bethell (2013) state that India participated only in one international study in 1964. Since then it has never engaged in any international large-scale test until its participation with Himachal Pradesh and Tamil Nadu in PISA 2009 Plus.[133]

Mehendale/Dewan (2015) observe that there doesn't exist any document or report that displays the development of education in India from independence until today. This gap has been filled recently by Govinda and his colleagues. Govinda/Mathew (2018) make a reference to learning measurement in the context of out-of-schoolchildren and the goal of UEE. They state: „Measurement of learning outcomes on a national scale, which began only in recent years, shows that the problem is huge and complex" (ibid.: 38). Govinda/Sedwal (2017: 16) state, that large-scale assessment tests, such as the National Achievement Survey by NCERT or ASER by Pratham, are operating at the national level. But at the state level various assessment tools do exist too. Often, they come to similar discouraging findings as the tools that operate at the national level. The authors ask critically, „'Should we not invest more in improving teaching instead of testing?'" (ibid.: 17). The second pending question is therefore: *how does it come that (inter-)national large-scale assessments obtain such popularity?*

National and international student assessment – nation-wide and local test tools such as CCE, NAS and ASER, and international test tools such as PISA as depicted in chapter 2 – are considered as tools for the betterment of the quality of education. There is the hope to gain insights on the status quo of education in different parts of the nation through educational assessment, and therefore to learn about the *health of the system* and being able to spend money more efficiently, as stated by experts in the interview data. Furthermore, the motivation had been or still is to being able to play the international game, as stated already in the NPE (1968). A motivation for taking part in PISA 2009 Plus might have been the hope to gain insights on the status quo of the nation by the comparison with other nations.

[132] TIMMS stands for Trends in International Mathematics and Science Study.
[133] It will be later clarified that India participated in an international study by IEA in 1970-71.

After having laid out the problem of the study, this chapter presents the state of the art (3.1.). and afterwards, it describes the research desideratum, research question and objective of the study (3.2).

3.1. State of the art: India's participation in PISA in literature and documents

In the beginning of the research, India's participation in the OECD PISA 2009 Plus project occurred as blind spot in the international research discussion. Bloem's (2013) paper on PISA in low- and middle-income countries mentions India only in the passing, offering almost no information on the Indian PISA 2009 Plus project experience. In 2016, apart from few exceptions (see Ross 2010; Hill/Chalaux 2011; Oza/Bethell 2013; Beteille et al. 2014; Drèze/Sen 2014), neither in the Indian national discussion, nor in the global, international discussion were academic publications on India and OECD's PISA available (see e.g., Knodel et al. 2010; Klieme/Vieluf 2013). Moreover, in the public domain – (social) media – hardly any articles or other contributions were present. However, the few existing sources from Indian as well as from international perspectives showed, that there is an interest in India's participation in PISA (see e.g., Prayatna 2011[134], Prittchet 2012, 2015, 2018[135]; Vidal 2012[136]; Vishnoi 2012[137]). As possible explanation for the failure, public media in India often refers to a socio-cultural disconnect of the PISA test and India's context, as does Vishnoi (2012):

> "The ministry has concluded that there was a socio-cultural disconnect between the questions and Indian students. The ministry will write to the OECD and drive home the need to factor in [India's] socio-cultural milieu. [India's] participation in the next PISA cycle will hinge on this." (ibid.; T.V.: correction)

Figuring out, that there is a research desideratum here, has been the starting point for the study at hand. Since 2016 the research interest on the spread of international large-scale assessment and the experienced phenomenon of an "OECD-*fication* of global education policy" (Niemann/Martens 2018: 269; T.V.: accentuation in Italic letters as in original) has increased.[138]

---

[134] Blogpost by prayatna December, 28th 2011, http://prayatna.typepad.com/education/2011/12/india-in-pisa-2009-process.html [30.10.2017].

[135] Prittchet, L. (2012): The first PISA results for India: The end of the beginning, (Blogpost, 05.01.2012), https://blog.theleapjournal.org/2012/01/first-pisa-results-for-india-end-of.html [20.03.2019]. And: Prittchet, L. (2015): Creating Education Systems Coherent for Learning Outcomes: Making the Transition from Schooling to Learning, RISE--WP--15/005, https://www.riseprogramme.org/sites/www.riseprogramme.org/files/inline-files/RISE_WP-005_Pritchett_1.pdf [20.03.2019]. And: Prittchet, L. (2018): India: Massive Expansion in Schooling, Too Little Learning, Now What?, (Blogpost, 05.02.2012), https://www.cgdev.org/blog/india-massive-expansion-schooling-too-little-learning-now-what [20.03.2019].

[136] See Vidal, I. (2012): „Musterschüler China, Sitzenbleiber Indien", Zeitonline, 22.11.2012, https://www.zeit.de/gesellschaft/schule/2012-11/china-indien-schule [26.05.2022].

[137] Vishnoi, A. (2012): Poor PISA Score: Govt blames disconnect with India, The Indian Express, http://indianexpress.com/article/news-archive/web/poor-pisa-score-govt-blames-disconnect-with-india/ [26.05.2022].

[138] The discussion of the term "OECD-*fication*" will be taken up later in this chapter.

Especially in the last three years several publications have been produced (e.g., Addey et al. 2017; Steiner-Khamsi 2019). An analysis of journals on international comparative education in 2017 showed, that there were many papers on policy transfer and other exchange processes between the UK, China and East Asia, but similar studies on the Indian context were missing (e.g., Forestier/Crossley 2015; Adamson et al. 2017; You 2017). Until today hardly any academic publication engages with the Indian experience (see e.g., Soh 2017; Wiseman/Taylor 2017; Steiner-Khamsi/Waldow 2019). Recently, Chakraborty et al. (2019) give a rough overview of the reception of PISA in China and India. Addey/Gorur (2020, 2021) speak about India and its response to the OECD PISA study only in the passing. Kumar/Wiseman (2021) take notice of India's experience in the PISA 2009 Plus project. An in-depth study of the Indian experience with PISA 2009 Plus is thus still missing and this project aims to fill this gap (see chapter 3.2).

3.1.1. A review of the Indian academic discussion of quality in education

The notion of quality of education is not fixed, but rather changes due to time and context. Certainly, the understanding of *quality* postulated by OECD and other international organisations differs tremendously from conceptualisations of quality in the past.[139] The analysis of the Indian journal *Contemporary Education Dialogue*, (hereafter CED), showed that, quality has been an issue of concern right from the commencement of the journal in 2003. Already the first issue has a paper by Dhankar that examines the notion of quality in the educational programme DPEP and that critiques the programme (see Dhankar 2003, as presented earlier in chapter 2). In a subsequent issue, Kumar/Sarangapani (2004) outline the academic discussion on the issue of quality in India. Reviewing the history of the term, they state, „quality has always been integral to the concept of education, deriving from what is considered worthwhile as an aim or experience in education" (ibid.: 30; T.V.: without accentuation in Italic letters). The roots for the notion of quality that is applied in current international education policy discussion are to be found in the period of industrialization (ibid.). As often spelled out in a catalogue of criteria, the notion of quality forms the basis for the coordination and planning of investing and aid in education. The authors analyse the meaning of the term quality in relation to the contemporary idea of providing access to education for all and to the threat of democracy as form of social administration due to a rapid

[139] Quality of education is for instance a key concern in Mahatma Gandhi's education conception (see Kumar 2009; Vollmer 2015 (unpublished), 2016).

growing economic globalization. Lastly, they offer recommendations for action, e.g., in the fields of teacher education and education policy.[140]

A third paper examines the notion of quality of education in rural contexts. Guided by the question which kind of notion of quality is suitable for rural areas, Anitha (2005) analyses nine village schools based on indicators and examines „the interlinkages between the quality of schools and their social context" (ibid.: 28; T.V.: without accentuation in Italic letters). This study sheds light on the diversity and disparities of learning contexts in urban and rural areas. Teachers in rural contexts are not well prepared. Often, they are not from the villages, they teach in, but from other contexts and often they received their training in cities. Challenges and conditions of rural areas are not part of the teacher training. In village schools there is a diversity of learners: schoolchildren of different age, grade, language, and socio-cultural background are sitting together. Hence, the classroom is by its nature characterized by multigrade, multilanguage, and multiculturism. This is a specific challenge for teachers.[141]

CED publishes a whole issue on quality in education in 2010. The contributions are based on a conference planned by the organisations Digantar[142] and ICICI -Social Initiatives Group[143] in Jaipur in 2007. Amongst papers written by Kumar, Sarangapani and Dhankar, there are brief descriptions of national assessment concepts that seek to measure the quality of education (see Dhankar 2010: 02; see chapter 2.3). According to Dhankar (2010), quality is part of the world-

[140] Kumar/Sarangapani (2004: 45) make a reference to the OECD PISA study as an indicator of quality. According to authors, this paper had been earlier published in the UNESCO EFA Global Monitoring Report of 2005 (see UNESCO 2004).

[141] For instance, the video document „*Which Language, Whose language*" by A.R. Vasavi and National Institute of Advanced Studies (NIAS) Bangalore (2007) deals with this problematic. This short film follows a teacher in a village school in the state of Karnataka, who tries to bridge the language and communication gap between him, a Kannada speaker, and his students, who come from the tribal group of the *Soliga*. For more information, see: https://www.nias.res.in/sites/default/files/NIAS_AnnualReport_2007_2008_0.pdf [31.05.2022].

[142] Digantar describes itself as a "[non-profit] society" that operates as such since 1987 in and around Jaipur. Amongst other interests, the organisation focuses on the betterment of the quality of education (Source: Website of Digantar: https://www.digantar.org/about.php/ ; T.V.: correction [05.06.2022]).

[143] ICICI Social Initiatives Group, short: SIG, is a daughter organisation of the Indian ICICI Bank, that operates as a private bank since 1994. The history of ICICI goes however back to 1955, as it has been founded back then through a collaboration between the government of India and the World Bank with the aim to help financing development projects within the Indian industry (Source: https://www.icicibank.com/aboutus/history.page [05.06.2022]). SIG describes itself as "a non-profit group set up within ICICI Bank in 2000, pioneered our work on primary health, elementary education and access to finance. ICICI Foundation for Inclusive Growth (ICICI Foundation) was founded by the ICICI Group in early 2008 to continue building upon the ICICI Group's legacy of promoting inclusive growth. ICICI Foundation works on high impact projects that are sustainable and scalable with pre-defined exits." (Source: https://icicifoundation.org/our-programmes/ [05.06.2022]). This organisation focuses particularly on enhancing skill development and employability amongst the youth to foster national economic growth. By that helping them, especially the youth from marginalised groups, to earn money and to build a life and in doing so they aim to strengthen the socio-cultural and economic development in rural contexts. (ibid.)

wide educational discussion since 1990.[144] The implementation of national education programs in India is one example. Infrastructure and enrolment are important aspects of educational policies of the last decades. The quality of education is poor in state and private schools alike. Quality is an issue that is of global importance. However, the focus and notion of quality is depending on the local context. Dhankar recommends to engage with the concept of quality and the questions, „how it can be achieved and why it is important" (ibid.: 2f). From the special issue, three papers shall be presented here. Kumar (2010) examines the concept of quality. Under the influence of educational programmes that are focussing on the aim of „universalising elementary education in India" (ibid.: 07; T.V.: without accentuation in Italic letters) a growing opposition between quality and equality can be observed. Moreover, the underlying notion of education in these programmes is instrumental in its nature. This dichotomy between quality and equality is misleading, as both concepts are multi-layered and connected. Likewise, Winch (2010) criticizes the usual understanding of quality as interplay between inputs and outputs as too simplistic. Both concepts must be examined together „as they are inextricably entwined" (ibid.: 19; T.V.: without accentuation in Italic letters). When focusing only on these two concepts, essential nuances of the concept of quality are lost. Lastly, Sarangapani (2010) examines the notion of quality in the Indian national and in the global education policy discussion. The term quality is a solid part of the narratives of education reform that inform educational programmes. The author argues that the notion of quality of current Indian educational programmes is derived from "the management-accountability approach of western donor agencies" (ibid: 41; T.V.: without accentuation in Italic letters). Sarangapani criticizes this notion of quality as impeding the striving for an in-depth education reform in India.

Like Sarangapani, two other papers written by Soudien (2011)[145] and Tikly (2011)[146], question current international education policy and its inherent notion of quality. Soudien (2011) aims „to look at the arguments which support and challenge international standards in the campaign to build quality education" (ibid.: 183).[147] The author discusses results of

[144] Since the 1990s there is an increasing emphasis on researching quality in education within the global academic discussion, motivated by global educational policies and programmes such like Education for all, MDGs, and SDGs and growing globalization and economisation of education. This reflects in some of the titles of UNESCO's reports. For instance, the EFA Global Monitoring Report 2005 has the title "The Quality imperative" (UNESCO 2004) and the EFA Global Monitoring Report of 2013-14 has the title "Teaching and Learning: Achieving quality for all"(UNESCO 2014). The title of the GMR 2017-2018 focuses on accountability and depicts the connection of quality of education to the field of economics (UNESCO 2017a). For the research discussion on quality in education in the German context, see e.g., the volume edited by Beichel/Fees (2007).

[145] Equally published in *CED* but in a later issue.

[146] Published in the journal *Comparative Education*.

[147] Soudien (2011: 183) asks whether there exists a comparative education research that is self-reflective in nature: „how [can] a comparative educational practice be developed which is aware of itself; aware of its oppressive and

international assessment instruments in relation to the conferences in Jomtien and Dakar. He then criticizes the underlying standards of these assessment tools. Soudien offers recommendations for alternative assessment forms. Tikly (2011) deals with the question, how quality of education can be examined in low-income countries. Tikly criticises common and prevalent research approaches, as for example the human capital approach. As alternative, he suggests an approach based on principles of social justice, which encompasses next to the policy context different life worlds of the student, namely the school environment and the home and community context.

In the following, two contributions from the recent discussion on the issue of quality education shall be highlighted. Rampal (2017) writes on the current state of education in India. There has been progress in enrolment, but challenges in the quality of education remain, as stated earlier. The author investigates policy documents and examines visions of education and quality, with a link to the global quality discussion. Rampal states, there is a ”widening quality divide in India” (ibid.: 116). This divide is also perceived by Gudavarthy (2019) who has likewise a critical view on the quality rationale. He says, “quality is only a trope to pursue marketization and commercialization of the education system in India” (ibid.: 36). Gudavarthy (2019: 36) sees a divide between vocational education for the masses, and higher education for the elite. He points out to “the double-edged problem of seemingly improving academic standards but essentially undermining the basic ethos of a university” (ibid.: 37) and takes the case of JNU as example.[148] It becomes visible, that quality of education is a much-researched topic in the Indian educational discussion and is still an issue of concern for academic scholars. To enlarge this review, a selection of further researched titles is enlisted:

Yadav, S.K. (2005): Investing in Teachers for Improving Quality of EFA. In: *Journal of Indian Education*, 31, 2, 10-16.

Kumar, K. (2005): Quality of Education at the Beginning of the 21st Century – Lessons from India. In: *Indian Educational Review*, 41, 1, 3-28.[149]

Kumar, R. (Ed.) (2006a): The Crisis of Elementary Education in India, New Delhi: Sage.

exclusionary possibilities; and can pose the question of how it might enter the perilous waters of universalism and particularism without succumbing to the seductions of an abstracted internationalised order which has no relevance for the children of a particular time and space or is so narrowly particular that its children do not have the means to understand their location on a globalizing world". We will come back to this discussion on chapter 4.

[148] JNU stands for Jawaharlal Nehru University in New Delhi.

[149] In comparison, OECD (2011) publishes a document titled “Lessons from PISA for Mexico”. However, there does not exist such a document from OECD for India until now. Solely, Turner (2010) published a short piece in the small magazine of APF “Learning Curve.” Turner’s paper is called “Lessons from PISA for India” (see chapter 6.5.3).

Kumar, K. (2009): The Challenge of Quality. In: Rustagi, P. (Ed.): Concerns, Conflicts, and Cohesions. Universalization of Elementary Education in India, New Delhi: Oxford University Press, 153-171.

Mukhopadhyay, R. (2009): Changing Mindsets about Quality. In: Rustagi, P. (Ed.): Concerns, Conflicts, and Cohesions. Universalization of Elementary Education in India, New Delhi: Oxford University Press, 171-186.

Pappu, R. / Vasanta, D. (2010): Educational Quality and Social Inequality: Reflecting on the Link. In: *Contemporary Education Dialogue*, 7, 1, 94-117.

Velaskar, P. (2010): Quality and Inequality in Indian Education: Some Critical Policy Concerns. In: *Contemporary Education Dialogue*, 7,1, 58-93.

Sharma, P. (2015): Standards-based assessments in the classroom: A feasible Approach to Improving the Quality of student's learning. In: *Contemporary Education Dialogue*, 12, 1, 6-30.

Majumdar, M. (2017): Universal Elementary Education. Pursuit of Equity with Quality. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 52-79.

Rampal, A. (2017): Reaffirming the Vision for Quality and Equality in Education. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 115-129.

Sarangapani, P.M. (2018): Notes on quality in education. In: Jain, M./Mehendale, A./Mukhopadhyay, R./Sarangapani, P.M./Winch, Ch. (Eds.): School Education in India. Market, State and Quality, Delhi: Routledge, 139-158.

Kumar, P. /Wiseman, A. (2021): Teacher Quality and Education Policy in India. Understanding the Relationship between Teacher Education, Teacher Effectiveness and Student Outcomes, Abingdon; New York: Routledge.

Wiseman, A. /Kumar, P. (Eds.) (2021): Building teacher quality in India. Examining Policy Frameworks and Implementation Outcomes, Bingley: Emerald Publishing.

Most of the researched papers on quality of education in the Indian context are concerned with the narrow understanding of the concept of quality education in the current discussion. There are however voices that welcome the evidence-based orientation of education quality. For instance, in a working paper of the OECD Economics Department, Hill/Chalaux (2011) state that education – in particular, the goal of achieving universal elementary education – is a central focus at the Indian national and state level. A key challenge is to "improve the quality of education outcomes" (ibid.: 05). They state that the enhancement of quality assessment is needed. The authors take note of India's participation in PISA 2009 Plus in the passing and are

in favour of this decision. Likewise, Sharma (2015: 06)[150] holds, that „the issue of the quality of education" is at the heart of the educational discussion in India. Moreover, assessment is seen worldwide as „an important means of improving the quality of education" (ibid). According to Sharma (2015) testing tools and methods that are in line with „world-class assessment standards" (ibid.) are needed to reach the aim of quality education in India. Modern testing can improve learning outcomes of students. Standard-based assessment, (hereafter SBA), has the potential to „facilitate learning" (ibid: 07) and to enhance learning. For Sharma (2015), SBAs come with a lot of advantages. Firstly, they help in the betterment of teaching-learning methods, they foster diverse types of learning, and they are sensitive to the diversity of learners. Secondly, they help both, education providers and education clients, to objectively control student's achievements based on standards. Thirdly, the concept of SBA is aligned to the latest knowledge in learning science. This means it is based in constructionism and child-centred pedagogy (ibid: 26f). As disadvantage she mentions that it is difficult to set and implement standards that are globally approved. However, in her opinion, this should not be a hindrance for India to domesticate this concept of SBA, given the expectation, that it will help improving the quality of learning. In fact, she brings in, that some "practices of standards-based systems are also found in NAS and MLLs, which are currently being used for system monitoring" (ibid: 27) in India.[151] Hence, it would be possible to implement SBA on full scale in India, provided this is undertaken in a reflective and context-sensitive manner. Sharma refers to India's PISA 2009 Plus experience and mentions that the results „were very similar to the conclusions of Indian studies" (ibid: 08). Whereas Kumar/Sarangapani (2004) refer to the PISA test as being bounded to the European context, Sharma (2015) takes notice of India's participation in the PISA 2009 Plus project. How did it come that India participated in PISA is the guiding question of the research project at hand. Thus, the second part of the literature review addresses the phenomenon of the spread of OECD's PISA during the last twenty years.

3.1.2. OECD-fication of the world? The spread of OECD's PISA

In 2007, Porter/Webb (2007) claim that research on the OECD had been a research desideratum, though in their view, the OECD has the position of a conductor in the global education policy orchestra. Since then, the body of research on the OECD and in particular on the spread of the PISA study is growing, with many different research groups working worldwide on the topic. Here, five different groups shall be presented. These are the groups around (1) Kerstin Martens,

[150] Sharma (2015) is associated with Pearson India and has been earlier research officer at the Centre for Assessment, Evaluation and Research, New Delhi. She had been also associated with APF.
[151] NAS as displayed in chapter 2. MLL stands for Minimum Levels of Learning.

(2) Richard Münch and Simone Bloem, (3) Heinz-Dieter Meyer and Aaron Benavot, (4) Gita Steiner-Khamsi, and lastly (5) Camilla Addey.[152] It is important to note, that most researchers presented here belong to the so-called global north. Secondly, some of the groups are intertwined with each other – e.g., the group around Steiner-Khamsi and Addey –, or at least take reference to other groups, as e.g., Addey et al. are taking reference to Bloem et al.

The first group around Kerstin Martens is situated in the German speaking context. In response to the very first rounds of PISA, Weymann/Martens (2005) examine the influence of international education policy, driven by large international organisations and events such like OECD's PISA and Bologna, on national education policy in Germany.[153] These international organisations act through practices of soft governance, namely through „coordination, political opinion forming, and benchmarking" (ibid.: 68; T.V.: translation, and without accentuation in bold letters). PISA and Bologna have specifically shown the influence of international organisations, international education policy, and in particular benchmarking practices, which led to wide-ranging transformations through the introduction of outcome-based standards in the realm of schooling and higher education in the German context. In doing so, they caused institutions to change and adapt in a profound manner (ibid.). In the past, diversity has always been there in education. The process of nation building and growing competition between nations in the 19th and 20th century appeared as a turning point, as one consequence thereof has been the reduction of diversity and an adoption and spread of a unified European model (ibid: 82). An expansion of the European model to the periphery – meaning contexts of the so-called global south – and a "world-wide isomorphism of education policy" (ibid.: 82; T.V.: translation) is most likely to happen. International organisations function as "driving forces" (ibid.; T.V.: translation) in this process, as they "carry educational ideas and as they build the foundation of international networks of educational experts" (ibid.; T.V.: translation). By using tools of soft governance, they influence nation states. Nation states on the other side mandate help for specific problems from international organizations (ibid.: 82). Interestingly the authors mention that it has been the (European) states themselves that asked the OECD for developing education policy tools in need for a solution of problems in some states. Educational testing and international large-scale assessment of students was not part of the OECD work before. Thus, before coming out with PISA, the OECD itself underwent a process of change and capacity

[152] Another group around Wiseman et al. had been left out due to time and resource constraints (see Wiseman 2013; Wiseman/Taylor 2017; Gardinier 2017).

[153] Further publications of the research group around Martens: Bieber/Martens (2011) investigate the PISA study in Switzerland and in the US. Niemann et al. (2017) examine the consequences of PISA in regard to the shaping of educational policy, and deal with the response of Germany to PISA.

building – all this by the pressure of nation states and against an opposition of OECD in the beginning (ibid.: 81).

Weymann/Martens (2005) state the OECD gained more and more influence at the global level as well as at the local level through mechanisms of soft governance. Further on, Martens et al. (2016: 516) claim that „international assessments in education have also become a global and accepted phenomenon" and that a better understanding is necessary. The findings of my research suggest being more cautious about this assumption. *Is it really accepted everywhere and by everyone?* In contrast to the research group around Martens, the findings of the research project at hand show that until now the OECD has had only minor influence in the Indian education sector. Perspectives from the Indian context – expressed in interviews and documents – showed that other international organisations such as UNESCO, UNICEF, World Bank and ACER and local organisations such as ASER, EI and APF are much more important in the process of policy making, and educational planning and testing at the local level.

Martens et al. (2016: 516) conclude, that „the impact of international assessments manifests itself in formal and direct ‚top-down' ways as well as in more subtle, hidden 'roundabout' ways" (ibid.). Again, the same question remains: *Is it both, this way as well as the other way? Isn't the imagination of knowledge transmission processes as being transmitted by means of 'top-down' too simplified? How do 'roundabout ways' look like?* In the research data at hand, a standard story of OECD approaching India has been told often. However, at least one alternative story of more 'roundabout ways' has been shared. Thus, I argue, that thinking the spread of PISA as a ‚top-down' process, or as an unidirectional transmission process, appears to be not sufficient, as other nodes and channels of transmission are overseen.

Another publication by the research group around Martens traces the interaction between states and international organisations. The core argument is that both, states and international organisations alike pursue interests and benefits from the interaction. The interests of state actors might be to "overcome political gridlock and crowd out opposition in their own countries" (Fulge 2016 et al.: 453). Whereas expanding their influence in local contexts might be the interest of international organisations (ibid.). Though the participation of states in the interaction with international organisations might be motivated by specific interests of some, in the process „unintended consequences" (ibid.) are happening at both ends: On the one side, local educational practices undergo changes of transformation, and on the other side, acts of resistance to global educational policies occur by others. Nations are not coping with international education policy in the same manner, rather in relation to their own socio-cultural context.

Finally, Martens' group sees the OECD as a "knowledge broker in education policy" (Niemann/Martens 2018: 267; T.V.: without accentuation in bold letters). The interest is to track the spread of knowledge and to examine „how the OECD uses large-scale education assessments to promote the economically based idea of human capital and related learning techniques in education policy" (ibid: 267), and how it aims at „influencing national education systems" (ibid.). Niemann/Martens (2018) state, „that the transmission of ideas and information generated through ratings and rankings can be viewed as a crucial governance tool for the influence of an international organization (IO)" (ibid.). They see the OECD as a role model for other IOs: „the OECD and its distinctive approach of soft governance through putative hard fact may become a role model for other IOs, both in the field of education and beyond" (ibid.). The authors state that „the OECD has become a central node in the network of international education politics, allowing us to now speak of an OECD-*fication* of global education policy" (ibid.: 269; T.V.: accentuation in Italic letters as in original).[154] The OCED appears as a "reference point for education policy" (ibid.: 271). Given the huge influence the organisation World Bank has (see chapter 2), researchers earlier discussed an observable „Worldbankification", as stated so by Brock-Utne (2007).[155] It is to be seen in the coming years, which kind of international organisation might take the lead in shaping global education policy. The findings of the research project at hand indicate that there will not be one international organisation to do so, but rather a network consisting of different international and national organisations and other, loosely connected experts such as philanthropic business leaders, who all are contributing and competing for getting share and influence (see also Clemens/Vollmer 2019).

The second research group likewise based in the German context is positioned around Richard Münch and Simone Bloem. Whereas Münch (2009, 2011, 2012, 2013, 2016, 2018) is interested in changes in the national landscape of education in Germany[156], Bloem (2013, 2015, 2016, 2018) aims at finding answers to the question of the production and spread of the PISA study and therewith related knowledge and insights. As stated earlier by others, Bloem (2016) also holds that the OECD governs through influencing and convincing national governments, what is often considered as 'soft governance'. Bloem underlines this with a quote by Angel Gurría, the former secretary general of OECD. He said on the 02.06.2010:

> „Indeed, the main value-added of the OECD is to provide evidence-based policy advice, based on comparative analysis, a multidisciplinary approach and peer learning. Providing

[154] This term is also used a bit earlier by Kroksmark (2013: 18), as translated to 'OECD-fication' and cited by Westmann (2014: 12).
[155] In fact, by using this term, Brock-Utne (2007) makes reference to Hole et al. (2005).
[156] See also Bernhard/Münch (2011): Münch/Hartong 2012 and Wieczorek et al. 2020.

> policy advice and helping countries agreeing on rules of the game and standards is what the OECD is here for. The OECD has no carrot, nor stick. It does not provide credit or grants, nor does it inflict sanctions. OECD's only strength lies in persuasion. It is a soft but very effective power." (As cited in Bloem 2016: 19)

Unlike other big international organisations – the World Bank, DFID, UNICEF etc. – the OECD is not providing funding, or, as stated above, using technologies of financial punishment. Persuasion, declared by Gurría as strength, is in my opinion, however a form of violence.[157] This is also stated by experts in interview data (see chapter 6). Pending questions are: *Who is setting benchmarks, rules, and standards? How does the OECD legitimize its actions? Who is holding the OECD accountable?*[158] Because more and more countries are taking part in PISA, even exceeding OECD-members, one could say, following Münch (2016), that the implementation of the PISA study was a success for the OECD. As stated above, Münch is critical about the OECD PISA study, as it leads to the narrowing down of the notion of education and holds the thread of a global homogenization of educational practices. Münch points out that several academic scholars in education asked for pausing the test for a while. However, seeing the OECD pausing the PISA test is not a likely scenario (see chapter 2).

In the assessment of Münch (2016), Bloem's work examines the production and dissemination of PISA and why the PISA test is globally dominating more and more. The object of research is how PISA constructs social reality and more specific the „process of knowledge production on the performance of education systems through the OECD Education Directorate" (Münch 2016: 06; T.V.: translation). According to Münch, the study of Bloem helps to better understand the PISA study. Another gain is „understanding the PISA network as an epistemic community (…) [that] facilitates building consent over the conduct of the PISA study as well as successfully rejecting any kind of criticism" (Münch 2016: 07; T.V.: translation). Though Bloem and Münch consider network structures and constellations of elites, the concept of epistemic community – firstly postulated by Haas 1992 – is not suitable in the framework of the project at hand, as it only includes human beings as nodes of influence (see the discussion of the concept in chapter 4).

A third group is situated in the European-North American context around Heinz-Dieter Meyer and Aaron Benavot. In 2013, Meyer and Benavot published an edited volume compiling critical contributions on the PISA study. Some of them shall be presented here. To begin with,

[157] See Vollmer (2015, unpublished).
[158] These questions are inspired by McGoey (2015), who analyses the effects of philanthropic endeavours of the Gates Foundation in the realm of US-American education sector. She quotes Anthony Cody, a former teacher, who asks: "Who holds him [Bill Gates; T.V.] and his employees accountable for the devastating effects their reforms have had"? (McGoey 2015: 146).

Meyer/Benavot (2013) examine education governance, international education policy debates, and emergent international standards. The authors see the role of OECD as „arbiter of global education governance, simultaneously acting as diagnostician, judge and policy advisor to the world's school systems" (ibid: 09) and PISA „as an institution-building force in global education" (ibid). They analyse

> „the role of PISA in an emerging regime of global educational governance, which has the potential to induce changes in how nations and states organize public education, to what ends, and in what spirit - and whether to so according to emergent international standards" (ibid).

Meyer/Benavot are critical on the idea of PISA that „the quality of a nation's school system can be evaluated through an assessment that claims to be politically and ideologically neutral, presumably producing disinterested data" (ibid). The authors state that through PISA's influence a „worldwide educational standardization" (ibid) happens. The goal of economic efficiency is more important than the goal of enabling students to become critical thinkers and responsible citizens.

Tröhler (2013) examines the context in which the PISA study historically emerged. He states that PISA has been developed in the specific socio-cultural context of the cold war. Despite the contrary worldviews of the US-American and Russian superpowers, they shared the same idea of world peace, leadership and welfare. Particularly in education policy they relied on equal methods. The ideology and methodology of PISA is embedded in the ideology of the cold war era:

> „[E]ducation in the 40 years since Sputnik has become a technocratic affair that is dominated by experts and operates largely outside the traditional research institutions, and that means outside the traditional control mechanisms of academia (peer review). (…) Rather than commit to the empirical given plurality, PISA follows the vision of a uniform world in the future and believes that it can test how students will master the culturally indifferent 'real-life challenges' some 10, 20 or 30 years ahead of them." (Ibid.: 158).

Recalling the work of Münch et al. and Martens et al. the first point of PISA's underlying technocratic ideology has become intensified, especially as the PISA test is conducted without paper and pencil anymore, but based on hard- and software.[159] However, based on India's experience with the PISA 2009 Plus project and with the development of the PISA-D project, PISA did cease to claim its *being culturally-indifferent stance* and changed its image to *PISA*

[159] This doesn't hold true for all participating countries and economies. Most of the participating countries made the transition to digital testing in the PISA cycle of 2015, others made it in the following cycle of PISA 2018. However, others still continued doing paper-based assessment in the PISA cycle of 2018 (see: https://www.oecd-ilibrary.org/sites/8f293551-en/index.html?itemId=/content/component/8f293551-en [07.06.2022]).

as trying to adjust to different cultural contexts (see e.g., Addey/Gorur 2020). This becomes also evident in publications and talks in the media by Andreas Schleicher (see Schleicher 2017).

For instance, in the OECD's Education Podcast, Andreas Schleicher had been in conversation with Aaron Benavot and Yong Zhao, two US-American professors in the realm of education who criticize the PISA test. In this episode, Schleicher takes reference to their critique. He mentions that the test design and core understanding of PISA has changed from conducting paper and pencil tests to using digital applications as well as from insisting on the claim of being universal to being willing to adjust the test to local contexts.[160] This, to my opinion, is still a colonising act (see also Ball 2012).

Sellar/Lingard (2013) examine the emergence of PISA and how it could successfully spread out globally. The authors say that this spread happened in three areas. These are: „the broadening scope of PISA (…); its increasing scale (…); and efforts to enhance its explanatory power (…)" (ibid: 185). The authors conclude that „OECD and PISA have contributed to the creation of new modes of global governance in education" (ibid.). They connect their work to Sassen's approach of an emerging global infrastructure and transnational flows, to which we will come back in chapter 4:

> „Sassen (1997) [2007; T.V.] sees globalization as the creation of a global infrastructure that facilitates transnational flows of multiple kinds. We see the ongoing spatiotemporal expansion of PISA, and other data work of the OECD, helping to create just such a global infrastructure. In respect of global governance, the OECD has helped to create a mode of 'infrastructural governance', which represents a specific form of Woodward's palliative or 'lubricant' governance. We speculate that while infrastructural governance helps constitute the global, palliative governance perhaps functions most often in multilateral ways." (Sellar/Lingard 2013: 202)[161]

Lastly, Kamens (2013) states that educational systems are not closed – that means limited to the borders of nations – but are open systems due to processes of globalization. He further elaborates that „educational systems are losing their national distinctiveness as bounded systems and products of unique national histories" (ibid.: 117). Earlier, an international comparison of education systems had not been possible or had been done with caution taking their uniqueness into account. But now the comparison and measurement of education systems on various dimensions seems to be easily possible and an endeavour that is legitimized by the narrative of helping states to succeed in the „global economic, political and cultural

[160] OECD TopClass Podcast, Episode 19: What is PISA's role in global education? A conversation, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/what-is-pisas-role-in-global-education-a-conversation [31.05.2022].

[161] There might be a mistake in the original print. As the authors list Sassen (2007) in their references, but not Sassen (1997). Hence, it is changed here to Sassen 2007. Further on, Sellar/Lingard refer to Woodward (2009) here.

competition" (ibid) by increasing their human capital. The author concludes that the idea that educational systems are comparable gets strengthened. This allows international organisations and companies to engage and compete in the field of assessment. He uses the image of a *horse race*, which is also used by other researchers (e.g., Klemenčič /Mirazchiyski 2018). Similar images had been expressed in the interviews. With the spread of this international assessment culture, Kamens (2013) sees the risk of reducing the understanding of education.

The fourth group is situated around Gita Steiner-Khamsi. With „The politics of League Tables", Steiner-Khamsi (2003a) wrote an early piece in response to the first PISA cycle in 2000. She argues that considering the international perspective is necessary in education at the national level. She is interested in knowing more about the influence of PISA studies, about the phenomenon of ranking and league tables in the shaping and transformation of national education systems, the therewith attached phenomena of borrowing and lending of educational knowledge and practices, and the establishment of international ties in view of import and export of educational knowledge.[162] Steiner-Khamsi has an „interest in understanding how the transnational flow of communication, ideas, values, capital, and individuals has impacted educational institutions and policies" (ibid.: 01).

Comparative education needs to develop new theoretical and methodological perspectives on the issue of globalization, international large-scale assessment and its influences on national education systems and likewise national responses to these global influences. There are tensions between the trend of a homogenization of education through international education policy and international organizations and the existing diversity of the local contexts. Ranking and league tables appear as „policy tools to accelerate change and innovation in educational organizations" (ibid.: 01). Steiner-Khamsi (2003b) is interested in knowing more about transfer processes of educational knowledge. *Why do countries take reference to other countries educational practices? What kind of local transformation processes are emerging as consequence?* She describes three phases of a transfer process (ibid.381): firstly, taking reference to another nations educational practice (externalization), secondly, making the external educational practice fitting for the own context (recontextualization), and lastly domestication and naturalization of the new practice as local practice (internalization). As research perspective for analysing flows of knowledge and local transformation processes, the author suggests drawing on comparative education methods, which will be discussed in-depth in chapter 4.

[162] Steiner-Khamsi has published intensively on the concept of educational borrowing (see e.g., Steiner-Khamsi 2004).

In a recent paper she summarizes explanations for the spread of PISA (see Steiner-Khamsi 2019). One explanation that can be observed in many cases is „globalization and the political pressure to be part of a larger international educational space" (ibid.: 233), or in other words, *being part of the OECD Club*. Another explanation is the growth of „evidence-driven policy actors" (ibid.: 233). They use international large-scale assessment for their own agenda of improving the quality of education in their countries. A third explanation highlights the specific conditions in local contexts. Assuming that local contexts have their own way in dealing with PISA, their own different interests and rationales as to why they should participate in the study. PISA as a soft governance tool of the OECD – based on expertise of international bureaucrats and the ideology of numbers – has been studied before (see e.g., the earlier discussion of the research groups of Martens et al. and Bloem et al.). But for Steiner-Khamsi it is equally interesting, to focus on national bureaucrats. She asks, „how does internationality translate at the national level and [in; T.V.] what particular moment is there a receptiveness toward international technologies of authorization" (ibid.: 235) and „why [do; T.V.] national governments buy into, and how [do; T.V.] they receive and translate the soft power of international organizations (…) in ways that makes them look to be in compliance with international trends" (ibid.: 235). The author argues that nations are not „passive recipients of international agreements, reviews, and recommendations" (ibid.: 236) and that those international policies emerge in local contexts. Lastly, she outlines four areas of research: (1) reception versus diffusion, (2) externalization, (3) PISA as an audit culture, and (4) privatization of education. My research is situated in the area of reception versus diffusion, though I am arguing against the notion of diffusion (see the discussion of the concept of diffusion in chapter 4).

The fifth research group – an international group with researchers from different geographic contexts – is to be located around Camilla Addey, who firstly published two blogposts in 2015, 2016 on the rationales for a participation in PISA and on the project PISA for Development[163], and then later comprehensively in academic journals. Addey (2017) examines, how PISA for Development helps the OECD to spread and increase its influence globally. She highlights current shifts in the OECD mission statement in education. These are: firstly, influencing national bodies to conform their national education tests to the PISA model, secondly,

[163] Addey, C. (2015): What drives participation in international educational assessments? http://international-assessments.org/what-drives-participation-in-international-educational-assessments/ [23.07.2017, currently not available] and: Addey, C. (2016): PISA for Development: Expanding the Global Education Community Esperanto or Developing a Dialect? https://www.norrag.org/pisa-for-development-expanding-the-global-education-community-esperanto-or-developing-a-dialect/ [31.05.2022].

developing a PISA test that is more suitable to contexts of the global south but that is still matching with the idea of PISA, and thirdly, synchronizing the subunits of PISA, PISA-D, and other units to the OECD mission statement on education. Addey (2018a) gives an overview on the development of international large-scale assessments in the 20th century and puts special emphasis on the decade of the 1990s. She depicts how the assessment culture changed over the course of time and examines three large bodies of international testing, namely the organisations OECD, IEA, and UNESCO' Institute for Statistics (UIS).

After a joint paper with Gita Steiner-Khamsi, Sam Sellar, and others (see Addey et al. 2017), Camilla Addey worked closely with Sam Sellar on the rationales for low- and middle-income countries to participate in PISA (see Addey/Sellar 2018, 2019; this aspect will be taken up shortly afterwards in chapter 3.1.3). Since 2014, Addey works together with Radhika Gorur, who is a distinguished expert in the research of international large-scale assessment, education policy and comparative education (see Gorur 2012, 2016). In a recent paper, both investigate, how the OECD uses and changes the PISA study to approach new contexts, and secondly, how these new contexts are getting transformed in this process (see Addey/Gorur 2020).

Addey/Gorur (2020) focus on the *OECD's PISA-group* as an actor and are concerned with the tie-management of the *PISA-people*. OECD's PISA is considered as a laboratory, a group of experts that is situated in Paris and includes allied agencies such as for example ETS and Pearson. The exclusivity of the laboratory is not only restricted to the office (as a material building) in Paris but is maintained in the tie-management practices within the network (ibid.: 5). The authors integrate non-human actors, as e.g. the Item-Response-Theory, (hereafter IRT), in their research design. Based on the approach of Science and Technology Studies, (hereafter STS), Actor-network theory, (hereafter ANT), and the concept of translation (Callon 1986; Callon et al. 2009), they hold that knowledge emerges in three steps. In the first step, samples are collected in the 'wild', noisy world. In a second step these samples are analysed in a laboratory. In a third step, the new knowledge is disseminated in the noisy world again. In doing so, the outside world gets transformed. These three steps are not considered to be linear, rather they are overlapping in their nature. Knowledge is considered to occur in different forms, for instance, local knowledge is differentiated from expert knowledge. Through the three different steps a „translation of interests" (ibid.: 15) is happening. By developing a new PISA test that is supposed to be fitting new contexts more, these new contexts also have been changed. Translation happened within PISA, but also between PISA and the new contexts. PISA has not only influence on countries after they participate in the test, but also right from the planning process of the conduct of PISA study in this country. OECD's future vision is clearly expansion,

coverage of contexts of the global south, not to say the whole world. However, until now the relationship between PISA and contexts of the so-called global south is an "one-off exercise" (ibid.: 02), the influence of PISA is less. Based on interview data, the authors state that OECD's PISA had less influence in India. Finally they mention, that OECD and ACER were recently teaming up again.

The paper by Addey/Gorur (2020) traces the travel route of PISA-D while focusing on the tie-management of the PISA-people, and based on the approach of STS, ANT, and the concept of translation. Point of departure for their analysis is the OECD, but not relations or other actors. The authors stick to the term *actor*, and to the concept of *entities*. Non-human actors are included, but it does not get clear, how non-human actors are linked up with human actors. To my mind, the underlying theoretical foundations of network theory within this paper, are based on a reduced understanding of network structures, as they operate only with the binary categories of core and periphery of the network. In doing so, the research perspective remains in the centre-periphery model (CP model)[164], and contributes to the manifestation of this understanding of processes of knowledge transmission from centre to periphery, meaning from the so-called global north to the so-called global south (see chapter 4). My critique on the concept of translation, is that new knowledge emerges not only in the lab, but in socio-material situations in the 'wild' world. Technical changes are embedded in social practices. Science is made in social processes because knowledge is transmitted by people and things, not by itself alone (see Czarniawska/Sevon et al. 2005).

In my research I focus on dynamic process and on the whole network (*Gesamtnetzwerk*). I try to identify as many sources of influence as possible, I am not focusing on OECD's PISA group alone, because I see the danger to overlook other important relata or nodes of influence (e.g., ACER or UNICEF, as depicted in chapter 2). Drawing on Raina (2009, 2011) and Krücken (2005), I argue, that not one relatum alone is influential but rather s/he is influential due to his/her relations to other relata. The gain of my work lays in highlighting the linkages between different sources of influence. I focus on mutual influences (relationality and reciprocity) and multi-perspectivity. The study at hand shows that there is a huge fluctuation and dynamic in and within (inter-)national state and private organisations. Human beings are changing positions and are *switching* (White 2008) between organisations, and their' networks. Also non-human relata are changing (e.g., change in the selection and usage of technical hard- and software). Even names of organisations are changing (see e.g., the re-naming of DFID to FCDO). That the OECD is changing in general and is changing in particular due to engaging

[164] This model will be taken up in chapter 4.

with the global south, is not a process that is done by OECD alone and happens based on their own interests, rather this happens in interaction with other relata and their specific interests. For instance, until 2018 there have not been plans of ACER (India) to work together again with OECD, as stated in the data set. However, as Addey/Gorur (2020) mention they were teaming up again in 2019. Future collaboration between the OECD and ACER are likely as ACER is a powerful organization, has expert knowledge, and has its own interests and is highly successful in the global south (e.g., the Indo-pacific area). Furthermore, ACER recently partnered with UNICEF, as will be discussed in chapter 6.

Lastly, I disagree with the statement that OECD had less influence in India, as it had influence, if not direct than indirectly, as I showed elsewhere in the example of the transformation of NAS (see Vollmer 2019b). Addey/Gorur (2020) hold that the PISA group forms the rationales for countries to take part in PISA: "The assessments needs of low-income nations are (…) already framed within the needs of the OECD nations" (ibid.: 11). Thus, in the following section the research discussion on rationales for taking part in PISA is discussed.

3.1.3. Rationales for a participation in PISA

Bloem (2013)[165] sees a research desideratum in the investigation of partner countries of the OECD and their participation in the PISA study. She offers an overview on the participation of lower- and middle-income countries in PISA and displays Tunesia and Kyrgyzstan as examples. She states that PISA puts special challenges on low- and middle-income countries due to its test design. Therefore, rationales for a non-participation lay amongst others in a massive fear of bad results, in less expertise in the field of assessment, in a lack of funding, and in a perceived less relevance of PISA for the purpose of policy making in these countries. In view of making PISA more relevant for these countries, Bloem advises the OECD to reflect more on the needs of low- and middle-income countries. Likewise, Lockheed (2013)[166] observes that more and more developing countries are taking part in PISA. However, the increase of participation of developing countries happened only in the period from 1990 onwards. The author states:

> "No developing countries participated in the first-ever 1959-60 international large-scale assessment, carried out in 12 developed countries to test whether such a study was possible, or in the second study that followed in 1964. Three developing countries (Chile, India and Iran) participated in a third study in 1970-71, and eight developing countries (China [3], Ghana, Nigeria, Papua New Guinea, Philippines, Poland, Thailand, and Zimbabwe) participated in several studies in the early 1980s. Still, fewer than 5% of developing countries were represented in these early studies, as compared with nearly half of the larger developed

[165] This paper is published as a working paper of the OECD working paper series. Back then, Simone Bloem had been associated with the OECD's Directorate for Education and Skills (see Bloem 2013).
[166] The author has been associated with World Bank from 1985 until 2004.

countries. Not until the 1990s did a significant number of developing countries begin to participate in international large-scale assessments" (Lockheed, 2013: 164).[167]

Lockheed (2013) examines and compares rationales for the participation in PISA of both industrialized and developing countries. She concludes that industrialized countries take part due to a self-paced agenda, whereas developing countries take part due to interests of external organisations:

„While developed countries were motivated by *their own* interest in improving their own educational quality, developing countries were being encouraged *by others* to participate in international assessments, ostensibly so that the developing countries might improve their own national assessments, use assessments for monitoring and accountability purposes as their education systems became more decentralized, and place the results of their education systems on a common, international scale." (Lockheed 2013: 169; T.V.: accentuation in Italic letters as in original)

The main interest of donor agencies in motivating developing countries to take part in PISA was the idea of „[b]uilding capacity for assessment" (ibid.: 174) in the local contexts of developing countries. In consequence, this often led to „spill-over effects on national assessments" (ibid.: 176). A participation of low- and middle-income countries in international large-scale assessments often happens because of the need to prove the efficiency of the received financial aid (see ibid.: 163). Interestingly, a participation of low- and middle-income countries is oftentimes supported by funding agencies such as the World Bank. This is why Spring (2015: 16) stresses that Lockheed sees the World Bank „as the key agency in spreading the use of PISA and TIMSS in developing countries".

Lockheed holds, that „participation in all types of international assessments has benefited developing countries both indirectly and directly" (ibid.: 163). She further elaborates:

„Indirectly, participation has influenced norms for curriculum and teaching practice, leading to curricular reform and increased attention to teacher professional development. Directly, participation has strengthened the assessment capacity of their national testing agencies, through assessment-related training and hands-on experience in the process of developing and implementing large-scale assessments." (ibid.: 163)

Accordingly, to this quote, a participation in PISA has direct impacts on the transformation of educational practice through educational reforms, and indirect implications concerning the training and capacity building of experts in the field of assessment. The findings of the study

[167] Oza/Bethell (2013) state however, that India participated in 1964 in a study by IEA (as stated earlier). A look at the website of the IEA and its achievement tests, which can be considered as predecessors of the OECD PISA study, clarifies: The First International Mathematics Study, (hereafter FIMS), had been conducted in 1964, and the First International Science Study, (hereafter FISS), had been conducted in 1970-71 with the scope of six subjects to be tested: science, reading, literature education, language (English, French), and civic education. India participated in the study of 1970-71, see: https://www.iea.nl/about/org/history and: https://www.iea.nl/studies/iea/earlier [07.06.2022].

on the transformation of NCERT's NAS revealed that this holds true for the Indian context, too (see Vollmer 2019b). PISA – in fact a „'latecomer' assessment" (Lockheed 2013: 164) – is gaining more and more influence, and national and international actors align their testing tools to the PISA model (see Lockheed 2013: 169; Vollmer 2019b). One can observe a process of a „'globalization' of assessment" (Lockheed, 2013: 163) as well as an „remarkable rise in [the; T.V.] visibility of the Programme for International Student Assessment (PISA)" (ibid.). Accordingly, PISA overtook the status of the IEA tests. This is partly due to the way PISA is positioned in the media and scientific journals. Lockheed's contribution points out, that it is not the OECD alone that is propagating the spread of large-scale assessments worldwide. Rather donor agencies, especially the World Bank, have a stake in this process. Thus, it is worthwhile to examine the OECD not as a single entity, but in its embeddedness amongst donor agencies. Differently than Lockheed, I argue that countries from the so-called global south, who are new to join PISA have their own interests, which need not necessarily be motivated by aid organisations or generally spoken by countries of the so-called global north.

The fast and wide-ranging spread of international large-scale assessments (ILSAs) since 1990 with more and more countries that are taking part in ILSAs is the point of departure for the research group around Camilla Addey. Addey et al. (2017) hold that the motifs for a participation in ILSAs are multiple and multi-factorial. Second, the context for a decision for or against a participation in ILSAs is of importance. Third, rationales for a participation in ILSAs are not static, rather they change in the process of participation and between participations. Fourth, obtaining data is not the only reason for a participation, often it is the fundamental experience of taking part (see ibid.: 443). The „dominant narrative of ‚better data for better policies'" (ibid.: 443) is not the only rationale and misses out on the complexity of motifs for a participation. Addey et al. (2017: 443) state that the spread of ILSA is due to this flexibility in the rationales. In an UNESCO working paper, Addey/Sellar (2019) suggest a framework of four different dimensions of rationales for a participation or non-participation in PISA.[168] These are political rationales, economic rationales, technical rationales, and socio-cultural rationales. Briefly, Addey/Sellar comment on the difficulty of a non-participation of countries of different economic status. This fragile process of navigating and evaluating the (non-) possibilities of *opting out* of a country or economy due to its positioning in the global network will be discussed in chapter 7. The examination of rationales for a participation of India in PISA 2009 Plus within this study, sheds light to the need of integrating postcolonial

[168] Addey and Sellar (2019) mention that this framework is inspired by Steiner-Khamsi's comment in the joint publication Addey et al. (2017).

perspectives in the research of rationales. In doing so, my research adds to the existing body of knowledge on rationales for a (non-)participation in international large-scale assessments (see chapter 6). In the following, different approaches to researching the emergence and circulation of knowledge shall be presented.

3.1.4. Researching the emergence and circulation of knowledge – selected approaches

Clemens (2009a: 108; T.V.: translation) examines to what extend are „recent reform movements in (national) education systems and therewith accompanying and supporting trends in educational science compatible with the principles of transnationality and diversity". And further: What are the possibilities of a "transfer of concepts and models of one system (…) into another" (ibid: 109; T.V.: translation)? *Which kind of conditions are required? To what extend is a concept, e.g., the PISA test, transferable to other contexts? What happens when concepts are transferred to other contexts?* These questions are at the heart of the theoretical framework of this study. The circulation of knowledge is object of research already for a long time. There are manifold approaches, that vary from discipline to discipline, and that often stand opposite of each other. In a brief overview, selected relevant concepts and approaches shall be introduced here. Some of these concepts will be discussed in detail in chapter 4.

A first strong point of reference is the *diffusion model* (Rogers 2003; Acharya 2004, 2016). This model has been criticized many times (Latour 1986; Krücken 2005; Raina 1996, 2016). The *model of translation* (Latour 1986, Callon 1986) is a second strong point of reference in the research discussion. The work of Addey/Gorur (2020, 2021) is based on the concept of translation, as discussed earlier. But also the work of Mukhopadhyay/Sriprakash (2011) relies on the model of translation. Mukhopadhyay/Sriprakash (2011) state that until now there is hardly any comparative research that focusses on the movement of policies in developing contexts (ibid.: 314). The authors display and examine the development and policy transfer process of the assessment tool KSQAO in the state of Karnataka. They ask

> „how a large-scale standardised assessment programme shaped by international and market-oriented discourses has been differently re-worked in the south Indian state of Karnataka." (Ibid.: 311).

Mukhopadhyay/Sriprakash do not use Steiner-Khamsi's term of borrowing, which had been mentioned earlier. They hold that

> „policies, rather than [being; T.V.] 'borrowed' from one context to another, undergo a process of 'translation' involving the contextualization and inevitable transformation of policies". (Ibid.: 311)

According to Mukhopadhyay/Sriprakash the concept of translation is more appropriate. It is not simply the case that 'something' gets transmitted from one context x to another context y. Rather the 'something' undergoes a process of change during the process of transmission. The focus is set on the analysis of interests, motivation, alliances of actors. Mukhopadhyay/Sriprakash state that one can observe a „new testing regime" (ibid.: 323). In my project, I neither take upon the concept of borrowing, nor the concept of translation. But the term *transmission*. This appears more suitable, as it focuses more on the processes of exchange between different relata (see chapter 4).

But beside the prominent concepts of diffusion, translation and borrowing, there are also other alternative approaches, which are less in the spotlight of mainstream research. To illustrate the relationality of concepts, Deleuze and Guattari (2004) suggest the image of a *rhizome*. They focus on multiplicity, dynamic processes and give relations more importance than nodes. Nodes in their thinking are in fact not static but ever changing. The problem I see with Deleuze/Guattari is, that to reconstruct the process of India joining PISA 2009 Plus, the mapping of nodes of influences is necessary. Pratt (1991) formulates the term *contact zones*, stressing that knowledge emerges in social interactions and by establishing ties with other human beings. This concept enables close and rich descriptions of tie management between human beings but misses out on indirect flows of knowledge. Appadurai (1996) looks at the circulation of knowledge from an anthropological perspective and postulates the term *global flows*. Appadurai criticizes any model of centre-periphery relations as being not sufficient for the explanation of the current state of globalization, that is rather a „complex, overlapping, disjunctive order" (ibid.: 32). Appadurai (1996: 41) argues that ideas do not travel only in one direction, but do circulate between different, uneven and overlapping 'scapes'. With the term *scapes* he means rooms, areas or landscapes that are characterized by its fluidity and roughness. Appadurai's object of analysis is primarily focused on how human beings deal with globalization. Though he has also worked on the meaning of things for human beings, he does not look at this question from a post humanistic perspective (Lemke 2020; see also Appadurai 1986). What I do take from Appadurai is his call to consider context-dependency, multiple kinds of flows, multiple kinds of spaces, and looking at disjuncture within the analysis.

Similarly, Harder/Raina (2022), see the binary between East and West – prominently propagated by Edward Said in his book Orientalism (Said 2019) – as problematic.[169] Raina (2016) suggests an approach of a transcultural and connected history of science to better depict

[169] Harder/Raina (2022) display interdisciplinary case studies on transnational encounters between Indian and German-speaking scientists and scholars in the 19th and 20th century.

the multiple perspectives and diverse contributions to the evolution of knowledge. There is the need to deal with diversity, which brings at the same time possibilities and difficulties with it. Under the imperative of „the quest for cognitive justice" (ibid.: 35), postcolonial positions and theories must be considered to a greater extent than before. Lastly, Raina (2016) brings to our attention, that any comparative study must be undertaken in an extremely sensitive manner. In an earlier paper the author claimed that there has been a „lack of engagement with the two way flows of knowledge and practices" (Raina 2011: 175). With the aim to gain „valuable insights into the dynamics of the flow of knowledge and its adaptation to different institutional contexts" (ibid.:176), Raina recommends giving justice to the multiple flows of knowledge also in the research design. Raina (2009, 2016) works with the concept of *trading zones of knowledge* suggested by Galison (1997). Rottenburg (2005) brings the concept of the *bazaar* as another approach into the discussion. He also uses the term trading zones of knowledge, however, later refers more to Latour and the term translation. In search of describing and analysing expert networks, Haas (1992) coined the concept of *epistemic communities*. I argue to refer to Knorr Cetina's (1999, 2007) concept of *epistemic cultures*, as this concept is based on a broader notion, and it also includes non-human nodes

Together with other educational researchers de Haan suggests relying on network theories and network methods for an in-depth analysis of educational transformations as for example the development of the idea of competencies (see Kolleck et al. 2016).[170] Kolleck et al. (2016) criticize a narrowed down use of network analysis as method. There is the need of doing research on „theoretical-conceptual works as well as empirical-qualitative and -quantitative approaches for the analysis of the genesis, function and development of social networks in educational contexts" (Kolleck et al. 2016: 7f; T.V.: translation). However, (applied) research needs a profound theoretical basis. Picking up theories on the surface is too simplistic. Selected theories need to be considered thoroughly, and linked up with methods.

In the field of global educational policy transfer, Stephen Ball and his approach of network ethnography gained influence over the last years (see chapter 5). Ball made important contributions to understand policy networks. In a foundational paper, he is interested in examining "changes in the policy [making; T.V.] process and new methods of governing society" (Ball 2008: 747), and an experienced "shift from centralised and bureaucratic

[170] This sentence had been firstly written by me for an unpublished, not finished working paper of the working group "Education" with the title: "Learning for the Future – Transdisciplinary Perspectives on Knowledge Transmission in Africa and beyond". This project took place at University of Bayreuth in the Winter term 2017/2018. See the information brochure of Bayreuth Academy of Advanced African Studies: https://www.academia.edu/35528315/_Learning_for_the_Future_Transdisciplinary_Perspectives_on_Knowledge_Transmission_in_Africa_and_Beyond [31.05.2022].

government to governance in and by networks" (ibid.: 747). The thesis of the paper is that "a new form of 'experimental' and 'strategic' governance is being fostered, based upon network relations among new policy communities" (ibid.: 747). He says that businesses, philanthropic actors, quasi-governmental and non-governmental agencies are linked up and are building networks. It is not the case that the state is being eliminated, rather private actors are stepping into the area of state work. Ball holds that state and other actors are not standing opposite of each other, rather they are entangled through various linkages. Policy is not done by the state alone, but rather by a policy community. This community consists out of different actors with different interests. "These new policy communities bring new kinds of actors into the policy process, validate new policy discourses and enable new forms of policy influence and enactment, and in some respects disable or disenfranchise established actors and agencies" (ibid.: 747). With new actors, also new concepts and narratives emerge, and new influences are happening. Balls (2008) findings are that the public-private divide gets more and more blurred. Policy communities are heterogenous, with education businesses gaining more and more influence. Members of policy communities have manifold different motives, rationales and values. Relationships between the different members are often complex and asymmetric. This thickness of different actors and relations often leads to in-transparency and difficulties in management processes. Pending questions are: *Who said what to whom? Based on what kind of motives? With what kind of influence?*

Ball (2008) did a web search on possible actors and conducted interviews to gain insights into the history of the networks. He brings in two examples of these new policy communities, and sketches out networks. Further, he focuses on the relations between human beings and organisations resp. companies and their linkages to other human beings or organisations. Things and concepts as actors are excluded, but they are integrated in his later works (see Ball 2012, 2016). For instance, global flows of policy knowledge involve not only consultants and education business, but also documents, money, meetings, conferences, tools, programmes, experience, expertise, and various other forms of embodied, materialised, or immaterial knowledge (see Ball 2012). Recently, Ball stresses on the role of meetings between actors involved in the policy making (see Ball et al. 2018). Similarly, to Ball and his colleagues, Gunter/ Mills (2016) stress the importance of meetings between actors in policy making processes. Gunter/Mills (2016) shed light on the power of consultants in shaping education policy. They examine the phenomenon of *consultocracy* in the realm of educational policy making in England. Their finding is that the influencing of state workers and consultants

happens in exchange relationships through formal structures (ibid.: 131), but also through informal meetings and social interactions in general.

There is also a large body of literature on international organisations and their impact on local contexts. Resnik (2006) is interested in the linkage between the realms of education and economics. Referring to Latour and Callon, Resnik coined the term *education-economic growth black box*. She examines the impact and working of two large international organisations, namely UNESCO and OECD in different contexts worldwide in helping the spread of the conceptual linkage of education and economic growth. Hence, education is seen "as a key factor in economic development" (ibid.: 173). Resnik says, that local state work actors of low- and middle-income countries bought into the "new education-economic growth discourse" (ibid.:174) in order to receive international aid, whereas 'developed' nations took it as a motivation "to democratize their secondary education in order to increase economic development" (ibid.). Resnik sees the development of a "new world education culture" (ibid.: 175) in place, which is promoted and enhanced largely by international organisations. Unlike Resnik, my research does not only focus on international organisations, or their networks with national bureaucrats and other experts. Rather I tend to include as many relevant relata as possible, and additionally also non-human relata (see chapter 4). Differently to Resnik, Fichtner holds, that the networks around international organisations are not operating in a kind of *black box*, rather it is the case, that the ways of how they are working can be traced. Fichtner (2012) did case studies on the role of international NGOs in shaping education practices at primary school level in Benin. She examined the relationship between state bodies and international non-governmental organisations in the area of development work. She is particularly interested in gaining insights in the how of doing development and of doing state work, in how global standards are negotiated at the local level, and lastly how these global standards are affecting local contexts. Fichtner holds that global standards spread out to local contexts not without any conflicts. Secondly, in this process actors, such like NGOs, are involved. She says: "the actors behind educational aid programmes, the ideas behind educational and bureaucratic models, the mechanisms behind development rhetoric and practice, and the teachers, parents and pupils behind educational statistics all contribute to a dynamic, transformative construction; which is, the state 'at work'" (ibid: 18). Like Fichtner, I argue also against using the concept of diffusion. Differently to Fichtner, I don't use the term actor, rather I prefer to speak of *relata* or *nodes of influence* (see chapter 4).

3.2. Research desideratum, research questions and objectives of the study

Research on the OECD PISA test has been focused for a long time on European-North American contexts, non-European contexts were covered only marginally. The participation of low- and middle-income countries in PISA became a research interest only recently (see the presentation of the different working groups in chapter 3.1.2). Until 2019 there has been a big silence on India's first experience with the PISA test, with hardly any academic publication. At the beginning of the research project in 2016, there has been only little knowledge on how India joined the PISA test and how the process of this first participation unfolded. An in-depth examination of the underlying dynamics and structure of this PISA participation process is still missing.

Ever since the first round of PISA and likewise today, when OECD is reaching out to almost every corner of the world, critical views were expressed on the effectiveness and consequences of the PISA tests (see Radtke 2003, 2006, 2015; Münch 2013; Klieme 2018, Schneider 2019)[171]. Furthermore, critics on the PISA study deal with the ideology and applicability of the test and the implications of the PISA results for countries and economies (Biesta 2010, 2011, 2015; Münch 2012; D'Agnese 2015). Researchers and practitioners problematize the question of the fitting of global concept offers for diverse local contexts (see Naumann 2004; Ouane/Singh 2004; Datta 2004).[172] Within the collected interview data, one expert asked: *Is PISA appropriate for local realities such as one can see in India*?

Compatible with this, is the interest of mine, that is to think about how globalization processes – more specifically global educational concepts – impact on local contexts. Elsewhere, I asked, „[h]ow will challenges concerning education be discussed in India" (Vollmer 2016: 108)? I undertake this case study on India's participation in PISA 2009 plus to address the question of the entanglement of the global and the local in a workable manner and to fill the above outlined research gap. The research design is conceptualised as a case study and not as a comparison of two countries, because doing a comparison requires rich presuppositions. Not only are resources required that overgo the capacities of this project, but also from the viewpoint of postcolonial perspectives, doing a comparison appears to be difficult (see the discussion in chapter 4).

[171] Schneider, M. (2019): Is PISA a Victim of Its Own Success? IES Head Calls for Change. The international assessment program faces two significant challenges, https://www.edweek.org/policy-politics/opinion-is-pisa-a-victim-of-its-own-success-ies-head-calls-for-change/2019/01?print=1 [07.06.2022].

[172] See also: OECD TopClass Podcast, Episode 19: What is PISA's role in global education? A conversation, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/what-is-pisas-role-in-global-education-a-conversation [31.05.2022].

The first research guiding questions, that came up at the beginning of the project, have been: *Since when has there been a discussion amongst the global scientific community on the idea that international large-scale assessments are a tool for the betterment of education in India? What have been the ascriptions and expectations on the PISA study? What kinds of constraints have been expressed? Secondly, if global education policy influences educational processes in local contexts, which role play transnational linkages between stakeholders? How do these linkages transform educational research and practice in local contexts? And thirdly, to what extend are 'global' concepts domesticated and used in local educational institutions and educational practice. Are they substituting local practices? Or does this lead to the emergence of heterogeneous and hybrid concepts and practices?*

The objective of the study is firstly, to better understand global educational policy processes that are aligned to the spread of international large-scale assessments. Secondly, to gain basic insights and new perspectives in the response of India to the global concept offer *PISA*. Analysing the full scope of domestication of the test in India in 2010 – the withdrawing from it in 2012, and the re-joining it in 2019 – is a task that is too big for this project. Hence, the study's objective is to gain an understanding of how it came that India took part in the PISA 2009 Plus project. The idea is to reconstruct and describe the process as culture-sensitive as possible. Hereby, stressing diversity, relationality, and the importance of considering postcolonial theory perspectives (see Luhmann [1985]/2004; Geertz 2017; Schmitt 2017; Raina 2016).

The study analyses the phenomenon of knowledge exchange processes in the realm of global education policy between different kinds of nodes of influence. This study examines, how in an education policy network knowledge and meaning emerges and circulates by analysing nodes of influence, and edges. In doing so, Whites' (2008) conception of stories, networks and relations is focused on, as well as the idea that knowledge flows in multiple directions (Raina 2009). Using the concept of stories (White) and taking them as "edges" that link up nodes of influence, this study aims to show how in processes of knowledge transmission the paradigm of relationality becomes visible. The study stresses transnational linkages within the network and its subnetworks and aims to visualize parts of this network. The study is sensitive for dynamic processes and transformations. The study considers selected viewpoints of postcolonial theory positions and emphasises that non-western perspectives have to be considered more in the study of global knowledge production (see Raina 2009; Clemens 2009b). Furthermore, it is sensitive for the potency, ubiquity, and often hiddenness of stories, ideas and theories, their inherent arguments and narrative styles. Stories offer orientation and guidance for action (Clemens 2015), as they can damage and destroy, as discussed with

examples from contemporary literature in chapter 4. Power structures and inequality appeared as crucial aspects in the processes of research, data collection and data analysis. There has been immense (inter-)national pressure on India to join PISA.

Through the global circulation of educational concepts, local concepts are exchanged, traded, and transformed. A globalization of standards and a globalization of assessment – read as a homogenization of assessment practices – is an often observed consequence (e.g., the transformation of NCERT's NAS, Vollmer 2019b). However, there exist also various alternative assessment practices at the local level (e.g., ASER by Pratham, as discussed in chapter 2). India's experience with PISA 2009 Plus led the OECD to change their PISA test, as stated by Addey (2016) and Addey/Gorur (2020).[173] One of the major motivation to join PISA has been that a participation in international comparative studies provides legitimation and status, showing that one is able to *join the club*, and *being part of the international community*, as stated in the interviews.

This study holds, that knowledge is traded by human-beings, and other socio-material *identities* (in the wording of Godart/White 2010) in networks in multiple ways. The aim of the study is to visualize these *flows of knowledge* and to map out *nodes of influence* and their *connecting edges*. The study investigates, how meaning evolves, and knowledge is traded – drawing on the concept of *trading zones of knowledge* by Galison (1997) – through the telling of stories in a network, referring here to the conceptualisation of *stories* by Godart/White (2010). Of interest are arguments, ideas, and aspects that are shared amongst stakeholders in educational policy. Relata and relations resp. nodes of influence and edges shall be analysed in their *embeddedness*. The aim is therefore (1) firstly to identify as many nodes of influence as possible and to display them in their embeddedness. (2) Secondly, to identify likewise stories or story segments in the network and subnetworks to describe the nature of the network. (3) Thirdly, to visualise the many relations that constitute these (sub)networks.

The study aims to contribute to the further development of network research in the realm of theory building and mixed method design.[174] The study at hand aims to bring together different theoretical and methodological approaches, which will be displayed and discussed in chapter 4 and 5. It is argued that the newness and originality of the study lies in this specific research

[173] See also: OECD TopClass Podcast, Episode 19: What is PISA's role in global education? A conversation, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/what-is-pisas-role-in-global-education-a-conversation [31.05.2022].

[174] Elsewhere, I explored the benefits of network research in the context of whole day schools in Germany. Based on the works of Häußling (2008) and Heidler et al. (2014) and others more, I argue that methods of network visualization help in shedding light on practices of discrimination within the teacher-student relationship, on the connection or disconnection between different learning sites of students, as well as on the social embeddedness or disembeddedness of students amongst their peers (see Vollmer 2019a).

design and in the profound emphasis of considering postcolonial perspectives. Conducting research that is sensitive to alternative perspectives – not only in its theoretical framework, but also in its methodology is still uncommon in the German speaking discussion within the discipline of educational studies. Culture is as central aspect in my work. This study examines cultural diversity in an epistemological manner and contributes to the realm of basic research in education.

Three sets of questions

Research questions: (1) How did it come that India participated in the PISA 2009 Plus project, what happened? When did OECD approach India for the first time? (2) Who was involved in the process? (3) Which stories are shared and expressed by whom? What kind of expectations and hopes, resp. what kind of constraints have been there?

Questions concerning the theoretical framework of the study: (1) How does meaning emerge and how is knowledge traded? (2) How do trading zones look like, how can one describe trading zones? (3) How does the concept of stories help in this study?

Questions concerning the methodology of the study: (1) How do the (sub-)networks look like? (2) What are nodes of influence and how are they embedded? (3) What kind of stories are shared in the diverse subnetworks?

4. Theoretical framework

In this chapter, the theoretical framework of this study is given and relevant concepts are discussed. How these concepts are linked to the research design and methodology of the study will be demonstrated. To begin with, the overarching frame of the research project is sketched out. This frame encompasses globalization processes and their impact on local contexts, the central premise of living in networked societies, the idea of people and things on the move, and the thereof resulting research paradigms such as the *complexity turn* and the *mobility turn* (Urry 2003, 2007). Inter- resp. transnationality (see e.g., Münch 2012), inter- resp. transculturality (see e.g., Raina 2016), inter- resp. transdisciplinarity (see e.g., Mittelstraß 2007; Sukopp 2010)[175], a critical and reflexive comparative education perspective (see e.g., Parreira do Amaral/Amos 2015), and the consideration of diversity (see e.g., Budde 2017; Walgenbach 2017) are discussed as basic pillars of the research design. Core of the chapter is the description and discussion of prominent and alternative concepts on the circulation of knowledge, of which the concept of trading zones (Galison 1997) offers potential for the analysis of India's participation in PISA 2009 Plus. Lastly, highlighting relationality and complexity, network theory is presented as an alternative approach in analysing global knowledge flows. Harrison White introduced the *cultural turn* in network research pointing out to the need of including the aspect of culture in social network analysis. Especially the concept of stories helps in analysing meaning-making processes (see White 2008; Godart/White 2010). Scholars in Science and Technology Studies, (hereafter STS), as well as other perspectives made a plea for a *material turn*, drawing the attention to new conceptualizations of things and matter and their role in social processes, as for example processes of knowledge production and exchange (see e.g., Knorr Cetina 1999; Haraway 1988). This chapter argues that Galison's concept of trading zones, White's approach of culture-sensitive network theory and material approaches within STS can be linked together. This approach offers to analyse India's participation in PISA 2009 Plus as postcolonial-sensitive as possible.

4.1. Globalization processes and local contexts: Transnational encounters, context and diversity

A lot of research has been conducted on the phenomenon of globalization and its influences on local contexts (see e.g., Beck 2000; Rehbein/Schwengel 2012). According to Clemens/Wulf (2011) globalization is often understood „as an international implementation process of a

[175] Vollmer (2010) and Jungert (2010) discuss critical aspects on possibilities and drawbacks of interdisciplinary work.

dominant culture, that leads to the displacement, or even to the exodus of alternative cultures and that has a homogenization of the world as inevitable consequence" (ibid.: 13; T.V.: translation). By bringing in global players such as India and China, the authors deny the assumption of a Europeanization or North-Americanization of the world. There are rather multiple ways of living and meaning making. „Historically and geographically the Western model (…) is only one model out of the many" (ibid.: 14; T.V.: translation), and the so called 'West' is in itself diverse and characterized by tensions. The authors state that the term 'the West' is simplifying and an expression of Eurocentrism. They insist on the need to overcome the Eurocentric perspective on globalisation and to establish a multidimensional perspective by paying more attention to the insights provided by postcolonial studies. Clemens/Wulf (2011) emphasize that „other regions of the world and other actors contribute very much to the emergence of (scientific) knowledge in the world society" (ibid.: 15; T.V.: translation). The term world society is defined as „a social reality that emerged gradually within the social evolution, that has effects on the specifically unique, local and social realities in the regions of the world, and that has to be processed there: globalization, therefore, can always only be experienced and processed at the local level" (Clemens/Wulf 2011: 16; T.V.: translation). Globalization is a "process with its own dynamics" and is based on „an ever-increasing range of communications" (ibid.: 15; T.V.: translation), that are contingent as well as connected. It is therefore impossible and shortening to describe and explain processes of globalization by referring to linear models of transmission processes, such as the idea of diffusion (see chapter 4.2.).

To illustrate this, two examples from African studies shall be discussed. Firstly, like Clemens/Wulf (2011), Neubert/Scherer (2014: 01)[176] argue against the homogenisation thesis. The authors make reference to research conducted on the „local reactions towards development projects and global influences" (ibid.). They state that to analyse processes of globalization, the level of actors must be included in the research design and processes of globalization must be analysed at the local context. What is needed is a research perspective that goes beyond borders and entities like groups. Here, the approach of relational ethnography of Desmond (2014) is helpful:

[176] Neubert/Scherer (2014), Desmond (2014) and Spies/Seesemann (2016): This paragraph had been firstly written by me for an unpublished, not finished working paper of the working group "Education" with the title: "Learning for the Future – Transdisciplinary Perspectives on Knowledge Transmission in Africa and beyond". This project took place at University of Bayreuth in the Winter term 2017/2018. See the information brochure of Bayreuth Academy of Advanced African Studies: https://www.academia.edu/35528315/_Learning_for_the_Future_Transdisciplinary_Perspectives_on_Knowledge_Transmission_in_Africa_and_Beyond [31.05.2022].

> „Relational ethnography involves studying fields rather than places, boundaries rather than bounded groups, processes rather than processed people, and cultural conflict rather than group culture." (Desmond 2014: 547)[177]

Secondly, for the future development of African studies, Spies/Seesemann (2016) hold that taking the stance of plurality and relationality

> „means to open the borders between them [areas] and, by extension, to dispense with dichotomous models, which juxtapose the local and the global, or area A and area B." (Spies/Seesemann 2016: 137)

Instead, they highlight the linkages between „area studies and global studies" (ibid.). In view of processes of globalization, Africa is not an isolated entity but rather „deeply entangled in relational processes of exchange, circulation, cooperation, conflict, and so forth" (ibid.) with other areas of the world. Following Sen (2005), this holds also true for the Indian context. He elaborates,

> „[i]t is through global movements of ideas, people, goods and technology that different regions of the world have tended, in general, to benefit from progress and development occurring in other regions. The direction of interregional movements of ideas has varied over history, and these directional variations are important to recognize, since the global movement of ideas is sometimes seen just as ideological imperialism of the West – as a one-sided movement that simply reflects an asymmetry of power which needs to be resisted." (Ibid.: 345).

Sen sees the relationship between India and the world as a reciprocal process: „India has been, like many other countries, both an exporter and importer of ideas in our world of continuing global interactions" (ibid.: 346). The author warns that in view of global policy, local politics must not be ignored. He states, „India 's placing in the world is determined just as much within India as abroad" (Sen 2005: 344.). Processes of domestication and resistance of global ideas at the local level are likewise of interest for Appadurai (1996), who's focus is:

> „[T]he examination of how locality emerges in a globalizing world, of how colonial processes underwrite contemporary politics, of how history and genealogy inflect one another, and of how global facts take local form" (Appadurai 1996: 18).

Appadurai criticizes any model of centre-periphery relations as being not sufficient for the explanation of the current state of globalization, that is rather a „complex, overlapping, disjunctive order" (ibid.: 32). Appadurai (1996: 41) says that ideas do not travel only in one direction, but do circulate between different, uneven and overlapping scapes. With the term *scapes* he means rooms, areas or landscapes that are characterized by its fluidity and roughness. These consist of

[177] We will get back to Desmond (2014) in the method section, chapter 5.

> „not objectively given relations that look the same from every angle of vision but, rather, that they are deeply perspectival constructs, inflected by the historical, linguistic, and political situatedness of different sorts of actors" (ibid.: 33).

Thus, the globalized reality should be analysed in studying "disjunctures" (ibid.) as well as studying „the relationship among five dimensions of global cultural flows that can be termed (a) *ethnoscapes*, (b) *mediascapes*, (c) *technoscapes*, (d) *financescapes*, and (e) *ideoscapes*". (Ibid.: 33). On the question whether and how these flows emerge, Appadurai tentatively outlines: „the relationship of these various flows to one another as they constellate into particular events and social forms will be radically context-dependent" (ibid.: 47). These multiple kinds of global flows have always been there in history. However, „the sheer speed, scale, and volume of each of these flows are now so great that the disjunctures have become central to the politics of global culture" (ibid.: 37). Appadurai's object of analysis is primarily focused on how human beings deal with globalization. Though he has also worked on the meaning of things for human beings, he does not look at this question from a post humanistic perspective (Lemke 2020; see also Appadurai 1986). What I do take from Appadurai is his call to consider context-dependency, multiple kinds of flows, multiple kinds of spaces, and looking at disjunctures within the analysis.

Likewise, Sassen (2007: 03) argues that globalization must not be understood merely as a growing global infrastructure – built upon international organisations – and multidimensional international linkages, but also as force that is shaping the local level such as nation states and is visible and perceivable at the local level. The global and the local level are not separated from each other, rather they are interacting and interfering with each other.

> „Although localized in national – indeed, in subnational – settings, these processes are part of globalization in that they involve transboundary networks and entities connecting multiple local or 'national' processes and actors, or the recurrence of particular issues or dynamics in a growing number of countries or localities." (Sassen 2007: 06)

Sassen encourages us to think beyond dichotomies such as „national/global", or „local/global" (ibid.: 08). Instead, the author highlights new categories such as „transnational communities" (ibid.) and networks. In fact, she states that networks „can increasingly bypass national states" (ibid.: 13) and in doing so, neglect the „nested hierarchies organized around the national state and its role as the supposedly exclusive actor in international relations" (ibid.). Networks are seen as „one of the critical global formations today, as they include a rapidly growing range of actors and activities" (ibid.). Between these many nodes, manifold transnational flows occur (ibid.: 31). Sassen also incorporates the material dimension in her analysis (ibid.: 226). By including analogue and virtual spaces in the research of transnational encounters, she claims

that the notion of context must be revised.[178] Within the educational discussion on the global spread of OECD's PISA, Sellar/Lingard (2013) make reference to Sassen. According to them OECD's PISA expansion contributes to the implementation of a global infrastructure as Sassen proposed it: „We see the ongoing spatiotemporal expansion of PISA, and other work of the OECD, helping to create just such a global infrastructure" (Sellar/Lingard 2013: 202).

Like the above quoted scholars, Harder/Raina (2022), see the binary between East and West - prominently propagated by Edward Said in his book Orientalism (Said 2019) - as problematic.[179] Raina (2015) for instance, seeks to highlight the global interconnectedness of knowledge production by quoting Peter van der Veer. In comparison with thinking in unrelated bricks, van der Veer holds that „what is often assumed to be opposite is in fact deeply entangled, and that what is seen as unconnected is in fact the product of close encounters" (van der Veer, 2001: 3). In analysing these global linkages, Raina (2016) suggests an approach of a transcultural and connected history of science to better depict the multiple perspectives and diverse contributions to the evolution of knowledge. There is the need to deal with diversity, which brings at the same time possibilities and difficulties with it. Under the imperative of „the quest for cognitive justice" (ibid.: 35), postcolonial positions and theories must be considered to a greater extent than before. To prevent exceptionalism in the (scientific) knowledge production, Raina (2016) advises,

> „the search for cognitive justice must be pursued symmetrically, in the sense, that it must operate multilaterally and not restrict itself to the culture being researched but reflect it in its perspective on other cultures." (Ibid.: 34).

Moreover, including dynamic processes is equally important:

> „[F]or framing a meta-narrative of history it requires a more dynamic framing that spans the longue durée of the exchange and circulation of ideas, endowing it with a sense of connectedness and entanglement" (ibid.: 34).

Lastly, Raina (2016) brings to our attention, that any comparative study must be undertaken in an extremely sensitive manner. By studying only one culture, Raina sees the danger of missing out on the entanglements of this culture with other cultures (or we may also think of areas or contexts): „the reversal of the interrogating gaze requires studying not just what empire did in India but what it did back home in Britain" (ibid.: 26).[180] For instance, a recently undertaken

[178] We will come back to this shortly afterwards.

[179] Harder/Raina (2022) display interdisciplinary case studies on transnational encounters between Indian and German-speaking scientists and scholars in the 19th and 20th century.

[180] This shall be further illustrated by examples. As travel writing as a colonial practice – and by that sharply disclosing the colonialist gaze - has been studied a lot (e.g., Pratt 2008; Feichtinger/Heiss 2020), I bring in examples from recent exhibitions in the Berlin Museum landscape. Firstly, "The Colonial Eye. Early Portrait

study on new nationalism and its influence on the development of a new National Education Policy in India, may inform educational policy making in Germany, or elsewhere in the world, as new nationalism appears as a global phenomenon (see Clemens/Vollmer 2019).[181]

Working with a critical and reflexive comparative education perspective

Following Parreira do Amaral (2015), doing a comparison is a basic anthropological tenet: 'to compare is human' (cited according to Wilson 2009 in Parreira do Amaral 2015: 107; T.V.: translation). Comparing means the observation, perception and judgement of the daily life and the environment: weather, neighbours, and other fellow men, etc. Doing a comparison means putting things in relation and setting boundaries. Furthermore, establishing a hierarchical order of content, meaning the development of a category system (see Hofstadter/Sander 2013 in Parreira do Amaral 2015). From a constructionism point of view, one could ask, if there exists an observation without comparison? From a perspective of new materialism one could even ask, how differences and boundaries between observations and criteria for a comparison are being made. *What are the tenets for an international or intercultural comparison?* Drawing on Schriewer (1987), Parreira do Amaral (2015) states that one has to differentiate between doing a comparison as part of daily life and doing a comparison as rule-guided scholarly method. There is no uniform method for doing a scientific comparison, but rather manifold approaches do exist. Engaging with the approach of comparative education requires the need of being self-critical and self-reflective. Practicing comparative methods can however enhance the capacity of being self-reflective. By focusing on differences, knowledge about alternative developments at the transnational level becomes visible, and new knowledge emerges. Lastly, educational comparative research informs global education policy.

Photography in India", secondly, "Gottfried Lindauer. The Māori Portraits", and thirdly, "The Exotic Country". Whereas the first exhibition focused on the specific colonial practice of taking photographs for the purpose of "observation and cataloguing, analysation and measurement" (Website of the exhibition, see below) of indigenous people, the second one critically discussed circumstances of the practice of doing an exhibition on indigenous art and culture, aiming to contribute to a more inclusive, diverse, and globally just exhibition practice within the Berlin Museum landscape. By contrast, the third exhibition turned the gaze to Germany itself by showing photographs of Stefan Moses. With his camera he pointed at the culture and society within the post-1945 German context. Hereby, Moses questioned stereotyped thinking and prejudices. In his opinion, "Germany is just as exotic as Afghanistan or Paraguay, full of uncharted territories" (Website of the exhibition, see below), hence the title of the exhibition. Links to the exhibitions: "The Colonial Eye. Early Portrait Photography in India", 20.07.2012 to 21.10.2012, at Museum für Fotografie, Berlin, Germany, https://www.smb.museum/en/exhibitions/detail/the-colonial-eye/ [03.05.2021]. "Gottfried Lindauer. The Māori Portraits", 20.11.2014 to 12.04.2015, at Alte Nationalgalerie, Berlin, Germany, https://www.smb.museum/en/exhibitions/detail/gottfried-lindauer-the-maori-portraits/ [03.05.2021]. "The Exotic Country. Photo Reportages by Stefan Moses", 01.02.2019 to 12.05.2019, at Deutsches Historisches Museum, Berlin, Germany, https://www.dhm.de/en/exhibitions/archive/2019/the-exotic-country/ [03.05.2021].

[181] The new National Education Policy recently got implemented, see chapter 2.

Amos (2015) holds, that there is no one uniform theoretical framework for doing a comparison, rather there are different theoretical approaches. She names amongst others structural functionalism, conflict and dependency theories, world system theories, and neo-institutionalism. The author states that a critical reflection on the usage of terms and concepts is necessary. Making reference to Manzon (2011), Amos states that comparative education is a „pluridisciplinary field" (Amos 2015: 74; TV: translation). Here, different disciplines such as social science, philosophy, anthropology, history, and others more come together. Likewise, Fossum (2015) states that doing research in comparative education means engaging in an „extremely heterogenous field [], not only in terms of nations and regions, but also in terms of the chosen objectives, methods and theoretical perspectives" (ibid.: 134; T.V.: translation). The author admits that „comparative education as discipline misses out on a clear identity and definition" (ibid.: 135; T.V.: translation). In addition to that, he (ibid.: 134) sees the problem that research discussion mainly happens amongst research scholars, whereas practitioners are often excluded. Teacher education students as well as teachers could, however, profit from engaging with comparative educational studies in many ways, as they will be most likely the principal actors in implementing global educational policies and reform strategies at the local level.

Steiner-Khamsi (2015) outlines recent developments in the discipline of comparative education and discusses possibilities and limitations of doing an international comparison. A basic objective of comparative education research is the „observation, documentation and publication of educational reforms in countries with comparable contexts" (Steiner-Khamsi 2015: 45; T.V.: translation). She asks, how and whom can we compare? Also, what makes contexts comparable to each other? Steiner-Khamsi displays two ways of proceeding: Firstly, doing a contrastive analysis, and secondly, doing a case study. The nation state as primarily unit of analysis is seen as problematic. Empirical educational research that draws heavily on nation states as unit of analysis is shortening on the educational local realities in the nation states. Globalization has effects on education at local grounds. Thus, national education policy is already transnational. On the other hand, global education policy is man-made and emerges out of, and spreads through transnational connections and networks (see Steiner-Khamsi 2015: 51). This can be well connected to the approaches of Sassen (2007) or Appadurai (1996).

According to Dale (2015) the investigation of effects of globalization on education is a core objective of comparative education. The goal is the analysis and interpretation of recent trends and transformations in relation to globalization at local grounds. Context is therefore a key concept in comparative education. Traditionally, in comparative education research, context is

understood as unit of investigation at the local level, that can be a nation state, a region, or an area. Globalization is acknowledged as a context that has meaning for local contexts. It is considered however as a complex, and external force (ibid.: 180f). The author coins the phrase of „the context of the context" (ibid.: 172; T.V.: translation) pointing out to the fact that globalization is actively shaping and influencing the structure and texture of local contexts. Through the effects of globalization, contexts get transformed in view of their depth and texture, their scripts and scopes of action, and their imaginations. Also, new contexts emerge and blend into old ones. This offers the possibility to be sensible for any ascription „context xy is like this". Secondly, it calls for opening up the comparative education perspective for investigating the linkages between contexts and finding *new* contexts. Lastly, to bring to our attention globalization related transformation processes in contexts. Here, we may recall the work of Neubert/Scherer (2014), Desmond (2014) and Spies/Seesemann (2016), as well as the work of Sen (2005), Appadurai (1996) and Raina (2016), who challenge static conceptualizations of categories such as context, and instead stress relationality, dynamic processes, and diversity. Likewise, Gorur/Steiner-Khamsi (2019) state that it is necessary „to move beyond the traditional notion of context as a location or space, and rather investigate meaning-making, or meaning-concealing, respectively, embedded in context" (ibid.: 165). This means the quest to explore meaning making processes in context, and secondly, to take the call for context and culture-sensitive approaches seriously.

Taking the work of Raina (2016), Clemens (2009b), and others into account, postcolonial studies should be considered more in the German comparative educational research discussion. This is one aspect, why I am not approaching the object of analysis of this study with the perspective of neo-institutionalism, or any other theories being suggested by Amos (2015) above. Likewise, I am not doing a comparison – for instance of India's participation in PISA 2009 Plus with other PISA 2009 Plus countries – for the reason that doing a comparison is full of prerequisites as elaborated above. Rather, I am doing a case study on India's participation in PISA 2009 Plus that is broadly situated in comparative education research, allowing me to analyse processes that led to India's participation in-depth and postcolonial sensitive.

Implications for educational research

Education processes are deeply involved in the reproduction of discrimination and inequality (Rieger-Ladich 2017). In the process of comparing, practices of labelling and classifying are taking place many times. According to Radtke (2017), categories serve as thinking tools – „Denkwerkzeuge" (ibid.: 61) – to perceive, describe, analyse, and interpret reality.

Furthermore, to compare, distinguish and demarcate perceptions of reality and to reflect upon experiences. These processes entail the risk of stereotyped thinking (ibid.: 64f). There is the need therefore to reflect upon educational concepts and practices and their intended and unintended consequences and side effects. For example, the enhancement of intercultural encounters at university level (Halualani 2010), or the implementation of an intercultural breakfast (Deuble et al 2014) at school level, often lead to certain cultural ascriptions and discrimination practices towards the participating students. Additionally, the documentary film "count2three" by Rita Orschiedt beautifully plays with stereotypes and naïve knowledge on the *other* in Indo-German relations and aims at highlighting the benefits of intercultural exchange. However, the documentary film misses out on addressing colonialism and neo-colonialism as well as on addressing the global phenomena of new nationalism. Hence, this documentary is a worthwhile view when discussing the perils, risks, and chances of intercultural encounters for example in schools or at university level.[182]

In the international educational research discussion, as Hummrich (2017) outlines, heterogeneity and diversity are differently discussed in diverse contexts. Concepts are used in a different way and patterns of domestication of new concepts (or global concept offers) vary. However, a transnational common crucial issue is the impact of globalization on education. Global efforts in assuring an education for all means a „homogenisation of all kinds of children and youth as students" (Hummrich 2017: 164; T.V.: translation). Often, this causes pressure, alienation, and processes of eviction amongst the members of educational settings in local contexts (Clemens/Biswas 2019).[183] These observed processes of homogenization have been attracting attention in research lately (e.g., for studying processes of a Europeanization of education see Lawn/Grek 2012; see also chapter 3).[184] In the following the interest lays in shedding light on processes of global circulation and local domestication of concepts.

4.2. Concepts on the move: Theorizing the emergence and circulation of knowledge

Trojanow/Hoskoté (2017) describe the evolution of history and culture with the image of a river and its confluences. On its way from its origin to the sea, the river moves not only water but also living organisms and things. Though a river is known by one name (often the name of its

[182] Rita Orschiedt (2013): "count2three", https://www.youtube.com/channel/UC0Fd4JdyNEIoCS9iuY2ksaQ [03.05.2021].
[183] See e.g., the ongoing research project "Making a Living: Learning trajectories towards the ability to earn a livelihood" at University of Bayreuth, https://www.africamultiple.uni-bayreuth.de/en/Research/1research-sections/learning/Making-a-Living/index.html [17.04.2021].
[184] Lawn/Grek (2012) examine the spread of European education models, see f. ex. the paper on OECD and the worldwide spread of its educational assessment tools.

origin), it consists of many smaller rivers. Every flowing together of at least two different sources, leads to new exchange processes. Thus, the river gets not only stronger but also transformed. Confluence and mixture are two basic features of the river. However, naming the river by only one name (again the name of its origin) hides the many occurring exchange processes.[185] The authors suggest thus to examine the junctures of confluences and to shed light on the processes of addition, displacement, and transformation. Transferred, to the evolution of culture, they state: "without confluences, no culture" (ibid.: 22; T.V.: translation). Culture emerges out of different encounters (confluences). Culture is dynamic in its nature and transforms with every new encounter. But confluences of culture happen not peacefully: negotiation takes place, violence and conflicts occur. Exchange is not happening all the time, sometimes unplanned, and often not understood by everyone (ibid.: 27). „Confluences of culture need the mobility of people, ideas, goods and services, but also meeting places, and junctions, where the encounter of (with) the other is part of daily life" (ibid.: 29; T.V.: translation).

Raina (2016) says the river metaphor has also been suggested earlier by Joseph Needham (1900-1995). In stressing processes of mutual exchange, negotiation, and connectedness, as well as in acknowledging diversity, it „sought to overcome the historiography of pure origins, and of civilizational exceptionalism" (ibid.: 31). Reading Trojanow/Hoskoté's book on confluences, the author sees their contribution as further development of Needham's approach. Raina highlights the idea of confluences and the acknowledgment of diversity but brings in that for Trojanow/Hoskoté this metaphor also has an economic dimension in it. Which to my mind opens it up to other metaphors such like the bazaar (Rottenburg 2005, 2009) or the concept of trading zones (Galison 1997), which will be discussed later in this chapter. Moreover, as Raina (2016) mentions „scientific styles" (ibid.: 30), „circulation" (ibid.: 30), and „positioning", it appears to me, that using concepts of network theory according to White (White 2008; White/Godard 2010), together with the concept of trading zones (Galison 1997) fit well in the analysis of India's participation in PISA 2009 Plus. Lastly, in my assessment, Trojanow/Hoskoté already point out to the importance of including the material and non-material dimension when researching cultural exchange processes. This means, integrating things – such as money – and events – such as meetings – in the research design.

[185] As example, we may think of the Colorado River, that has its origin in the Rocky Mountains in the state of Colorado, USA. On its way to the Gulf of California, the Colorado River crosses not only several US states, but also the border between the USA and Mexico. Moreover, several confluences take place on the entire route of the Colorado River.

Culture, (scientific) knowledge exchange processes, and multiple flows of human and non-human beings are of genuine interest in this research project. The guiding questions of this research project concerning the further development of theory are: *What is knowledge? How does knowledge emerge? Where is knowledge situated? How does knowledge get transmitted? Who or what participates in that process?* I define knowledge according to Clemens (2021: 104), who understands knowledge „very broadly as meaning patterns that are systematically collected and assembled in a certain context to a more aggregated form to explain, to explore, to observe etc. the world". Clemens, too asks, „[w]here does a specific given knowledge, an [i]dea or concept e.g. come from (…)?" (Clemens 2021, earlier draft: 01), and „what happens with knowledge in case of travel and encounters with new contexts and corresponding knowledge forms?" (ibid.). The author concludes „[k]nowledge is on the move as it always has been, and while analysing the trading zones, culture is a significant factor" (ibid.: 11). In this section, I define the notion of concept and discuss the state of the art of theorizing the emergence and circulation of knowledge. In the subsequent section, I then present network theory as an alternative approach and argue why the perspective of relationality and thinking in networks is worthwhile for an investigation of the research project at hand. To give an outlook in advance, in my assessment, theoretical approaches of STS, network theory and new materialism cover aspects such as context- and culture sensitivity, as well as they include dynamic processes and relationality.

On concepts

Bal (2002) looks at the qualities and effects of a concept[186] and asks, „what is a concept, and what can it do?" (Ibid.: 50). She gives a first definition:

> "Concepts are the tools of intersubjectivity: they facilitate discussion on the basis of a common language. Mostly, they are considered abstract representations of an object. But, like all representations, they are neither simple nor adequate in themselves. They distort, unfix, and inflect the object. To say something *is* an image, metaphor, story, or what have you – that is, to use concepts to label something – is not a very useful act. Nor can the language of equation – 'is' – hide the interpretive choices being made. In fact, concepts are, or rather *do*, much more. If well thought through, they offer miniature theories, and in that guise, help in the analysis of objects, situations, states, and other theories. But because they are key to intersubjective understanding, more than anything they need to be explicit, clear

[186] According to Merriam-Webster Online dictionary a concept is defined as: (1) "something conceived in the mind: thought, notion" and (2) "an abstract or generic idea generalized from particular instances". https://www.merriam-webster.com/dictionary/concept [12.02.2021]. Another online dictionary suggests (1) "a general notion or idea; conception", (2) "an idea of something formed by mentally combining all its characteristics or particulars; a construct", and (3) "a directly conceived or intuited object of thought". https://www.dictionary.com/browse/concept [12.02.2021].

and defined. In this way everyone can take them up and use them." (Bal 2002: 22; T.V.: accentuation as in original)

But against the backdrop of the above sketched common understanding of concepts, Bal holds that concepts are „neither fixed nor unambiguous." (Ibid.: 23), rather „a territory to be travelled" (ibid.). The author seeks to analyse „how concepts travel back and forth between each other" (ibid.: 46). Referring to Deleuze and Guattari, she highlights the relationality of concepts and states that concepts are complex figurations that are characterized by a „multiplicity of their aspects" (ibid.: 51) and by a flexibility regarding their application. Concepts are never completed, rather they are „always in a process of becoming, a process that involves developing relations with other concepts situated on the same plane" (ibid.: 51). Do Mar Castro Varela/Dhawan (2020: 141; T.V.: translation) highlight in Bal's approach, that „concepts enable dialog and exchange processes". Thus, concepts can be considered as "tools for discourses" ("Werkzeuge des Diskurses") (ibid.). But instead of drawing on the analysis of discourses, I think, from Bal's definition, the aspect of thinking of concepts as stories or miniature theories is more helpful. Stories are also part of the network theory approach of Harrison White. Shared stories shed light on the connectedness of identities and concepts, as well as their situatedness in socio-cultural figurations (White 2008; Godart/White 2010). Clemens (2021, earlier draft: 11) states, that „[o]nce stories transpose across contexts, the process of trading including bargaining, crowing, bluffing etc. starts, and this relational character implies an indissoluble interrelation between network and story." With the concept of stories according to White, I argue, we might be able to not only capture topics of the discourse about whether India should take part in PISA or not, but also, get a bigger picture on the questions who or what takes part in the transmission process of knowledge, and additionally how they are related to each other.

Like Bal (2002), Galison (1997: 843) holds that it is not helpful to separate concepts like bricks from each other, because they are intertwined, and relational in their nature. Galison mentions Peirce, who postulates knowledge transmission as a cable, that should not only consist out of many fibres, but fibres that are „numerous and intimately connected"[187]. Galison argues against the image of cable, because in his view it is simplifying the complex process of knowledge transmission:

[187] "3. Philosophy ought to imitate the successful sciences in its methods, so far as to proceed only from tangible premisses which can be subjected to careful scrutiny, and to trust rather to the multitude and variety of its arguments than to the conclusiveness of any one. Its reasoning should not form a chain which is no stronger than its weakest link, but a cable whose fibers may be ever so slender, provided they are sufficiently numerous and intimately connected." (http://www.peirce.org/writings/p27.html [15.08.2020].

> „In the cable, that connection is mere physical adjacency, a relation unhelpful in explicating the ties that bind concepts, arguments, instruments, and scientific subcultures. No mechanical analogy will ever be sufficient to do that because it is by coordinating different symbolic and material actions that people create the binding culture of science." (Galison 1997: 844).

But unlike Bal (2002), Galison includes the material dimension in his approach. He investigates, how human and non-human actors contribute to the creation of new knowledge in implicitly, or explicitly formed trading zones. Trading zones offer a „vast sea of concepts and practices" (ibid.: 841) that are placed at the disposal of its participants. As mentioned above, the concept will be displayed in-depth shortly afterwards. At this point it is noticeable to think of knowledge transmission not as a single river, chain, or cable, but of network structures.

On the circulation of concepts in network structures

Prominently, Deleuze/Guattari (2004) suggest the image of a *rhizome*: „There are no points or positions in a rhizome, such as those found in a structure, tree, or root. There are only lines." (Ibid.: 09). Accordingly, any given phenomenon consists of many lines. These lines have different qualities of density. Together they build an *assemblage* (French: agencement). Deleuze/Guattari are not interested in deep structure, rather they caution to misinterpret phenomena by doing so. Instead, they are interested in the spread and entanglement of (social) phenomena:

> „The ideal for a book would be to lay everything out on a plane of exteriority of this kind, on a single page, the same sheet: lived events, historical determinations, concepts, individuals, groups, social formations." (Ibid.: 10).

Hence, the task of the researcher is to follow these lines and ruptures, until a „line of flight" (ibid: 12) becomes visible. Deleuze/Guattari suggest mapping out phenomena, not to trace them: „Make a map, not a tracing." (Ibid.: 13). In the research process, rhizomes should not be fixed, because in doing so, the dynamic of *becoming* is interrupted, a reading is established, but this could do injustice to the phenomenon (see ibid: 15). Interesting in Deleuze/Guattari's approach is that they highlight multiplicity, dynamic processes, and the connectedness of concepts. On events they write: „Every concept shapes and reshapes the event in its own way" (Deleuze/Guattari 1994: 34). Recalling Bal (2002) and her notion of concepts as stories or miniature theories, we may take, that every event told in a story gets changed through the story tellers or story transmitters, but also the stories itself change in the process of storytelling.

Being cautious about approaches that focus deeply on structure is a useful aspect in Deleuze/Guattari's approach and helps arguing against qualitative social science methods that

draw heavily on in-depth structures (e.g., Bohnsack 2010; Herz et al. 2015, and others; see chapter 5). However, to my mind, a problem with Deleuze/Guattari in the context of this research is their conceptualization of nodes. According to them multiplicity applies also to nodes:

> „There is no unity to serve as a pivot in the object, or to divide in the subject. There is not even the unity to abort in the object or 'return' in the subject. A multiplicity has neither subject nor object, only determinations, magnitudes, and dimensions that cannot increase in number without the multiplicity changing in nature. (…) An assemblage is precisely this increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connections." (Deleuze/Guattari 2004: 08f).

If anything, nodes are only snapshots or glimpses that change their nature with every new connection and with every following second. This conception of nodes is like conceptualizations of nodes by Harrison White or Karen Barad – who also consider dynamic processes and whose approaches will be depicted in great depths in the following - but it differs in radically stressing the momentariness of nodes and in the stronger accentuation of lines (or ties) in social-material arrangements. Besides the rejection of nodes, Deleuze/Guattari (2004) also raise their critique on conceptualisations of domains or any thought of entities in network formations:

> „We do not have units (*unités*) of measure, only multiplicities or varieties of measurement. The notion of unity (*unité*) appears only when there is a power takeover in the multiplicity by the signifier or a corresponding subjectification proceeding" (ibid.: 09).

What is problematic in the context of this research, is that to establish a reading of the decision-making process in India on taking part in PISA 2009 Plus, identifying positions of influence is necessary. Having Deleuze/Guattari in mind, the challenge is therefore, to maintain and consider dynamic processes as much as possible, and not to run into the danger of drawing a static picture or reading of the decision-making process.

In contrast to Deleuze/Guattari (2004), Czarniawska/Sevon (2005) hold, that ideas cannot travel by themselves, they need to transform in or establish a material dimension. From the perspective of organizational and management studies, Czarniawska/Sevón (2005) examine how ideas spread in a globalized world: „more things, people, ideas travel more and quicker. But what makes them move? And what happens to them when they travel?" (Czarniawska/Sevón 2005: 7). Drawing on the *translation model* proposed by Latour and others, the authors understand translation as processes of a continuous movement from one place to another:

> „[W]e watched management ideas translated into objects (models, books, transparencies), sent to other places than those where they emerged, translated into new kind of objects, and

> then sometimes in actions, which, if repeated, might have stabilize into institutions, which in turn could be described and summarized through abstract ideas, and so on and so forth (Czarniawska and Joerges, 1996).” (Czarniawska/Sevón 2005: 8).

Research aims therefore “to follow those fascinating trajectories” (Czarniawska/Sevón 2005: 8) and to get “a more detailed picture of such travels” (ibid.).

From a different angle, Urry (2007: 04) investigates „why do people physically travel, what are its uses, pleasures and pains and what social and physical ramifications does such movement possess”? He observes global inequalities: some can travel (e.g., elites), while others must (e.g., due to migration, climate catastrophes etc.). The author acknowledges, „materials too are on the move, often carried by these moving bodies whether openly, clandestinely, or inadvertently” (ibid.). Urry connects his work with others who worked on the mobility turn before and makes a plea for a new mobility paradigm (ibid.: 18). Social science must be done in a post-disciplinary way, while including the mobility dimension as well as the material dimension. That is why, works of STS, new materialism, insights of postcolonial studies, as well as the network theory approach of Harrison White are considered as helpful in this research project.

On the concept of travelling ideas

One prominent origin of the concept of travelling ideas is Edward Said’s essay on „Travelling Theory” (1983). What is surprisingly interesting is, that this concept is not only quoted by many authors worldwide (see e.g., Do Mar Castro Varela/Dhawan 2020), but also often quoted without any reference to Said’s work. To my assessment, it appears as if the concept became independent from its author, and as if it gained a self-reliant legitimacy on its way from discipline to discipline, from researcher to researcher, and from published text to published text. In keeping with Raina (2016) and with the depiction of different approaches within this study, Said’s approach might not be the only source of the idea of travelling or circulating ideas. However, following Do Mar Castro Varela/Dhawan (2020), „the concept of travelling theories [by Said; T.V.] proved itself as a highly productive concept, to understand, how some concepts obtain dominance, while others got appropriated under extinction of their original contexts and got deprived of their radicality” (ibid.: 138; T.V.: translation). Accordingly, Said’s essay “describes how theories travel from one place to another and how they get transformed while travelling” (ibid.: 138; T.V.: translation). Remarkable in Said’s approach is that he thinks not only of human beings that are travelling, but also includes things and concepts in his analysis. While travelling, all three elements undergo changes (see ibid.: 138). The focus is set equally “on contexts of production of knowledge, on contexts of reception of knowledge, and on

processes of transmission" (ibid.: 138; T.V.: translation). Do Mar Castro Varela/Dhawan (2020) summarize Said's four phases of travelling processes:

> "(1) the context of origin: the socio-cultural conditions for the production of knowledge, (2) the process of travelling: overcoming distance, encountering other contexts, and transformations of the theory, (3) context of destination: domestication of the new theory in the specific sociocultural conditions of the new context, and actualization of the theory, (4) acceptance of the new, actualized theory in the context of destination due to successful domestication practices" (ibid.: 138f; T.V.: translation and numbers added).

To illustrate the influence of Said's travelling theory, Do Mar Castro Varela/Dhawan (2020: 140; T.V.: translation) bring in a study by James Clifford, who criticizes the idea of „unidimensional global flows from North to South". With the help of the concept of travelling theories, he sheds light on alternative travelling routes.

However, I do not use the terms *travelling theory* (Said 1983), *travelling concepts* (Bal 2002), *travelling ideas* (Czarniawska/Sevón 2005), or *travelling models* (Behrends et al. 2014), because the metaphor of travelling is limited by time and space: it has a specific beginning and ending, likewise a specific point of departure and point of destination. The idea of travelling often goes hand in hand with imagined human beings or objects as actors that are actively or passively travelling. Moreover, conceptualizations of travelling ideas are often linked with neo-institutionalist approaches or Actor-network theory, (hereafter ANT). Both, approaches that do not fit in this project, as will be shown immediately. Thus, I prefer the term *circulating concepts* because this term is more open and considers better the dynamic of knowledge production and its multi-directional flows (see Appadurai 1996; Raina 2009).

Context-dependency of knowledge

Moreover, Said's model appears to me as being simplistic, as it describes one-way transmission processes from one unity (context of origin) to another unity (context of destination). In comparison to that, Galison (2008) indicates the difficulty of defining the concept of context in describing context as „that elusive explanatory structure, always involved, never explained" (ibid.: 112). Galison takes the social-cultural context of knowledge production into account, as well as the historical evolution of knowledge. Elsewhere, he makes a strong plea for the contextualization of theory, for the culture of theory, and the historical evolution of theory (Galison 1988). Finally, the need for studying theory in substance and in context. Science is heterogenous, no one model can encompass all kinds of science. For instance, together with Doston, he undertook profound studies on the historical evolution of term „objectivity" (Galison/Daston 2010). Holding, that there is no one concept of objectivity, the authors point

out that concepts are situated in context, and that they emerge over time. Thus, Galison is interested in the evolution of science, material culture and the society. He investigates the production of knowledge as well as the emergence of knowledge over time. He asks: *How do we know, what we know? How do we arrive of what there is in the world? How do certain kinds of objects come into existence?* The production of knowledge is social and situated (local, political, contextual). Similar concepts may emerge and be processed in different cultural contexts differently, e.g., the above-mentioned concept of objectivity. Galison does not use the term *situated knowledge* (coined by Haraway 1988). However, he is looking for the situatedness of knowledge while giving attention to the dimensions of culture, history, and sociology. Unlike Haraway, he does not address dimensions of gender, race, and others. Moreover, he is solely interested in the institutionalized production of knowledge. Thus, we could say, that Haraway's notion of *situated knowledge* is broader and her object of investigations encompasses also non-formal settings of knowledge production (personal communication, Raina, 15.01.2021).

Any unilinear model of the spread of Western science has therefore to be rejected or at least deeply criticized (see e.g., Raina 2003 on Basalla's model). Representatives of postcolonial studies, such as for example Helen Verran, argue against thinking in dichotomies and in closed and separated knowledge systems of the East and the West. They make a plea for a more situative adaptation of knowledge and for including postcolonial perspectives within the field of STS (see Schramm 2020: 485f). Further on, representatives of feminist studies criticize the notion of universal knowledge, as well as the dominant story of progress within the research discussion of STS. They comment on and challenge the male partiality in research and its claim of objectivity. Feminist Cultural Studies of Technoscience advise to think technoscience together with its socio-cultural contexts (see Weber 2020).

With the term *situated knowledge*, Haraway (1988) draws the attention to the fact, that knowledge is dependent on context, positioning, localization, on network structures, and materiality. She holds that knowledge is always locatable and traceable and argues against "various forms of unlocatable, and so irresponsible, knowledge claims" (ibid.: 583). Furthermore, she problematises the historical evolution of unequal positions and the approach to listen more to disadvantaged positions:

> „We also don't want to theorize the world, much less act within it, in terms of Global Systems, but we do need an earthwide network of connections, including the ability partially to translate knowledges among very different-and power-differentiated - communities. We need the power of modern critical theories of how meanings and bodies get made, not in order to deny meanings and bodies, but in order to build meanings and bodies that have a chance for life." (Haraway 1988: 579f).

Thinking in terms of networks, nodes, and transactions helps in overcoming traditional binaries between East and West and the discrimination of the other as mere object:

> „Situated knowledges require that the object of knowledge be pictured as an actor and agent, not as a screen or a ground or a resource, never finally as slave to the master that closes off the dialectic in his unique agency and his authorship of 'objective' knowledge". (Haraway 1988: 592).

Haraway understands knowledge thus „as situated conversation at every level of its articulation" (Haraway 1988: 594) meaning that knowledge emerges and gets shared in social interactions by actors (nodes). This process is not at all peaceful, but rather competitive: „All knowledge is a condensed node in an agonistic power field" (ibid.: 577). These nodes are called „material-semiotic generative nodes" (ibid.: 595) or "'material-semiotic actor[s]'" (ibid.) pointing out to the understanding of „the object of knowledge as an active, meaning-generating part of apparatus of bodily production" (ibid.). In the messy social interaction, boundaries between objects or nodes are made „by mapping practices; 'objects' do not preexist as such" (ibid.). They emerge through boundary projects. Boundaries are the product of negotiation and differentiating practices. Once boundaries are established, they are not static, rather they are prone to shifting, transformation and change: „Siting (sighting) boundaries is a risky practice." (ibid.). Knowledge, objects (nodes) as well as boundaries are not predefined and forever static in their nature, rather they change over time and within contexts in relation to the specific texture of networks in which they are emerging. These reflections get connected with insights of new materialism in the following.

On new materialism

According to Lemke (2020), new materialism differentiates from old materialism firstly in the understanding of matter, and secondly, in questioning the hierarchic order between human beings and things. Unlike older (Marxist) theories, matter is considered as being „active on its own, powerful and plural, instead as passive, inert and homogenous" (Lemke 2020: 553; T.V.: translation). Matter is not „a silent resource at display for human action, but is characterized by self-will and agency, that impacts on human actors and their forms of interaction, as well as their self-concept" (ibid.: 553f; T.V.: translation). Of interest are not only meaning making processes of human beings while interacting with objects (see e.g., Appadurai 1986), but rather how things also influence human beings. The hierarchic distinction between human beings and objects, where human beings are superior to objects, is neglected. The boundary between human beings and objects is contingent and fragile. Representatives of new materialism, such as Karen Barad and others, criticize the perspective of social constructivism:

> „[T]he ‘linguistic turn’ or primarily semiotic oriented approaches are insufficient to cover the complex and dynamic interplay of processes of meaning making and material arrangements” (Lemke 2020: 551; T.V.: translation).

Lemke (2020) outlines, that new materialism is not one homogenous approach, rather the term encompasses different ways of re-thinking the relationship between human beings and things. In the field of STS, for instance, researching the material dimension has a long tradition. Lemke mentions the concept of *dance of agency*, coined by Andrew Pickering in the 1990s: „According to Pickering, through the encounter and interaction of human beings and non-human entities, in this ‘dance’ ontologies constantly emerge and transform.” (Lemke 2020: 557; T.V.: translation). The author further divides between two traditions in the field of STS: (1) thing materialism (e.g., Latour and other scholars of ANT), and (2) relational materialism (e.g., Mol, Haraway, and Barad). Representatives of thing materialism seek to integrate things in the research design and question taken for granted concepts in social theory (e.g., the difference between human beings and things). In contrast, the focus of relational materialism is set on „the network of relations (…), that only enable agencies” (Lemke 2020: 560; T.V.: translation) and on „assemblages, that materialize themselves in things” (ibid.).

Following Lemke, in the book „Meeting the universe halfway”, Barad draws on Niels Bohr and poststructuralist accounts, such as Foucault, Butler and Lévinas, and coins the concept of agential realism. She also refers to Donna Haraway in taking up the concept of diffractive reading. This concept aims at „analysing fractures, entanglements and ‘interferences’ of different positions and perspectives.” (Lemke 2020: 564; T.V.: translation). Barad’s goal is „to conceptualize the relations between human beings and non-human beings anew, and to rethink categories such as subjectivity, agency and causality.” (ibid.). In difference to the concept of *interaction*, the concept of *intra-action* describes „that the relata of a relation, for example ‘subject’ and ‘object’ are constructed only in and through this relation – and are not preceding it.” (ibid.). As a result, point of departure for any inquiry is the idea of a „materialization of ‘phenomena’, instead of primary and fundamental ontological entities with fixed borders and properties” (ibid.). *Agential realism* is a concept to „emphasise the ‘inseparability’ of object and measuring agencies” (ibid.: 567; T.V.: translation), based on the insight of quantum physics „that what is to be measured (…) is radically dependent on devices and measuring instruments” (ibid.). Barad reads Bohr’s concept of apparatus in a diffractive way. She holds, that

> „[T]he boundaries of an apparatus are not at all explicit and clear-cut; rather the real emerges out of expandable practices and sets of intra-actions” (Lemke 2020: 567; T.V.: translation). And: „These specific intra-actions are defined by Barad as ‘agential cuts’. They generate certainty in always ontic uncertain ‘phenomena’, that are in their openness and incompleteness for Barad the primary ontological entities” (ibid.: 567f; T.V.: translation).

All knowledge that we generate emerges per se in the world and entangled with the world. Objectivity is not abstract and neutral, rather linked to situation, actors, and agencies. Here, Barad draws on Haraway's notion of situated knowledge. Lastly, challenging a basic assumption in education studies and anthropology, the self-world-relationship is constructed in a reciprocal manner. The notion of the *ineluctability of the other human being* (Lévinas) is extended onto matter. Therefore, Barad holds a more complex notion of *alterity* (see Lemke 2020: 568f).

Lemke (2020: 570) mentions three critical aspects in Barad's approach. Firstly, he criticizes that tensions and conflicts - basic phenomena of power relations - are missed out in Barad's 'ethics of mattering'. He claims, „including a(n) (ontological) definition of politics (Politikbegriff) would be necessary, to focus on alternative and conflicting materializations" (ibid.: 571; T.V.: translation). Secondly, Barad constructs her own theory. She draws only on selected theories, while ignoring others (e.g., STS tradition). She does not contextualize her work, neither within the realm of (quantum) physics, nor at the interdisciplinary level. To illustrate this, Latour and the approach of ANT are only mentioned in a few footnotes (see Barad 2007). Thirdly, Barad's theory is shared and transferred easily and frequently into social science without questioning the possibility of these transfers, as well as without interrogating alternative theoretical approaches in quantum physics. Lemke advises to not study Barad (and other approaches of new materialism) solely on its own, but to study the historical evolution and contextualization of her approach. As a reward, this could inform theory development in social science and STS.

In Lemke's reading, the approaches of Barad and Latour are displayed as opposing each other. Likewise, Bauer et al. (2020: 20) see Barad and Latour differing from each other in the way, that ANT criticizes social constructivism, but does not deny it, whereas Barad does so „in outlining an approach of post-humanistic ontology, that goes beyond the realm of social theory (Bauer et al. 2020: 34; T.V.: translation). In my opinion, what Barad and Latour share is firstly, that they postulate the need of considering the material dimension in social theory. Secondly, both consider human beings and non-human actors as equal. If anything, I suggest, combining the relational ontologies of Barad and Deleuze could be possible, as e.g., Murris/Bozalek (2019) explore regarding the method of diffractive reading.

In this research project, from Barad's approach, I consider the principal insight of post-humanism, that the human being is not point of departure for any theoretical assumption. I prefer the approach of relational materialism, instead of thing materialism. Relational materialism focuses on relations between (human and non-human) relata, and consequently

explains socio-material processes from there. Thing materialism holds the danger, to remain within the analysis with a single (human or non-human) actor, and to interpret socio-material processes from a unidimensional perspective. Barad's work emphasises the entanglement of the social and material world, as well as the entanglement of matter and meaning. Matter has agency and is intra-active. The principle of treating human relata and non-human relata equally – advocated also by Callon (1986) – enables us to broaden our understanding of social reality. With the concepts of *agential cuts*, *agential realism* and *intra-action*, Barad makes us aware that differentiation and conceptualizations are socially constructed. Häußling (2020) suggests, after White's *cultural turn* in network research, some of the insights of Barad may inform a *material turn* in network theory research. We might speak of networks as „socio-material assemblages" (ibid.: 50; T.V.: translation), or „socio-material networks" (ibid.). Material relata are not explicit part of Whites concept, but implicitly included (see Häußling 2020).[188]

On the complexity turn

From another perspective, but also inspired by quantum physics, Urry (2003) postulates the *complexity turn* in social sciences, pointing out to the need of incorporating the notion of complexity and complexity science (physics) into social science. Phenomena are neither „purified sets of the physical or the social" (ibid.: 17), rather they are „hybrids of physical *and* social relations" (ibid.; T.V.: accentuation in Italic letters as in original). To analyse global relations and phenomena of globalization, „complexity analyses of the interdependent material-social, or 'inhuman' worlds" (ibid.: 18) are needed:

> „Through examining their dynamic interdependencies via complexity, their emergent properties can be effectively understood. The very division between the 'physical' and the 'social' is itself a socio-historical product and one that appears to be dissolving." (Ibid.:18)

And referring to quantum theory, Urry states

> „the interrelations between the parts are more fundamental than the individual parts. Really there are no parts at all as understood in mechanistic, reductionist thinking. There are only relationships (…) Relationality is key here (…)." (Ibid.: 20).

Urry and Barad are going together in the sense, that both understand entities as emerging out of relations, and differentiations as being constructed. In addition, they share the notion that „scientific observations are themselves components of the systems being investigated" (Urry 2003: 37). Urry warns against studying phenomena of globalization in a „simplified, static and reductionist" (ibid.: 40) manner. For example, in focusing only on human beings and ignoring

[188] Interestingly, in Barad's book there is no mention of Harrison White (see Barad 2007).

non-human relata. Statements such as „'globalization' is *x* or alternatively that 'globalization' does *x*" (ibid.) fall short. „'Globalization'", he states, „is neither unified nor can act as a subject nor should it be conceived of in linear fashion" (Urry 2003: 40). Urry differentiates between two forms of global hybrids, such as globally integrated networks (GIN) and global fluids (GF). As GINs, he defines webs of „complex, enduring and predictable networked connections between peoples, objects and technologies stretching across multiple and distant spaces and times" (ibid.: 56f). GINs can be companies, such as McDonald's, but also organizations, such like Greenpeace. Characteristic for GINs is a high level of standardization, a lack of flexibility in their organizational practices, and a lack of adaptation to other contexts. Often, they create a certain brand identity that is globally transmitted with more or less any changes. On the example of McDonald's and its business relations in East Asia, Urry (2003: 57) states, that there is a willingness for adaptation to a certain extend. However, „even if local owner-operators are involved in day-to-day management, the global network in the end wins out" (ibid.): the products would taste similar all over the world and "'smiling service' to strangers" (ibid.: 58) would get standardized. Arguing against Urry, in India, however, we see a huge customization of McDonald's to the local context, in terms of the ingredients and products, as well as the advertisement of its product as e.g., the 'Chicken Maharaja Mac'. McDonald's business relations in India are based on cooperation with local partners (franchising store networks). This, however, not without any conflict, but – as recently occurred – with judicial negotiations. The fight between Vikram Bakshi and McDonald's (both co-owners of the company Connaught Plaza Restaurants (CPRL) in northern India) came to an end in 2019. McDonald had to buy out Bakshi to 50% of the company's value, whereas McDonald's initially proposed Bakshi $ 5 million in 2013. Bakshi's successor is Robert Hunghanfoo, a business operator with international experience. In 2017, a German newspaper article asked the question, whether McDonald's is willing and capable to transfer its business model of localization and customization of products and franchising store networks from India to China. With the appointment of an international expert, it seems that McDonald's changed in fact its strategy in the north Indian market, from localization to standardization.[189] This example shows, that global companies not always win out in local contexts. But while engaging with local partners, they get changed themselves. In the framework of this project global players such as the OECD,

[189] Sources: https://www.handelsblatt.com/unternehmen/handel-konsumgueter/indien-als-vorbild-wie-mcdonalds-china-zurueckerobern-will/19290902.html?ticket=ST-3671620-5fBeu2luREBXUyFKOh7l-ap1 and https://scroll.in/article/923298/how-the-delhi-realtor-who-helped-indianise-mcdonalds-ended-up-exiting-the-burger-chain and https://www.business-standard.com/article/companies/mcdonald-s-buys-vikram-bakshi-s-50-stake-in-connaught-plaza-restaurants-119050901515_1.html [16.02.2021].

ACER, or DFID can be understood as GINs. However, likewise to the example of McDonald's in northern India, my research shows, that these big players undergo transformations themselves while encountering other players in diverse contexts (see Vollmer 2019b).

Urry's (2003) global fluids (GF), in contrast, are messy, heterogenous, non-linear global networks, that move with no clear direction through time and space via waves or flows. Here, Urry takes reference to the approaches of Appadurai, Deleuze/Guattari and others. These flows have „uneven, emergent and unpredictable shapes" (Urry 2003: 60) and are a result of the entanglement of the global and local level. In describing global fluids, Urry also refers to White's notion of the messy social and his concept of switching between networks and network domains (which will be displayed in-depth in chapter 4.3). These processes of flows and switchings between socio-material arrangements (networks) are of genuine interest in the following.

On interdisciplinary knowledge flows

Finally, knowledge flows are also part of the current inescapably needed transdisciplinary practice in research. Chakraborti et al. (2016: 3127) seek to understand the „nature of exchange and circulation of concepts and metaphors between disciplines". The authors ask, „can an interdisciplinary field contribute to one of the parent disciplines from which it emerged?" (ibid.), and to be more specific „the question is about the reversal of the direction of conceptual influences" (ibid.). Within the humanities, borrowing practices of concepts and terms are widespread.[190] However, these concepts are not only copied, but rather they get naturalized and transformed. As a result, new ideas, concepts, and linkages emerge: „new ideas and concept, appear in novel combinations" (ibid.: 3130). Processes of dissemination are part of the academic work, „with practitioners knowing fully well that they could flow or migrate across disciplines" (ibid. 3130). In the process of meaning making, researchers move concepts and practices in endless exchange processes, they overstep borders, they set new boundaries and they create new research areas and research goals:

> „With meanings, boundaries also move and overlap, since ideas and techniques are constantly on the move, and it is researchers who transmit them in the process, creating a new division of labour directed towards novel ends." (Ibid.: 3130)

The question whether an interdisciplinary field can contribute to its parent disciplines is answered by the authors with yes. Since the new interdisciplinary field as well as its parent

[190] The approach of policy borrowing and lending by Steiner-Khamsi is depicted and discussed in chapter 3.

disciplines are connected (however weak these linkages are) and share a common (scientific) ground (however small that is), knowledge flows are possible in both ways. The example of the field of econophysics shows, that knowledge constantly flows even between social science and natural sciences, productively nurturing both sides. This allows us to speak against the much-repeated divide between social science and natural science. Here, the concept of trading zones (Galison 1997), as well as the network theory approach (White 2008) appear promising for further investigation of inter- or transdisciplinary knowledge flows.

As Chakraborti et al. (2016) stated, *concepts are constantly on the move* and the focus is set on transactions in these exchange processes. In the following, different approaches in conceptualizing the circulation of knowledge are discussed. To begin with, the concept of *diffusion* is displayed. Prominently formulated by Rogers in the 1960ies, it is still discussed and widely accepted by the academic community up to today. However, recently, scholars criticise the diffusionist approach and suggest instead different concepts (see Latour 1986; Krücken 2005; Raina 2016). In fact, even scholars that draw on the diffusionist approach criticize it (see Rogers 2003; Acharya 2016). Another big reference in the discussion of the circulation of knowledge is the approach of *translation* and Actor-network theory (ANT) (Callon 1986, Latour 1986). I will display this approach briefly and will bring in critical aspects. Not so much in the spotlight, also various other approaches do exist. These are for example *contact zones* (Pratt 1991), *epistemic communities* (Haas 1992) and *epistemic cultures* (Knorr Cetina 1999, 2007), *bazaar* (Geertz 1978, Rorty 1991, Rottenburg 2002, 2005, 2009) and *trading zones of knowledge* (Galison 1997). These concepts are sketched out and discussed. Lastly, I will elaborate on concepts that are of importance in the framework of this thesis. I do not work with a *discourse-oriented approach* (see Czarniawska/Sevón 2005) and likewise also not with the approach of *neo-institutionalism* (see Krücken 2005) but aim to examine the project with the *network theory approach* according to White (White 2008; Godart/White 2010). I suggest that the concept of trading zones of knowledge (Galison 1997) could be linked to network theory according to White and insights of new materialism.

4.2.1. Diffusion: Ideas spread (in)directly via communication

In the concept of diffusion, ideas spread mostly uncontrolled and unplanned, but in one direction – that is e.g., from centre to periphery – via communication. The phenomenon of diffusion is described as

> „the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas." (Rogers 2003: 05). And: „It is this newness of the

> idea in the message content of communication that gives diffusion its special character. The newness means that some degree of uncertainty is involved." (Ibid.: 06).

Diffusion is understood as „a kind of *social change,* defined as the process by which alteration occurs in the structure and function of a social system" (Rogers 2003: 06). Social change is the result of processes of diffusion, of innovation, of acceptance or denial and the effects of these processes. The author acknowledges, that this is only one explanation amongst other explanatory approaches and that social change can be enacted also through other ways. Rogers uses the terms diffusion and dissemination synonymously, although he points out that a differentiation between the two is possible, meaning diffusion as "the spontaneous, unplanned spread of new ideas" (ibid.), and dissemination as "diffusion that is directed and managed" (ibid.: 07). The author argues, that „the distinction often is not very clear in actual practice" (ibid.), and that „the general convention is to use the word 'diffusion' to include both the planned and the spontaneous spread of new ideas" (ibid.).

In Rogers (2003) revised take on the concept of diffusion, communication is defined as „a process in which participants create and share information with one another in order to reach a mutual understanding" (ibid.: 05). Communication is characterized equally by convergence and divergence, „as two or more individuals exchange information in order to move toward each other (or apart) in the meanings that they ascribe to certain events" (ibid.). It is important to note, that in this understanding, communication is an exchange process and not a one-sided transmission of information: „We think of communication as a two-way process of convergence, rather than as a one-way, linear act in which one individual seeks to transfer a message to another (Rogers and Kincaid, 1981)" (Rogers 2003: 05). Apparently, here he meets the often-posed critique of a linear diffusionist transmission model (see Krücken 2005). However, he does not dismiss the centre-periphery model, where ideas and innovation travel from the centre (so-called global north) to the periphery (so-called global south). In his display, even the diffusionist research approach more or less originated in the West and got adopted by (Western) researchers for studying development programmes in the so-called global south from the 1960s onwards (see ibid: xvi). These encounters informed and changed the diffusion research 'back home'. Rogers states, that „the diffusion paradigm (…) is less culture-bound" (ibid.) today. He acknowledges that the „study of diffusion has today become worldwide" (ibid.). For opening and improvement of the diffusion research, he suggests, that a differentiation „between centralized and decentralized diffusion systems" (ibid.: 07) is helpful. Both systems are defined as follows:

> „In a centralized diffusion system, decisions about such matters as when to begin diffusing an innovation, who should evaluate it, and through what channels it will be diffused, are made by a small number of officials and/or technical experts at the head of a change agency. In a decentralized diffusion system, such decisions are more widely shared by the clients and potential adopters; here, horizontal networks among the clients are the main mechanism through which innovations spread." (Rogers 2003: 07)

In decentralized diffusion systems more actors participate in decision making processes and horizontal networks do play a big role. Rogers further elaborates:

> „In fact, in extremely decentralized diffusion systems there may not be a change agency; potential adopters are solely responsible for the self-management of the diffusion of innovations. New ideas may grow out of the practical experience of certain individuals in the client system, rather than coming from formal R & D activities." (Rogers 2003: 07)[191]

Following this, decentralized systems can play an important role in the diffusion of innovations. Thus, innovation happens not in all cases based on a centralized diffusion system. Instead, from which direction new ideas emerge and spread is dependent on the specific context and situations in the diffusion system.

In asking the prominent questions „Whose Norms Matter?" and „how do ideas spread[?]", Acharya (2004) investigates transformations in the Southeast Asian region. While focusing on processes of localization of global norms, he includes the dimension of dynamics in norm diffusion research. Localization of transnational norms means neither fully acceptance nor rejection, but its customization to the local context by local actors. Acharya includes the dimension of dynamics only on the receiver context. In a more recent paper, Acharya (2016) acknowledges, ideas move not only in one-way (that is centre to periphery) but at least in two ways. The author makes a plea for taking ideas of the so-called global south into account. He criticizes Western arrogance:

> „[W]e not only think that the big ideas always come from the West but that they also drive out bad ones in the non-West. Moreover, many observers still think the West will continue to be the main springboard for new ideas about governance, development and peace. If good ideas are occasionally found outside the West, they are often dismissed as imitation. If they prove to be creditable the credit is usually given to the Western training of the person who invented the idea or to his/her Western collaborators, or to Western governments and institutions that backed them. One way or the other a Western origin or connection is found to legitimise the idea" (ibid.: 1157).

Acharya moves on and criticizes the earlier diffusion approach:

> „The initial work on norm diffusion took a top-down view of the diffusion of ideas. (…) But a more complex picture of norm diffusion has emerged, which gives more attention to local actors, their ideas and capacity to resist, localise and repatriate 'universal' norms and to create and export new ones from local contexts." (Ibid.: 1158).

[191] R&D stands for Research and Development.

Recent research on norm diffusion seeks to consider „a more complete multiple agency and two-way dynamic of ideational forces in world politics" (ibid: 1158) to give better justice to „the normative agency of postcolonial countries in making the contemporary world order" (ibid.). However, Acharya remains in the centre- periphery model. Seeing his work with the lens of network theory, the term *norm* appears as not suitable (we will get back to this later).

Krücken (2005) criticizes the approach of diffusion, pointing out to a linear, one-way spread of the world polity principles from sender to receiver, as too simplified. The sender, world polity, is seen as static and feedback effects or back coupling between sender and receiver are not considered. The author draws the attention to the disregard of culture and structure of receiver contexts as a research desideratum of the neo-institutional approach. This aspect, however, is a basic element of my research and my theoretical foundation. Krücken states, that under conditions of globalization in fact manifold and in part contrary cultural and structural patterns meet each other.[192]

With the imperative „Reconfiguring the Centre!" Raina (1996, unpublished earlier draft), draws our attention to the much-needed task to rethink processes of scientific knowledge transmission traditionally expressed and explained with the help of the diffusionist approach. Raina advises „to look not merely at flows of knowledge, but also at the processes whereby knowledge is exchanged (Raina 1996: 163). The author highlights the context in which actors are embedded by saying:

> „[I]t is necessary not merely to examine exchanges between scientists functioning in a 'shared epistemological universe' [Sörlin 1992, T.V.], but also to recognize the part played by institutions, the experience of colonialism, and the forms of patronage characterising both colonialism and science" (ibid.: 176).

In doing so, Raina suggests, Latour's concept of translation could be helpful, as this approach „[transforms] the hitherto passive recipients into active agents" (ibid.: 163), „for every actor enlisted in the exchange brings his own motives and meanings to the encounter" (Raina 1996, unpublished earlier draft). According to this the concept of translation shall be displayed in the following.

4.2.2. Translation: Analysing power and change in the movement of ideas

From the perspective of Actor-network theory (ANT), Latour (1986) criticizes the diffusionist approach as too simplistic. The diffusion model is characterized largely by inactivity: After a token – that can be an object or an idea – has been set to move by „an initial force" (Latour

[192] This paragraph has been originally published in German in Vollmer (2019b).

1986: 266), it moves with the same energy and „in the same direction as long as there is no obstacle" (ibid.: 266) without any transformation. Power is restricted only to the starting position – the initial force –, whereas the transmitting medium remains powerless. However, of interest for Latour are questions of the speed of the transmission process, the medium that receives or transfers the idea, as well as possible obstacles or terminations in the transmission process. He suggests therefore another model: the model of translation. Here, the focus is set on the actors involved in the transmission process: Not only the sender has power, but also the medium. Scope of action of the medium is not either acceptance or resistance (as in the case of the diffusionist model). Rather for every actor involved in the transmission process, there are manifold possibilities of action. The model of translation also acknowledges, that all actors involved in the process have their own interests. The circulation of knowledge is not at all a „faithful transmission" (ibid.: 267). Other than in the model of diffusion, there is not only one way of transmission, rather there are many. In the transmission process the token gets transformed by every single actor that is involved in the transmission process:

> "[T]he spread in time and space of anything – claims, orders, artifacts, goods – is in the hands of people; each of these people may act in many different ways, letting the token drop, or modifying it, or deflecting it, or betraying it, or adding to it, or appropriating it" (Latour 1986: 267).

In addition, every actor involved in the transmission process, that is willing to keep the knowledge flowing, must add energy to the process:

> "[I]f you want the token to move on you have to find fresh sources of energy all the time; you can never rest on what you did before (…)." (Latour 1986: 267). And: „When no one is there to take up the statement or token then it simply stops." (Latour 1986: 267).

Latour (1986), Callon (1986), and other representatives of the Actor-network theory (ANT) approach seek to go beyond the traditional sociological analysis, that used to explain social reality by asking human beings and analysing social factors, norms or institutional or organizational configurations. In a framework paper, Callon (1986) outlines three principles in the research of scientific controversies. These are (1) the principle of agnosticism, (2) the principle of generalized symmetry, and (3) the principle of free association. The first principle of agnosticism advises to take an objective perspective; that means listening to all actors equally and not to judge the positions of actors. The second principle of generalized symmetry advises to treat all actors the same way, and to apply the research design on all actors resp. on the whole data set. The third principle of free association finally advises to take the dynamics of life and social processes into account. Of interest are the investigation of transformations of actors and their alliances. That means the identities of the actors as well as the qualities of the relationships.

The author appreciates that actors or entities change and so do their relations: „no apriori category or relationship was used" (ibid.: 222). Applying this principle allows to be open and aware of transformations, influences, emerging new ties between actors, and the manifold ways of knowledge communication. Also, events and social situations should be considered in the analysis. As it is here, where new ties, alliances etc. become visible. The result of this proceeding is that only actors are included that were named by other actors. The approach aims to work against a static definition of actors. Callon's approach has the potential that it recognizes that researched actors have capacities (or: agency). They are dealing with uncertainty in their own ways. The task of the researcher lays in translating the actors and their displacements, transformations, negotiations, and adjustments. Secondly, in connecting the dots, that means in making meaningful connections. Finally, in telling a story:

> „[T]o translate is also to express in one's own language what others say and want, why they act in the way they do and how they associate with each other: it is to establish oneself as a spokesman. At the end of the process, if it is successful, only voices speaking in unison will be heard." (Ibid.: 223).

The concept of translation is taking the transformation of actors into account. Actors change places, they change themselves, or their relations: „to translate is to displace" (ibid.: 223). Throughout the research process as well as in social reality, displacements and transformations of goals, interests, devices, human beings, and alliances are happening: „Translation is the mechanism by which the social and natural worlds progressively take form" (ibid.: 224). And: „the result is a situation in which certain entities control others" (ibid.). Displacements can be planned, strategic, and by intention, and may result in planned consequences, e.g., altering the network. But they can also be unpredictable, they may happen by chance and have unplanned consequences.

Furthermore, the concept of translation offers the possibility to better catch the dynamics of the transmission processes: „translation is a process before it is a result" (ibid.). Translation does not only describe changes in a neutral or objective way. It also sheds light on power and eviction processes: „from translation to treason there is only a short step" (ibid.) and „[n]ew displacements take the place of the previous ones but these divert the actors from the obligatory passage points that have been imposed upon them" (ibid.). New spokesmen are taking different stances as the old ones, leading to a transformation of, or even a power shifting within networks: „the equilibrium has been modified" (ibid.). The dynamics of social reality are manifold. Actors become visible again, they act differently, they change their views, they establish different ties, and new alliances. Within the four moments of translation, the stage of problematization is crucial, as it is here where different actors get committed to the idea. This process may have

overtones of persuasion, power, or even violence. Though these processes of negotiation are often happening 'backdoors'.

Through the four moments of translation[193], the diversity of voices gets transformed into the voices of a few. Critically, one asks: *What about silenced voices? To what extend are the spokesman representative of the many actors?* This critique has been raised by scholars of postcolonial studies. To their thinking, the approach of translation remains attached to the model of linear knowledge transmission and to the idea of modern universal knowledge and progress. The consideration of the experience of colonialism, other knowledge systems, and other social realities is essential for the further development of the approach (see Schramm 2020).

Actor-network theory (ANT) criticizes traditional sociological thinking but remains within social constructive theory. It is more an approach, than a 'grand' theory and likewise more prescriptive, than analytic. It is a product of laboratory studies, and it is widely spread as a methodology for analysing scientific controversies, and the messy social in general (Raina, personal communication, 04.11.2020). Within the last three decades researchers from different disciplines, such as for example educational policy transfer (see Fenwick/Edwards 2012; Gulson et al. 2015, Addey/Gorur 2020), have adopted ANT in their research designs. *The question is, is ANT applicable for education policy research?* Raina cautions about an easy going way of application of ANT in other disciplines. One should be careful about using theories from one domain to another (personal communication, 04.11.2020). Arguing with Galison (1988) theories are socially and contextually situated, and subject to processes of adaptation. In the travelling and domestication (translation) process of a theory, the theory also undergoes transformation. Theory is not static, rather there is a multiplicity of theories. Combining theories from different disciplines requires an openness and involves considering processes of knowledge production as open processes.

The concept of obligatory passage points (OPP) in Callon's approach, considered as critical zones of negotiation between nodes and as source for the transformation of nodes, or of subnetworks, would be worthwhile to connect with the concept of mediators in the network theory approach of White (Godart/White 2010: 572). Both, Callon and White consider social reality as constantly changing and actors or identities struggling for control in it.[194] However,

[193] These are (1) problematization, (2) interessement, (3) enrolment, and (4) mobilization, dissidence (controversy – betrayal). The model of translation has been further developed by Latour (1986; 1999), Callon et al. (2009) and others.

[194] "Translation is the mechanism by which the social and natural worlds progressively take form. The result is a situation in which certain entities control others" (Callon 1986: 224).

White's theoretical approach does offer better tools to catch the dynamics and influences, as well as the possibility to go beyond the category of actor or entities. By not following one actor (or identity in White's wording), one is able to see network dynamics in different subnetworks. By strengthening the relational perspective, one may look at how different actors view other actors. Though Pratt (1991) is not explicitly drawing on network research, she looks closely at processes of tie establishments in social interactions. Therefore, it appears worthwhile to look at her approach of contact zones as well.

4.2.3. Contact zones: knowledge emerges in social interactions

Drawing on the example of her seven-year-old child playing with baseball cards, Pratt (1991) describes how knowledge and learning emerge in social interactions. She states: „[H]e learned about exchange, fairness, trust, the importance of processes as opposed to results, what it means to get cheated, taken advantage of, even robbed." (ibid.: 33). Playing with baseball cards helped the child to establish ties with peers, adults and even strangers: „He learned the meaning of expertise, of knowing about something well enough that you can start a conversation" (ibid.). Pratt's focus is on learning in social interactions, as she calls them „*contact zones*" (ibid: 34; T.V.: accentuation in Italic letters as in original). Contact zones are a form of cultural mediation, where children shall engage with other cultures through for example storytelling and other exercises. Pratt (1991) defines the term „contact zone" as follows:

> „I use this term to refer to social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power, such as colonialism, slavery, or their aftermaths as they are lived out in many parts of the world today." (Pratt 1991: 34).

She makes a plea for heterogeneity and for intercultural learning. Her approach is sensitive to postcolonial studies, and her focus is set on social interactions. She zooms into the tie establishing and tie managing process. However, taking the above displayed research on diffusion into account, it is worthwhile to note, that exchange of knowledge can happen also in indirect settings (see Friemel 2010). My research shows that OECD has also indirect influence in local educational settings (Lockheed 2013, Vollmer 2019b). This leads to the valuation that Pratt's approach is not suitable for this research project. In comparison to Pratt, Haas (1992) and Knorr Cetina (1999, 2007) offer concepts that include indirect influences in the meaning making process. Hence, both concepts are displayed in the following.

4.2.4. Epistemic communities: knowledge is shared by professionals in a network

An *epistemic community* or *expert community* according to Haas (1992: 03) is „a network of professionals with recognized expertise and competence in a particular domain or issue-area." The composition of this network can be heterogeneous and interdisciplinary: it „may consist of professionals from a variety of disciplines and backgrounds" (Haas 1992: 03). However, these professionals have commonalities, that enable them to work effectively together. Four aspects characterize an epistemic community: (1) Members of an epistemic community act based on a collective orientation frame for shared action. (2) They share collective ideas for the solution of problems. Furthermore, (3) they share a collective understanding and assessment of knowledge on specific domains. Finally, (4) they share both, a common vision and the needed strategies and practices to achieve this vision.[195] Haas' concept of epistemic communities is used by many scholars. For example, Meyer/Benavot (2013: 12) refer to Haas, when they state: „IOs define tasks, create new social actors (like auditors and consultants), form new interests for actors, and transfer new models of political organization around the world (Haas, 1992)"[196]. Bloem (2015, 2016) sees such epistemic communities in and around the OECD in the realm of education policy making. Referring to Bloem, Addey/Sellar (2017: 437) speak of PISA as „global epistemic community".

In my opinion, the notion of community is exclusive. *Community* is traditionally associated with membership, strong ties, a social formation clubbing like-minded people together. Furthermore, this concept is also limited only to human beings as actors. One may ask: *Who is part of the community? Who belongs to the issue area? How are concepts and orientation frameworks negotiated? Which course of action is followed in the end? How does a shared approach evolve?* In his take on the concept of epistemic communities, Haas (1992) refers to the notions of *thought collective* (Fleck [1935]/Trenn et al. 1981) and *paradigm* (Kuhn 2017), but not to the concept of *epistemic cultures* by Knorr Cetina.[197] In comparison to Haas' concept of epistemic communities, Knorr Cetina's approach of epistemic cultures (1999, 2007) is broader. Differently to Haas, she includes non-human actors in her approach, and she is more specific when talking about networks.

---

[195] "they have (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity – that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise, and (4) a common enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence." (Haas 1992: 03).

[196] IO stands for International Organisation.

[197] This maybe because Knorr Cetina's work wasn't published back then.

Knorr Cetina (1999, 2007) is interested in investigating the processes and conditions for the emergence of knowledge (the machinery of knowledge production). Her object of analysis is amongst others researching the global knowledge society. She is particularly interested in expert systems and their influence on nation states, on research and on the daily life. Experts have power and influence. They transform and transmit knowledge; they make knowledge applicable and interpretable. She sees epistemic cultures as element of knowledge societies. Knorr Cetina defines culture as „the aggregate patterns and dynamics that are on display in expert practice and that vary in different settings of expertise." (Knorr Cetina 1999: 08). Culture becomes visible in practices, and practices indicate to certain underlying meaning making processes. The author connects works of STS, laboratory studies and works on the scientific community. She draws on Fleck and Kuhn, but also on Galison. One of her findings is that knowledge does not only emerge through researchers or authors, but also through practices and technical or spatial arrangements. Another finding is that there are many diverse epistemic cultures. Lastly, she acknowledges dynamics of social-material processes, which brings her close to Haraway and Barad.

Speaking about the global knowledge society, and referring to Kenneth Arrow, Knorr Cetina states that the emergence of a global infrastructure led to the establishment of „specific institutions which verify knowledge" (ibid.), or in other words „macro-epistemic actors" (Knorr Cetina 2007: 367). She gives the example of rating agencies „that rate a country's economic 'worth', thereby validating knowledge that circulates about the country" (ibid.). These agencies have „specific epistemic roles and functions" (ibid.). They built „multi-national networks and circuits of observation" (ibid.). Epistemic systems are thus based on *mutual observation* of its members, and secondly, on *information flows between the different subgroups* of the system and beyond the expert system. In the context of this research, we might see OECD's PISA or ACER as two of such macro-epistemic actors.

To my mind, in the work of Haas some definitions are missing, such as community, issue area, network and actors. These definitions are necessary to analyse these epistemic communities in-depth. The suggested research design in this study has the advantage to give better answers to these questions, as terms such as relata, relation and netdoms are part of Whites approach. It also offers the possibility to include non-human actors (see Häußling 2020). Furthermore, it enables us to include the dynamic dimension of the processes. Finally, it considers the *cultural turn*, the need of taking culture into account while analysing social processes. The idea of „specific issue-areas of policymaking" (Haas 1992: 02) could be better understood by using the concept of netdoms in White's approach. Moreover, the notion that

„control over knowledge and information is an important dimension of power" (ibid.) renders the approach of White connectable. However, it seems that Haas considers only expert knowledge:

> „[T]he role that networks of knowledge-based experts - epistemic communities - play in articulating the cause-and-effect relationships of complex problems, helping states identify their interests, framing the issues for collective debate, proposing specific policies, and identifying salient points for negotiation" (Haas 1992: 02).

Haas picture is somehow simplistic. He includes only human beings and addresses them roles, such as decision makers, or states as recipients of knowledge provided by experts (members of the epistemic community). On the question of how new knowledge emerges, he relies on the idea of diffusion.

While Haas (1992) brings in the idea of networks and issue areas or domains that connect experts, the aspect of socially shared interests and value judgements, „a shared set of normative and principled beliefs" (ibid: 03) is problematic. Haas (1992) admits that short-term alliances within epistemic communities or professions are also possible. However, he clearly sees epistemic communities and professions as institutionalized social collectives. This is an idealistic and static view of diverse people coming together in a task force, think tank or any other social formation. It is questionable, if there are common and shared orientation and action frameworks in a group over a longer period. As network theory research approaches show, it is rather the case that actors (or identities) come together for a limited point of time to achieve a specific goal and form alliances and coalitions. They may come together for a shared purpose, but with different interests and concepts and orientations. As soon as the goal is achieved, these coalitions separate (see Latour 1986; Callon 1986; Galison 1997; White 2008; Godart/White 2010).

Referring to the Actor-network theory approach of Latour, Raina (2015) holds, that ideas such as e.g.., „cosmopolitanism" emerge „embedded in networks where things, objects and people travel" (ibid: 309). Speaking not of epistemic communities but of „knowledge spaces" (ibid: 310), enables us to better examine the „circulation and exchange of scientific ideas within different knowledge spaces and practitioners working within these knowledge spaces" (ibid: 310). This means including manifold different actors in the research design: experts, laymen, objects, and concepts and gaining a multi-perspective reading of knowledge transmission processes. Recently, Raina (2019) speaks of „epistemic spaces" (ibid: 123) with „domains of specialist knowledge" (ibid: 124), and „sites of knowledge" (ibid: 141) as „places where there is not just traffic in peoples and ideas but a variety of material and living things" (ibid.). Drawing on Raina (2015, 2019), I thus prefer to speak of „knowledge spaces", „epistemic

spaces" or „sites of knowledge" in the following. The idea of speaking more of epistemic spaces matches well with the concept of netdom in White's approach (see chapter 4.3). For instance, Rottenburg (2005) and Galison (1997) – whose conceptions are displayed in the following – focus on the processes of interaction in knowledge spaces.

4.2.5. Bazaar: Hot and cold platforms of information flows, exchange, and negotiation

Instead of the concept of translation, Rottenburg (2005) suggests using the concept of *bazaar* for the research of international development projects. He states, „there are political necessities for and obstacles to smooth translation and translations are often contested" (ibid: 259). But markets, or bazaars have been a long-researched topic in anthropology, driven by the interest to comprehend their nature (see Geertz 1978; Rorty 1991).

For instance, bazaars, or oriental markets, in Geertz' (1978) understanding are not only sites of economical exchanges, but also sites of communication and information flows. Marketing processes at a bazaar happen in a specific socio-cultural and (at times temporarily) institutionalized context. The author sheds light on the bazaar as a „system of social relationships centring around the production and consumption of goods and services" (ibid: 29) between sellers and buyers and so forth, which he also calls a „communication network" (ibid: 31). Information flows are of multiple kinds, they are sometimes hidden, and sometimes they are openly declared. For Geertz, the search for information at a bazaar is an art and the „central experience of life in the bazaar" (ibid: 29). It is not about „balancing options but finding out about what they are" (ibid: 29). Furthermore, „exchange skills" (ibid: 30) are needed and the capacity to be able to establish ties with others, even competitors or adversaries. I have two objections about Geertz's take on bazaars. His approach is focused on human beings, the material dimension is not included, and secondly, the metaphor of bazaars brings the risk of exoticization and culturalization.

In his research, Rottenburg (2002, 2005, 2009) focuses not only on oriental markets but any markets in the world. Characteristic for this kind of exchange process is, that it is limited to the bazaar (both as a local space as well as specific kind of bazaar, e.g., carpet, pottery etc.). Rottenburg uses the metaphor of a bazaar, to give justice to the aspect of diverse meaning making processes in social interactions. Actors are seen as experts of their local contexts, they can foresee, estimate and reflect upon the expectations of others:

> „The bazaar metaphor suggests a constant debate between various models of meaning and reality. Actors are no 'cultural dupes': they are competent enough to anticipate the expectations of others, to recognize these expected expectations as such, and to reflect on them." (Rottenburg 2005: 267)

Moreover, they are capable to influence contents of the exchange process: „Most importantly, though, the actors are able to avoid negotiations over matters which would deviate from their purpose at hand" (ibid.). Exchanges at a bazaar are not all the time peaceful, in contrast they are often heavily influenced by force and other powers. The bazaar metaphor also has an impact on the position of the researcher:

> „The observers cannot position themselves outside the bazaar and its negotiations; they are always, whether they like it or not, implicated in them. Their descriptions and analyses are never neutral or harmless; they invariably result in feedback and are themselves the result of power-laden bazaar negotiations." (ibid.).

Descriptions and analysis of the researcher are possible only in relation to the context, s/he observes, and the position of the researcher in it. Ideally, they lead to feedback and further communication processes or negotiations. Rottenburg differs here from Geertz, who sees the position of the researcher outside the bazaar (Geertz 1978).

Further on, Rottenburg (2005) differentiates between two forms of bazaars: a cold, homogenous bazaar and a hot, heterogenous bazaar. The cold bazaar describes exchange processes with few negotiations and tensions, and an unquestioned acceptance of informal rules. However, in a hot bazaar „different forms of knowledge or different principles (…) are openly debated" (ibid: 267). Goal of these negotiations is enabling future forms of cooperation. For this, the existence of a „common platform" (ibid.), and of common grounds, and a shared envisioned goal are necessary.

The metaphor of a bazaar could be useful and interesting for the study of knowledge flows, if not only Geertz and Rorty are considered, but also the work of Rottenburg. The earlier takes on the bazaar concept by Geertz and Rorty imply in the notion of a bazaar a specific (Eastern) locality. This brings the risk of exoticization and culturalization. However, Rottenburg (2002, 2005, 2009) speaks of *Markt,* or *markets,* which includes Western contexts as well. The idea that the researcher is part of the bazaar is an interesting and worthwhile aspect in Rottenburg's take on the bazaar concept. From here, a link could be established to the works of new materialism (e.g., the work of Karen Barad).

However, I do not work with Rottenburg's concept because likewise to the approach of contact zones by Pratt, processes of virtual cooperation, trading and negotiation processes are excluded. That means e-mail and other web-based communication processes would not be included. These are important when studying today's globalization and transnational relations. For instance, within the last decade, sharing knowledge via blog posts, or via social media has become a common practice of international organisations, professionals, laymen etc. Secondly, the focus is set on information flows, but the material dimension is not included. Lastly, the

differentiation in hot and cold bazaar is interesting, but not fully plausible to me. To my mind, also in a supposed or perceived cold bazaar, opposite interests coexist within both trading parties, even if they are not verbally or nonverbally articulated. Exchange processes and negotiation of meanings do not only happen verbally, but also non-verbally. They do not happen only between seller and buyer, but also other actors are involved in the process. Here, the concept of „trading zones" (Galison 1997) offers more possibilities, on which Rottenburg has also worked. Raina sees Galison's concept of trading zones as "a sea of multiplicity concerning objects, people and networks involved in the production of knowledge" (personal communication, Raina, 02.12.2020). This is why the concept of trading zones will be depicted and discussed now.

4.2.6. Trading zones of knowledge: epistemic spaces where knowledge is negotiated, and exchange and collaboration is possible

In his book "Image and Logic" Galison (1997) examines the interdisciplinary culture of the scientific community. He sheds light on the interaction between scientists of different subunits, their interdisciplinary practices, their boundaries, and their beliefs. One of his findings is that interdisciplinary work is possible because the subunits of one discipline were close enough to trade knowledge and engage in con-joint practices. On the other hand, disagreements and single projects are also possible. The possibility of collaboration among different subunits despite of cultural and professional differences is the specific feature of the phenomenon of the trading zone.

To begin with a „trading zone" is the geographical and virtual space, or local context in which social interactions take place: "*place* helped establish the coordination that was so desperately needed" (ibid: 830). Furthermore, it describes an epistemic concept: "trading zone as an epistemic matter" (ibid.). The author defines „trading zones" as places that enable people to negotiate knowledge: "collaboration consisted of establishing a place where ideas, data, and equipment could be passed back and forth between groups – constituting a trading zone" (ibid.: 817). With this, Galison brings the various actors and practices and requirements (even if it is a basic thing as a meeting place) of interdisciplinary work to our attention.[198] Each trading zone constitutes its own measures of value:

[198] This paragraph had been firstly written by me for an unpublished, not finished working paper of the working group "Education" with the title: "Learning for the Future – Transdisciplinary Perspectives on Knowledge Transmission in Africa and beyond". This project took place at University of Bayreuth in the Winter term 2017/2018. See the information brochure of Bayreuth Academy of Advanced African Studies: https://www.academia.edu/35528315/_Learning_for_the_Future_Transdisciplinary_Perspectives_on_Knowledge_Transmission_in_Africa_and_Beyond [31.05.2022].

> "And with the anthropologists, it is crucial to note that nothing in the notion of trade presupposes some universal notion of a neutral currency. Quite the opposite, much of the interest of the category of trade is that things can be coordinated (what goes with what) without reference to some external gauge." (Ibid.: 803).

The concept of trading zones, suggested by Galison, goes beyond the anthropological assumption of an exchange between two actors and understands trading zones as „social, material, and intellectual mortar binding together the disunified traditions of experimenting, theorizing, and instrument building" (ibid.). The author highlights the aspect that interdisciplinary research groups are not "melting into a homogeneous entity" (ibid: 806). Rather one can describe the composition of a group as "hybrid assemblage" (ibid: 808) with an "hybrid epistemic basis" (ibid.), taking also non-human actors into account. The group members are constantly "borrowing, trading, and exchanging the new technologies" (ibid: 810). Collaboration is defined by a common goal: "it indicates different individuals or groups aiming at certain shared goals" (ibid: 805). In doing so, own interests are not given up for the collaboration, rather they are preserved. Differing methods and modes of communication are not opposed to a collaboration, rather these differing methods and research perspectives get interwoven to a shared research practice. The participants of a trading zone define possibilities and limitations of the exchange (or *trade*) in an active manner.

Hubig/Rottenburg (2007) understand Galison's concept of trading zones as a "zone of joint negotiation" ("eine Aushandlungszone") (ibid: 224; TV.: translation), that can be independent of time and place. A trading zone is an in-between lying space that enables action amongst various actors and it acknowledges that these actors have different concepts and beliefs. In the trading zone these differing concepts are processed under the premise of future possible cooperation and actions. Goal-relevant concepts are pursued, whereas goal-diverging concepts are dismissed. Trading zones offer the possibility, "that actors are constituted here, that did not exist in this form previously" (ibid: 225; T.V.: translation). The goal of a trading zone is firstly the tie establishment based on trust as well as the enhancement of collective action. Actors shall bring in their own interests. However, there shall be space for role transition and for the constitution of new alliances within the framework of the trading zone. Teambuilding processes precede the substantive exchange. Often these projects fail, and equal collaboration is likewise not achieved, as Schramm (2020: 488) points out while discussing Rottenburg's (2002, 2009) investigation of the concept of trading zones in researching development programs. Looking at Hubig/Rottenburg with the lens of network theory according to White, instead of the term role, the term position appears to be better.

Galison's concept of trading zones has many points of references for the investigation of India's participation in PISA 2009 Plus. For example, the investigation of the national and international educational assessment community as a hybrid assemblage with a hybrid epistemic basis. Galison's approach differs here from Haas concept of epistemic communities. In comparison to Haas's concept of epistemic communities, Galison's concept of trading zones enables us to open the research design and to integrate different actors and epistemic concepts. In this research project, the idea is to analyse the composition of the socio-cultural-material assemblage that led to India's participation in PISA. Meaning, shedding light on the relata of influence, their positioning, their specific backgrounds, argumentation, locality, place, and site. Moreover, to investigate the kinds of relations, the coordination of exchange and collaboration and shared goals within the trading zones. Lastly, zooming into these trading zones: *What is it that gets traded there and by whom?* This could be for example, knowhow, techniques, money, human resources, publications, methods and so forth.

Galison's concept of „the fragile trading zone" (ibid: 810) is sensitive to dynamics of social processes, diversity, and change: „In such trading zones there were highly constrained coordinations and complex languages that bound the otherwise disparate subcultures together." (ibid.). He further points out, „how sharply different global meanings can nonetheless come to (even very complex) coordination in specific contexts" (ibid.: 804). The concentration on interaction, knowledge production as dynamic process and the context sensitivity renders the concept of trading zones highly compatible with network theory according to Harrison White. However, likewise to Rottenburg, my stance is that Galison's finding concerning the mode of collaboration between the different research groups is idealistic. Galison states that during the process of working together diversity were maintained and a collaborative egalitarian work ethic was put into place. He describes the processing of different interests and practices as follows:

> „[H]eterogeneous, self-consciously collaborative structure of laboratories (…) no single group in absolute authority (…) each of the different subcultures was forced to set aside its longer term and more general symbolic and practical modes of work in order to construct the hybrid of practices that all recognized as 'radar philosophy'" (Galison 1997: 827).

Godart/White (2010: 571) point out to the fact that human beings – in their wording *identities* – produce social formations by dealing with uncertainty. According to them, these social formations arise based on "control attempts" (ibid.) of individuals. Godart/White (2010) make reference to Milner (1994), who investigates hierarchic structures in social groups. Following him, these hierarchic structures emerge out of the many attempts of individuals to cope with uncertainty. Godart/White (2010) do not explicitly state this, but in the White'an thinking these

control attempts are a constant struggle, and no one individual is totally influencing another. Thus, Galison's and White's approach can be connected here.

When it comes to issue areas, the concept of netdoms (Godart/White 2010) offers an alternative that is more sensitive and neutral in describing culture. Lastly, material objects are included in Galison's approach. However, there is no clear indication on how they interfere in the trading process. Here, the approach of new materialism (Barad, 2017; Häußling 2020) offers new insights.

The presentation of different selected concepts and approaches shows the manifold ways in investigating knowledge circulation. Knowledge flows might be described by drawing on metaphoric images, such like a river, a chain, or a rhizome. Further, they might be conceptualized as travelling theories, or travelling concepts. Furthermore, they might be thought of as epistemic spaces, such as contact zones, epistemic communities, bazaars, or trading zones. However, none of these concepts and approaches is useful or enough on its own for the research project at hand. Instead, I suggest combining the concept of trading zones with network theory according to Harrison White and with insights of new materialism. To provide a basis for doing so, White's network approach is displayed in-depth in the following.

4.3. Network Theory: Focusing on relationality as alternative approach

Relational thinking has a long tradition within the discipline of sociology as Häußling (2010) recalls for the German sociological research discussion. Pioneers of a relational perspective in Europe have been - amongst others - Karl Marx, Georg Simmel, Norbert Elias, and Pierre Bourdieu. Häußling (2010) suggests that thinking relationally and in network structures fruitfully informs current sociological research – and we might add: educational research as well. Doing research with a relational sociological approach offers new and different perspectives. It might be seen as a new paradigm in sociological research. However, Häußling stresses, that „we can speak of a paradigm of relational sociology only when relational constellations and processes are gathered as point of departure for the argumentation" (ibid.: 63; T.V.: translation). The focus is set

> „neither on single actors and their wishes, needs and decision-making processes, nor underlying normative structures resp. expectations or given socio-contextual conditions, but rather on relational patterns, meaning: ties, relational structures, network structures and dynamics" (ibid: 63; T.V.: translation).

As Häußling indicates, the relational sociology approach – prominently outlined by Emirbayer (1997) – breaks with the so far as universally valid seen assumption of sociology: „that it is entities that come first and relations among them only subsequently" (Emirbayer 1997: 281).

Emirbayer is specifically interested in the dynamics of processes: „But increasingly, researchers are searching for viable analytic alternatives, approaches that reverse basic assumptions and depict social reality instead in dynamic, continuous, and processual terms" (ibid.). Further, quoting White, he points out, that *ideas emerge in a context*:

> ‚You can be assured that, for each idea, quite a number of substantial, and often independent, discussions and implementations could be cited: Ideas that have any importance, any impact, do, after all, come in company, not as isolates, and the essayist is mostly a transcriber of ideas abroad in his networks' (White 1994a: 04 as cited in Emirbayer 1997: 282).

This perspective can be well connected with the work of Raina, Galison and others (see chapter 4.2.). Emirbayer/Goodwin (1994: 1411) argue that to make sense of social constellations and network dynamics, the combination of a social structure analysis as well as of a culture-sensitive analysis is needed. *But how does one combine a culture-sensitive perspective and a sociological structural perspective?* Here, the approach of Harrison White is helpful. Hepp (2010) acknowledges and criticizes White. Even though White makes us aware of the need of a culture-sensitive network analysis, he does not say how in particular we are able to achieve this. It is however worthwhile to engage with White's conception. White's (2008: 13) concept of culture is not limited to the realms of high culture. Rather, with the term *culture*, White refers to practices of everyday life in social formations. Culture is at the same time by-product and co-constitutor of social interactions. Elsewhere he states, „a culture should be seen as a continuously interacting population of interpretive forms articulated within some social formation." (White 2008: 372). This notion of culture is again compatible with the idea of epistemic cultures (Knorr Cetina 1999, 2007) or the idea of trading zones (Galison 1997).

Stegbauer (2016) asks „how and where does our culture emerge" (ibid: 02; T.V. translation). Culture is not a „closed system that remains static" (ibid.), but rather „always open for innovation and new interpretation" (ibid.). There „doesn't exist a uniform culture" (ibid.). „In each social situation culture must be negotiated anew" (ibid.). The author suggests an understanding of the term culture that is based in situations. Actors create culture in social situations, to find orientation for, or in social situations. Culture is defined as communication tools „for coping with the everyday life: These are interpretations, meanings, behaviour, behaviour expectation, norms and values, language etc." (ibid.). Ideas, opinions, and perspectives on specific issues are exchanged in social situations. How much negotiation is necessary is dependent to the fact how well the actors know each other. In a first contact between two actors much negotiation is necessary, for example the rules of the social interaction. Right from the beginning, culture is an integral part and as well the result of the relation. The culture of a relation can be changed over the course of the time. Culture is not

static. However, another question is as to what extent behaviour can be changed. After the first encounters actors can rely and built upon the experience of the joint situation. Stegbauer sees

> „the emergence of culture as a chain of sequences. Each chain link (…) makes transformations such as for example cultural innovations possible, that can be transferred again to the next chain link." (Stegbauer 2016: 02; T.V.: translation).

However, Stegbauer admits, in the realm of social reality, the links are not arranged as a chain. Junctions between links do exist and the links themselves are differing from each other. This crossing of different links is what „paves the way for the spread of innovations beyond the actual chain" (Stegbauer 2016: 02; T.V.: translation). The author gives two examples: Firstly, the transfer of best practice examples, texts and other materials in teaching. Secondly, the passing on of heirlooms not to the own children, but to the grandchildren. As discussed earlier, the image of knowledge transmission as a chain is not useful in the context of this research. Perhaps, only if we consider the chain-linking as dynamic and everchanging process, as well as multiple chain-linking processes that occur at the same time.

4.3.1. Networks

Following Berkemeier/Bos (2010), the scholarly notion of social networks differs from the understanding of social networks in daily life, e.g., in the realm of social media, or when one is looking for a job. Contrary to the often-given advice by professional job coaches - to foster networking - in the scholarly understanding, „one is not able to do networks, but to discover them" (Baecker 2007 as cited in Berkemeier/Bos 2010: 755; T.V.: translation). The idea of social networks as being rather *messy assemblages* instead of „intentional and planned constructs" (Berkemeier/Bos 2010: 756; T.V.: translation) is widespread among researchers of network theory. But research groups do also engage with networks that are planned and pursue a specific purpose or goal. These are however, not of interest within this research project.

Research on networks as messy assemblages is based on the anthropological basic assumption that it is not possible to be not connected (man kann „nicht nicht-vernetzt sein") (Schimank 2002 as cited in Berkemeyer/Bos 2010: 755; T.V.: translation). Emirbayer/Goodwinn (1994: 1448) provide a definition of a basic network: „The set of social relations or social ties among a set of actors (and the actors themselves thus linked)." Furthermore, they define a *multiplex network* as a „network with two or more types of relations linking actors (e.g., exchange and communication in a market or communicative and affective

ties in a clique)" (ibid: 1448). The network at hand is a *multi-modal network*[199], meaning the nodes are of various qualities. Relata are not only human beings or institutions, but also publications, events, laws, and others more. Moreover, it is a *multi-layered network*, meaning different relata that are interlinked on and through various micro-, meso- and macro levels. Finally, following Emirbayer/Goodwin (1994), it is a *multiplex network*, meaning including multiple kinds of ties in one network. Network structures are changing, so do nodes. For example, the fluctuation of employees in an institution, as well as between institutions. A bigger network often consists of smaller subnetworks. So does the network at hand. Relata come from various socio-material formations, have different positions, and do change their positioning within the network. Thus, in the following, the understanding of relata is displayed.

4.3.2. Relata

Thinking about a definition of the term *actor*, Albrecht (2010: 125; T.V.: translation) asks „what are the nodes in a network?" and „specifically what do they represent?". A problem in network research is, that it is often not clear, „what resp. who is to be considered as nodes in the analysis" (ibid: 128; T.V.: translation) and thus, where to set boundaries. Difficulties are also located in the number of nodes, the selected data collection methods, or in that it is „not necessarily obvious, who belongs to a specific circle of actors and who not" (ibid.). Another aspect is the quality of the nodes: *are these homogenous or heterogenous in their nature? What kind of information are collected with the research methods, e.g., interviews? What do actors share about themselves and about others in interviews, documents etc.? Are there specific nodes about which I know more than about others? How was this background information collected? Why is this so? Are the relata stable over time or are they changing?* Changes do occur in the attributions of nodes as well as in the ties of nodes. Some nodes emerge anew, and others get lost. The author recommends defining nodes based on theoretical assumptions. Albrecht suggests thinking about the relationship between the „abstract model of a network" (ibid: 127; T.V.: translation) and the „analysed empiric reality" (ibid.). A *node* therefore is the abstraction of an actor: „the node obviously represents only very specific parts of a particular person" (ibid: 130; T.V.: translation). Considering the approach of ANT, Albrecht also acknowledges that

[199] Albrecht (2010): The quality of the network can be described as unimodal, bimodal or multimodal. Unimodal means, there is only one quality of nodes for example human beings. Bimodal, means here two different qualities of nodes do exist, for ex. Human beings and groups or human beings and events. Multimodal, means there are more than two different qualities of nodes for ex. human beings, social collectives, events, things, and others more. According to the author an integration of actors at different levels is possible, this is known as a multi-level-network. This means bringing the different micro-level and the meso-level or macro-level together. By that, the network is going to be more complex.

limiting nodes only to human actors is too narrowed down. The author looks for new and alternative understandings of nodes. A change in perspective is needed: going „away from actors and moving towards processes and communications, that in the first place (…) constitute actors" (ibid: 131; T.V.: translation). Here, Albrecht suggests, lays potential for innovation and for the further development of theory in network research.

Since Guattari/Deleuze (2004) suggest following only the lines (see chapter 4.2), *why looking for nodes and attempting to theorize them at all?* The aim of this study is to show the influences and the processes that led to India's participation in PISA 2009 Plus. The idea is to *position the diverse influences* and to *map out the interweaving projects of control of different relational identities* (White 2008) considering dynamic processes. I do not define the term *identity* solely linked to identity as a person (as common sense in daily life), rather according to White (2008: 17) in its basic form describing the process of *footing*, when something or somebody takes position in a socio-cultural formation (*netdom*). Within this study not the analysis of agency is of interest but the mapping out of the diverse influences. And secondly, *reconstructing the form or formation of the network, or more modest: the formation of different subnetworks*: „Not the actions of the participating entities are of interest, but their structural relatedness" (Schmitt 2017: 87; T.V.: translation). The term *actor* seems to not be suitable within the context of this study. Firstly, not all nodes, that are of interest here, have agency (understood as agency in the sense of human agency).[200] Secondly, because the term actor is prominently linked with Latour's approach.

As both terms actor and identity are problematic, I suggest, that approaches of epistemic cultures (Knorr Cetina 1999, 2007), trading zones (Galison 1997) and new materialism (Haraway 1988; Barad 2007) are connectable and offer new ways of doing that. By drawing on these conceptions the project aims to contribute to the further development of theory. I use the terms *relatum* (for the empiric reality) and *node* (as abstraction of the empiric reality in a network visualization).[201] Here, relata are understood as nodes that are *reciprocally related*, and

[200] The underlying problem of agency is not resolvable here (see e.g., Luhmann 1978; Clemens 2009c; Schmitt 2017).

[201] The latin term "relatum, pl. relata" is defined by Merriam-Webster dictionary as "a thing or term related", "one of a group of related things"; and more precisely: "one of the terms to which a logical relation proceeds", and "the second or one of the succeeding terms of a relation" (all quotes taken from: https://www.merriam-webster.com/dictionary/relatum [07.03.2021]). As synonym Merriam-Webster suggests the term "correlative", meaning something that is "naturally related" and "corresponding", or "reciprocally related" (all quotes taken from: https://www.merriam-webster.com/dictionary/correlative [07.03.2021]). Collins English dictionary provides a plain definition by saying a relatum is "one of the objects between which a relation is said to hold" (https://www.collinsdictionary.com/dictionary/english/relatum [03.10.2020]).

that emerge out of the relations between them. A relatum in this research project is defined by *another relatum ascribing influence to that relatum in the question of how PISA or the OECD made their way to India*. Picking up Häußling (2010) and his claim that a relational perspective can only be successful by making it the starting point of the research, the *ascription of meaning or relevance for PISA coming to India through others* (other nodes or relata) is crucial for the definition of a node or relata. The aim of the project is to identify, count and include all relata that are mentioned in interviews and documents. Relata are not only human beings, but also non-human objects. The frequency of in-house publications, blog posts and other social media appearances of OECD's PISA, ACER and other „macro-epistemic actors" (Knorr Cetina 2007: 367) more, requires us to see also texts and publications as relata. Publications of PISA reports or implementation of new (educational) laws or policies are often followed by an intense public discussion in media and can be thus considered as (medially processed) public policy events. In congruence with the above-mentioned definition, texts and events can be relata, if *other relata ascribe meaning or relevance to them* and if *they are connected reciprocally*.

Subsequently, some examples for the different kinds of relata (in more detail see chapter 6): (1) *Examples for relata as human beings are:* experts in education, researchers, politicians, NGOs etc. *Examples for collective relata are:* organizations and institutions like OECD's PISA, ACER, and NCERT. *Examples for relata on the macro level are:* India, Germany, China. (2) *Examples for texts as relata are thus publications:* the PISA 2009 plus report, annual reports of other institutions and organizations. Moreover, position papers of organizations like the document „India School Education Vision 2030" by Central Square Foundation, (Dhawan et al. 2014). (3) *Examples for events as relata are:* the conduct of the PISA-study, and the publication of the results. Furthermore, the yearly publication of Pratham's ASER. *Examples for laws are:* the RTE Act, and National Policies on Education. However, these play a minor role in the research at hand. The discussion of India's participation in PISA 2009 Plus in newspaper articles could be integrated as events, too. However, newspaper articles were excluded from the data set due to limited resources (see chapter 5).

According to Albrecht (2010: 129; T.V.: translation), „an understanding of nodes in a network, is tightly connected to (…) an understanding of the edges, meaning the ties between the nodes" in a network. Basic questions at the beginning of any research project are: *Which kind of ties are relevant? Which kind of ties can be analysed based on the selected nodes?* (See ibid.). This brings us to the definition of relations in the context of this research project.

4.3.3. Relations

In the framework paper „The Strength of Weak Ties", Granovetter (1973) explores how ideas and influence spread amongst employees in a social formation, like a professional organization. As the title of the paper suggests, his focus is not only set on strong ties, but also on loose ties, so-called *weak ties*. Granovetter looks at small-scale interactions at the micro-level but draws on network analysis to develop a micro-macro linkage and to understand larger phenomena as for example the transmission of ideas. He holds, that „the personal experience of individuals is closely bound up with large-scale aspects of social structure" (ibid: 1377). A positive and symmetric tie between two human beings is operationalized by the time spent (the frequency of interaction), the emotional intensity, the intimacy (trust), and reciprocal actions:

> „[T]he strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (ibid: 1361).

A weak tie is thus the contrary: a tie between two human beings with little interaction, less time spent together and less level of emotional intensity and intimacy. One of his findings is, that weak ties play an important role for innovation. It is between weak ties, that information transgresses between subnetworks (clusters or micro-groupings). Granovetter refers to the concept of bridges in network theory. A bridge „is a line in a network which provides the *only* path between two points" (ibid: 1364; T.V.: accentuation in Italic letters as in orginal). The benefit of a bridge is that it not only connects two otherwise separate points, but it also shortens the distance between these two points. If a bridge happens to be destroyed, the whole network may transform consequently. Granovetter clarifies, „[w]hat is important, rather, is that all bridges are weak ties" (ibid: 1364). *Stronger ties* do exist in micro-groupings, and if one happens to remove one of these ties, changes will occur only in the realm of the micro-group, but not within the larger network. Granovetter admits that his model of strong and weak ties is simplifying the complexity of social relationships. Negative and asymmetric relationships do exist. Furthermore, relations are rather characterized by *multiplicity*. They can also be non-existent, or solely exist one-way (uni-directional) from one person to another. I see a problem with Granovetter's concept as he addresses only ties between human beings, non-human objects are excluded.

Stegbauer (2008) argues against thinking of weak and strong ties as opposing blocks. In doing so, a tie gets narrowed down to one dimension that is the quality of the strength (strong or weak), and the diversity of ties gets lost in the research design. For example, ideally, the ties between parents and children as well as between love couples are strong. However, these ties

differ in many other qualities (when it comes to exchange processes, or proximity and distance etc.). Comparing these strong ties, diverse dimensions and types of ties become visible. Stegbauer suggests relying on Harrison White and to consider the *multi dimensions and dynamics of ties* in the research design. Relations or ties have multiple dimensions, they are always in progress. Ties are constantly established and undone. They are the result of exchange processes in social interaction. Ties can compete with other ties, but they can also link up with other ties. White's approach enables us, to better catch the complexity and flexibility of ties, than with traditional sociological concepts such as *role*.

In the research project at hand, of interest are relations between relata on different micro-, meso-, and macro-levels in a transnational and transdisciplinary field. The focus is set on the processes that are happening between the relata (Emirbayer 1997; Häußling 2010; Clemens 2015). A relation (tie, edge) is defined as *communication, story or reference* to OECD's PISA in India. As transaction, communication, or trade between relata, I count acts of *consultation, exploration, decision making, implementation or simply stories*. A relation is only a significant relation if the linkage between two relata is *associated with OECD's PISA in India*.

As introduced in chapter 4.2. Deleuze/Guattari (2004) also raise their critique on conceptualisations of domains or any thought of entities in network formations. In the approach of Harrison White, however, we do have a concept of subunits in a bigger network – called *netdoms*. Thus, this concept shall be explained hereafter.

4.3.4. Netdoms

Netdom is an artificial word, combining the words *network* and *domain*. Network stands for the social context and domain for the content of the context. Both „are but abstractions, mutual analytic abstractions from the socio-cultural goop of human life" (White 1995: 1038). Netdoms are „socio-cultural compounds" (Godart/White 2010: 567), or „*socio-cultural formations*" (ibid: 569; T.V.: accentuation in Italic letters as in original). They are „mixtures of social *networks* and semiotic *domains*" (ibid: 567: T.V.: accentuation in Italic letters as in original).

> „Networks catch up especially the cross-sectional patterns of connection and resonance in interaction. Domains catch up especially the meanings and interpretations which are the phenomenology of process as talk. These two, networks and domains, come together for the type of tie and, (...) for construction of social meanings and times." (White 1995: 1038).

Netdoms differ in their size and range (ibid: 570). These socio-cultural settings provide space for identities that engage in social interactions to „find footings in different contexts by switching across them" (ibid.). In line with Bourdieu, Godart/White (2010) hold, that identities and the socio-cultural settings they are embedded in, are existentially intertwined. But in

opposition to Bourdieu, they emphasize, that the „*process of switching* from netdom to netdom generates perception, meanings, and representations, not the netdom itself" (ibid: 570; T.V.: accentuation in Italic letters as in original). Netdoms – domains, networks, and ties – are the basic compounds for larger social constellations. Thus, Godart/White (2010) characterize *public* as a space, where multiple netdoms merge: „It is a space, a horizon of virtual meanings, of allowable expectations that frame and form stories. It enables the perception and representation of events and is the stage for situations arising out of them" (ibid: 572). Godart/White summarize and describe netdoms as:

> „Netdoms constitute the fabric of socio-cultural life, wherein domains - through stories - provide the interpretative texture, while networks - through relations - supply the social texture. Socio-cultural formations invoking more complex compounds of stories (story-lines and plots) thereby frame social time, enabling, through narratives, mobilization for social action." (ibid: 567)

Netdoms in this context are *specific epistemic spaces of experts, texts (things) and concepts*. Netdoms can be the networks of big international organisations that conduct large-scale assessments such as OECD and ACER. But also *mixed groups* out of academics, NGOs, experts and (governmental) bureaucrats are possible. Other than in the conception of contact zones by Pratt (1991), these may communicate not only analogously in a local context, but also virtually via e-mail or social media. The concept of netdoms is entangled with the concepts of *switchings*, *stories* and *meaning making*, as will be shown in the following.

4.3.5. Switchings

Meaning emerges „by identities that experience switchings among netdoms." (Godart/White 2010: 572). The authors highlight, that „[p]erceptions and representations come only with and from contrast; it is through contrasts as processes that meanings are communicated and shared." (ibid.). Furthermore, contrasts help maintain meanings. Stories and story sets mirror these contrasts and make them accessible. Godart/White (2010: 572) state, that it is „communication among identities [] what enables shared meanings". This helps to argue against the notion of epistemic communities by Haas (1992). Illustrated on the example of *switching processes* between different netdoms – namely business practitioners, academics, consultants, art or politics –, Godart/White (2010) show that through these switching processes, neither any of these netdoms gets exploited in their underlying meanings. Rather, new meanings emerge and co-emerge that alter the understanding of each netdom, for instance business or academia.

Not all switches between netdoms are conscious and planned. In fact, „[s]witchings originate from identities mitigating uncertainty from biophysical sources and from attempts at control by

other identities" (ibid: 567).[202] Uncertainty and events push individuals – in Godart/White's (2010) wording *identities* – to act, to switch between netdoms or to create new meanings (ibid: 571). Godart/White (2010) give the example of the way the fashion industry is dealing with uncertainty and events. For example, how collections are planned, or models are prepared. In addition to Godart/White (2010), we might state that while coping with the event of COVID-19 in 2019 and afterwards, the focus of the fashion industry set extensively on loungewear. Whereas without lockdown restrictions in many parts of the world causing many people working from home and not going anywhere, different sets of collections for different purposes, would have been produced, advertised and so on.[203]

4.3.6. Stories

The concept of stories is displayed in the following by drawing on Godart/White (2010). From this detailed description – including features such as story sets, storylines, and story plots – demarcations to other approaches such as discourse analysis, or other conceptualizations of stories and narratives (e.g., Hayden White) are possible and are discussed (see also chapter 5). Quoting De Nooy (2006), Godart/White (2010) state that „[s]tories are 'scripts' that can be reproduced across historical, geographical, and social contexts" (ibid: 572). Godart/White (2010) take also reference to the concept of stories by Hayden White (1980), who differentiates between telling stories about an event, and reporting about it in an annual report. The difference is "their relation to time. While annals and chronicles report events chronologically, stories embed them through causal relations" (Godart/White 2010: 572). However, Godart/White (2010) expand this conception „to non-temporal tellings" (Godart/White 2010: 572). Stories in the conceptualization of Godart/White (2010: 572) must not always follow the common structure of „beginning, middle and end". Stories are *rather relational, than temporal*: „Stories can be temporal, for example when recounting successive switchings (...) [b]ut they can be atemporal when comparing and contrasting social settings" (ibid: 572). What is important is, that they „organize meanings and relate them into patterns" (ibid: 572). They clarify:

[202] "Thus, social life is born form the turpitudes of identities seeking control. The search for control originates from a need for footing in a context of uncertainty, as defined by Knight (1921). For Knight, uncertainty must be distinguished from risk. While risk is measurable, uncertainty is not. Our conception of uncertainty extends this perspective, based on the idea that social phenomena are fundamentally unpredictable. This does not mean that regularities do not occur, or that predictions cannot be made, but rather that unpredictability as a basic fact of life drives social relations. Instead of being paralyzed because they cannot fully predict the future, identities try to cope with uncertainty by attempting control over other identities (White et al., 2007b). Therefore, social formations, which emerge from control attempts, are a way for identities to cope with uncertainty." (Godart/White 2010: 570f).

[203] In keeping with Urry (2007), we must be careful that this applies not to everyone and every socio-cultural context in the world. Moreover, we must raise awareness for the betterment of working conditions in the sector of textile production and find solutions for rendering textile production more eco-friendly.

> „Meanings coalesce into *stories*. Stories, however, do not simply aggregate meanings, they combine them in transposable patterns of relations, creating networks of meanings to be invoked in different contexts." (Godart/White 2010: 572)

Stories need to be told: „Stories in isolation are meant to disappear. To thrive and spread, and to become a basis for communication, meanings structured in stories must be transposed across contexts." (ibid: 574). Further, *being able to transfer stories in different contexts is an ability*: „Each transposition and application is context-specific and sets the context for further transpositions and applications." (ibid). One aspect of this ability is language. But stories do also need relations. In fact, „[e]ach relation is a story because it invokes a structured set of meanings" (ibid: 573). Moreover, „stories can encompass more than one relation and extend to a set of relations" (ibid.). Here, the authors give the example of love stories and their diverse sets of characters that go beyond the two lovers.

Story sets are loose clusters of related stories. They combine stories that are based on associated meanings and patterns. A story, however, need not belong to only one kind of cluster, rather it may be part of many different clusters. In contrast, story sets may stick to one netdom, – and by that be context-dependent –, and may not spread to other netdoms (ibid: 574). Godart/White summarize:

> „[I]n every identity's struggle to find footing, relations with other identities are established, modified, or broken. The tensions and contrasts of these switchings trigger meanings, and then stories, in publics. Meanings and stories are used by identities to cope with uncertainty and act in various contexts. Specific storysets cumulate across intermittent netdom switchings in specified domains." (Godart/White 2010: 574)

Elements of discourse analysis such as storylines and plots, are part of the concept of stories in White's approach, too. Through these „discursive mechanisms" (ibid: 574), human beings can structure and make sense of events.

According to Clemens (2015: 238f)[204] stories serve for the interpretation of ties, for a formulation of a perspective, for the systematization and management of expectations and claims as well as for meaning making processes. Stories offer information on the quality of a tie, on the positioning of the actors in a relation, and on possible forms of their action. „Also, organizations and other networks tell stories" (ibid: 242; T.V.: translation), as Clemens emphasizes, „and in doing so, secure their legitimation and embedding in a bigger network" (ibid.). Stories also play a role in the processing of the daily life as well as unexpected events: „Stories transform and define events retrospectively into a standard story, and through that give them a general form" (ibid: 241; T.V.: translation).

[204] This paragraph has been originally published in German in Vollmer (2019b).

Here, stories are understood as being part of the creation of meaning and knowledge on the specific question of how it came that India participated in the PISA 2009 Plus project. Furthermore, they serve as a *transportation tool* for meaning and knowledge, as we may ask, *what kind of meanings do they carry about the social phenomena or process of joining international large-scale assessment tests?* In analysing *circulating stories*, knowledge shall be gained on arguments for and against a participation in the PISA 2009 Plus project. The expected knowledge is an *outline of the dynamic of the process of participation and test administration*, of *central or peripheral nodes*, as well as of *crucial subnetworks* in the process of India joining PISA. Moreover, as mentioned before, knowledge gain is to be seen in the display of *rationales for a participation and critical concerns against a participation*, as well as in knowledge on the *process of the selection of the participating Indian states*. Of interest is, *what kind of different stories (or story segments) are told in different subnetworks (or netdoms), how they mesh or clash with other story (segments) and how through the process of story telling their embedding and legitimation in a bigger network is justified. Furthermore, to what extend did the stories change over the course of the participation process. What kind of a story is being told today? Given the multiplicity of stories and story segments, is there something like a dominant standard story?* Stories in my definition are *relational*, and they are *limited* to the question of how it came that India participated in the PISA 2009 Plus project. They contain *descriptions* of the outline of the process of taking part. They contain *arguments* pro and against taking part in PISA. Lastly, they contain *descriptions* of nodes that played a role in the decision-making process.

4.3.7. How meaning emerges and circulates

Godart/White (2010) are interested in knowing more about how meaning emerges and how it transforms into larger patterns, e.g., culture. Their aim is to: „understand how meanings, stories, and more complex socio-cultural formations, can become shared and generalized, how they are communicated effectively across diverse audiences." (ibid: 581). And: „The sharedness and generalization of meanings, and indeed the possibility of communication, rest on the existence of a series of socio-cultural formations." (ibid.). According to them, *meanings emerge through processes of switching between socio-cultural formations* (netdoms). Switchings happen whenever identities engage with *uncertainty*. *Stories* are an integral element of these socio-cultural formations. They are shared by human beings; orally or mediated through texts and documents etc. Stories provide orientation for (the scope of) action, for the understanding of relations, of subnetworks, or the larger network constellations. Communication, thus, plays an

important role in the emergence and transmission of meanings as well as in the creation of socio-cultural formations (netdoms). As stated earlier: „Once triggered by netdom switchings, meanings need to 'travel' in order to thrive. They can then generate fresh action, and thus switchings" (Godart/White 2010: 577).

Godart/White (2010) further use the term *meaning horizon*. Meaning horizons can be understood as „acceptable semantic expectations for identities" (ibid.: 577). Meaning horizons can but must not be confined to specific netdoms. „Meaning establishes itself in consort with horizon" (ibid.). Meaning horizons are not static but change with every social interaction over time and space and with the observation of oneself and other identities within these social interactions. This conception goes beyond or even breaks with the idea of stable horizons, „Orientierungsrahmen", e.g., in the approach of Bohnsack (2010). Thus, on the aim „to explain the social organization of meanings" (Godart/White 2010: 577), aspects such as dynamics and change, chaos and disjunctions should be considered within the analysis, as well as the aspect, that most likely „wholly new levels of action and actor emerge" (ibid.). Here, we might recall the discussion of Appadurai and Deleuze/Guattari in chapter 4.1 and 4.2, which brings us to the conclusion of this chapter.

Points of departure

White's conception of culture as practices can be connected to Knorr Cetinas approach of epistemic cultures. Here, culture is likewise defined as practices. Structure and culture are thought of as „second order social constructs" (Godart/White 2010: 582). The differentiation and valuation between the two systems is not pre-existent, but man-made. Godart/White (2010) argue for a perspective that sees structure and culture as intertwined, because „the fabric of social life is made of netdoms. Culture and structure are constituted out of netdoms by observers and analysts, as analytical constructs and resources for action" (ibid.: 582). Elsewhere, White writes:

> „It is more important to defuse present boundary constructs, beginning with culture and society. Processes are local, stochastic, and historical, within heterogeneous 'spaces' in which social networks are inextricably involved in situations with strands of interpretation to form netdoms. Persons are late byproducts of histories in which agency is found in interactions among netdoms." (White 1995: 1060).

The material dimension is not explicit stated in White's approach, however it is inherent in the quote above, and there is space for further theory development in network research (see e.g., Häußling 2020). This offers the possibility to open White's approach to post humanistic perspectives and to link his work to the idea of hybrid and heterogenous networks (Latour), of

assemblages (Deleuze/Guattari), or socio-material arrangements (Knorr Cetina; Haraway; Barad). Further, White's approach does consider postcolonial perspectives (as for instance in White 2008). Concerning doing ethnographical research – or any type of qualitative methods – Godart/White (2010) aim at „showing that analysts can have access to underlying structures without misunderstanding participant's stances" (Godart/White 2010: 582). This can be linked to Rottenburg (2005) and his take on the concept of bazaar.

Thus, I suggest taking Knorr Cetina, Haraway and Barad into account and better speak of *socio-cultural-material formations*, or as Häußling (2020) puts it „socio-material assemblages" (ibid: 50; T.V.: translation), or „socio-material networks" (ibid.). The strengths lay in the possibility to take *dynamic processes* into account, in offering as much as possible *neutral descriptions* of socio-cultural processes and in that it is *sensitive to the instability* of these processes. This can be linked to Galison's concept of „the fragile trading zone" (ibid: 810) that is equally sensitive to dynamics of social processes, diversity, and change. Both approaches are not easy to combine as they diverge in many aspects. But here is one aspect of which I think where both approaches can be linked to one another. In the following, I show, how I tend to combine White's approach with epistemic cultures, new materialism, and trading zones.

5. Research perspective and methodological approach

Network analysis is often reduced to social network analysis, (hereafter SNA), which is based on quantitative research methods (see Clemens 2015: 152). However, various other research approaches do exist – both qualitative and quantitative in nature –, and often combined in a mixed-method design (see also Hollstein 2010, 2011). Considering network analysis solely as a method is criticized by Kolleck et al. (2016: 7f). Basic research as well as applied studies are necessary to enhance network theory in general, but likewise to further develop specific qualitative and quantitative empirical approaches. According to Wellman (1983: 179), qualitative network theoretical approaches offer two potentials compared to SNA. The first is the possibility of asking new questions and presenting alternative methods in analysing and describing social linkages. The second one is the possibility of an in-depth analysis, instead of a merely superficial analysis. Further he states, that research is needed on network theory on the micro-, meso- and macrolevel to better give justice to the complexity of social structures. Häußling (2010: 77; T.V.: translation) points out that in the framework of a relational sociology, the explanation of relational phenomena and processes is based at the meso-level and „is rolled out in both directions – micro and macro – from there". Thus, the aim of network theoretical studies can be in the same vein, gaining insights on the perspectives and behaviour of single actors at the micro-level, as well as arriving at a bigger picture at the meso- or macro-level.

Taking the critic of Kolleck et al. (2016) and the outlined potentials of Wellman (1983) into account, this research project aims to contribute to network theory and network methodology in *combining network theory, with qualitative social research and with educational relational ethnography*, as well as *with insights of new materialism (STS)*, and with *postcolonial theory perspectives*.

In the first part of the chapter, corner pillars of the state of the art on network research as mixed-method-designs in two related realms – such as *network and ethnography*, and secondly *network and field theory* – shall be displayed and discussed. Followed by a description of the research perspective and an elaboration of the argumentation of this study (5.1). The next section depicts the *methods of data collection* – journals, documents, and interviews with experts – and outlines the process of getting *access to the field* or making entrée in the field (5.2.). The subsequent section presents the *processing and documentation of the data set* (5.3.). The *framework of analysis* is outlined in the section analysis of data (5.4.). Lastly, the section *network visualization* (5.5.), describes this specific way of analysing and presenting network data. The chapter closes with a description of the use of network visualization within this study.

Network analysis and ethnography

In his research on new forms of transnational organisations, Howard (2002) suggests combining social network analysis with ethnographic methods.[205] He values network ethnography as a „synergistic, transdisciplinary method" (ibid.: 551). The most important problem of SNA is that it cannot tackle meaning. Whereas one of its advantages is, that it allows conclusions at the macro- and the micro-level. In comparison, ethnography is often limited to studying analogue and place-bounded human interactions and it is focused on the micro-level. However, ethnography allows revealing underlying meanings. *Network ethnography* thus, offers (1) to consider both, the micro- and macro-level in the analysis, (2) to think carefully about the choice of the field, (3) to let network theory inform the multiple kinds of access to the field, (4) to get to know the actors (nodes and edges), and finally, (5) to get to know the shape of the network, its varying positions (e.g., nodes in a central or periphery position), its subgroups and its cluster.

Earlier, Desmond's (2014) approach of *relational ethnography* had been introduced (see chapter 4). Relational ethnography, accordingly focuses on connectivity. There is the need that one „breaks with the substantialist perspective" (ibid.: 554). The aim is threefold: Firstly, catching dynamic processes of social interactions. Secondly, being careful with ascriptions. Lastly, overcoming simplifying by analysing isolated entities.

> „Relational ethnography takes as its scientific object neither a bounded group defined by members' shared social attributes nor a location delimited by the boundaries of a particular [neighbourhood] or the walls of an organization but rather processes involving configurations of relations among different actors or institutions." (Ibid.: 547; T.V.: correction).

The author outlines four ways in doing relational ethnography: studying fields, boundaries, processes, and cultural conflicts. Of which in the case of this study, *processes* are of utmost interest.[206]

---

[205] In describing those transnationally connected, and technically mediated social collectives, Howard refers to the concept of epistemic communities (Haas 1992) (see chapter 4). However, he points out that other disciplines offer their own concepts, such as knowledge networks or communities of practice.

[206] Desmond's approach is not only interesting in view of his mixed-method research design, but also in view of his ethnographic approach. For example, in his study on „Eviction and the Reproduction of Urban Poverty", Desmond (2012) links up quantitative and qualitative research methods. To be more specific, he combines the analysis of statistics and documents with methods of ethnography - participant observation and interviews. Based on the method of document analysis, Desmond found out, that in eviction processes, black women outnumbered other tenants. With the help of ethnographic methods, Desmond sought to find underlying mechanisms of these eviction processes. The finding of ethnographic data than revealed that women and men reacted differently to eviction documents: they pursued different strategies in coping with this letter. Whereas men offered to 'work-off' the debt, women tried to find other people who would lend the money (e.g., help agencies, family members, friends). Secondly, the study shows, that men and women that are deprived by poverty have different networks, different resources, different possibilities, and finally different scopes of action. In more of the cases women had to look after children and needed bigger rooms for rent. Compared to men, women are to a greater extend deprived in their network resources, similarly in the realm of what counts as 'women's work' or 'men's work'. Reactions

In the research area of educational policy transfer, Ball (2016) and others similarly postulate the idea and the need to combine network research and ethnography in the research design. *Network ethnography* is defined as an „assemblage of research tactics and techniques" (Ball 2016: 552). These are specific activities such as „*mapping, visiting, and questioning*" (ibid.; T.V.: accentuation in Italic letters as in the original) and following policy movements in general. The idea is to examine the research topic in-depth and to consider the role of human beings, objects, and stories in these dynamic processes in the analysis. The aim of this approach is, to analyse and outline transmission processes. As methods, Ball suggests conducting participating observation and interviews. Of interest are in particular, „organizations and actors, and their relations, activities, and histories, within the global education policy field" (ibid.), as well as „paths and connections that join-up these actors, and 'situations' and events in which policy knowledge is mobilized and assembled" (ibid.). The focus is set on the context and spaces, and on the actors in these processes of transmission and transformation. Ball reinforces the urgent need for this kind of research:

> „We need to ask: What spaces do policies travel through on the way from place to another? Who is it that is active in those spaces and who moves between them? How is space/are spaces reconfigured as policies move through it/them and how are policies changed as they move?" (Ibid.)

The goal of the analysis is to reconstruct ties of the network, and to trace the travelling route of the concepts. This means finding key nodes, key events, key moments, and underlying ties.

> „Policies were 'followed' through the network by identifying key events and moments, key nodal actors (…), significant mobile transnational and *glocal* actors, and the social relations that join these up" (ibid.: 553)

Ball's research method and collected data are observations, document analysis, interviews, internet research on actors, organisations and events, social media, online news including blogs and podcasts, observational participation in network events. In a first step, based on the analysis of interviews and internet searches, he created a data base of the actors and their relations, and he plotted a preliminary graphic network. In a second step, he analysed the data in view of dynamic processes between the actors. This means investigating the underlying meanings of the connections between the actors and modes of interaction. Further, next to human beings, he included material actors – such as money –, or concepts - such as assessment – in the analysis. However, to my assessment, there is no clear indication, how actors are defined, or what constitutes a tie between the actors.

---

of the respondents to the termination letters varied according to gender, socio-economic status, and cultural background.

Lately, the combination of ethnographic research and network research can be considered as widespread accepted and practiced (see Menashy/Verger 2019). For instance, Hogan et al. (2016) combine methods of web-based research, expert interviews, and document analysis of for example annual reports to map out the network of the global player Pearson.[207] Secondly, the earlier mentioned study by Addey/Gorur (2020) (see chapter 3) also draws on ethnographic methods such as interviews, participating observation, and document analysis. Here, likewise to Ball (2016), non-human actors are included, these are defined, but in my opinion not well connected in the research design.

The above-cited approaches show that it is not sufficient to draw on ethnography as single method. Using ethnographical methods only gives us insights into social processes on the micro-level, whereas network research allows insights into social processes on multiple levels and into the interplay of these levels (see Howard 2002). Pointing out to the same problem – but within the discipline of history –, Galison (2008) brings in the picture of the ant and the doughnut. While investigating the surface of the doughnut, the ant constantly fails in identifying the hole in the middle. It becomes clear

> „that there are certain facts about spaces that simply aren't ascertainable locally: an ant on a short ant-leash never, in his peregrinations on a little bit of the surface of a doughnut, *ever* discovers that there is a hole. Topological features - like the hole in a manifold - are simply not discoverable through local inquiry" (Galison 2008: 121).

Thus, according to my assessment, a critical view on ethnographic methods is required. Ethnography brings the risk of ascription of its object of analysis, which for instance is often a community. Ethnography is furthermore deeply entangled in global power relations. There is the need to redefine the method of ethnography (see for ex. Bollig et al. 2015). One could even say that there is an urgent need to *decolonize* the method and approach of ethnography and to *reconfigure* the discipline of anthropology (Ingold 2018).[208] Linking up network research with ethnographic research methods and including postcolonial theory perspectives is an interesting task for ongoing research. However, this research project can only offer first suggestions which will be displayed later.

[207] Their research is based on the approaches of Howard (2002) and Ball/Junemann (2012).
[208] See also the discussion around the phenomena and term of *epistemological violence* (e.g., Marker 2003; Dotson 2011), and the publication "Decolonizing Ethnography" by Bejarano et al. (2019).

Network analysis and field theory

Thinking in networks is necessary when one aims at analysing flows of knowledge in the transnational field of educational policy making or other fields of transnational exchange processes, as showed in chapter 4. *But what exactly is a field?* For Bourdieu, a field emerges out of a set of relationships that are connecting agents. A field "may be described as so many forces which by their existence, opposition or combination, determine its specific structure at a given moment in time" (Bourdieu 1969: 89). The social reality is marked by power lines, and a never-ending fight concerning meaning, positions, and boundaries within fields and between fields (see Bourdieu 1969: 89). Any agent is not independent, rather s/he is depending on other agents in his fields or in neighbouring fields. Bourdieu brings the example of the relationship between the creative artist, his work, and the intellectual field:

> "[T]he principle must be perceived and stated that the relationship between a creative artist and his work, and therefore his work itself is affected by the system of social relations within which creation as an act of communication takes place, or to be more precise, by the position of the creative artist in the structure of the intellectual field (which is itself, in a part at any rate, a function of his past work and the reception it has met with)." (Bourdieu 1969: 89)

Hence, actions are not taken independently from context and relations to others, rather the specific positioning in a context and the entanglement in relations, enables or limits the scope of action of an individual. Further, networks and fields have a history, a present and a future. Past actions, past connections influence the scope of action in present and future times. Bourdieu's description of the positioning of an individual and the transgression between fields can be connected to Whites' description of the embeddedness of *identities* and their *switching* between different subnetworks or *netdoms* (see White 2008; Godart/White 2010).

Indeed, scholars like Bernhard (2008, 2012), Verger et al. (2016) and Wieczorek et al. (2020) aim at connecting Bourdieu's Field-Theory with network research.[209] Following Bernhard (2008), „network analysis and field theory [differ] in view of their conceptualization of structure, agency and social capital" (ibid.: 122; trans. T.V.). Whereas Bourdieu's field theory is often accused of being deterministic, it is often claimed that network analysis falls short on its theoretical foundation. Thus, one way of combining both is to consider Bourdieu's Field-Theory as larger theoretical background and network analysis as method of field analysis. The author is interested in knowing more about the linkages between „the social context, the motifs of actors, and the observable networks" (ibid.: 121f; T.V.: translation), and about power relations. Though Bernhard's approach enables us to expand and solidify the explanatory power

[209] Fuhse (2009: 56), too, makes a plea for the possibility of connecting network analysis with field theory. Additionally, he looks for connections between these two and the social systems theory. For an exploration of possible linkages between White's network theory and social systems theory, see White et al. (2007).

of network research at the macro-level, I see the risk of a reduction of network research and theory to network analysis as a method.

Verger et al. (2016) outline a possible theoretical framework for the analysis of the economisation of the global education sector, the so called global education industry, (hereafter GEI). This framework is based on Bourdieu's Field-Theory and includes networks, cognitive frames, and institutions. As they only outline a theoretical framework, but miss out on examples, the work of Olmedo (2016) is helpful. Given that the world is not static, rather changing and in its quality heterogenous and contingent (Olmedo makes reference to Ong 2012), one must acknowledge global forces that affect processes of policy decision making and human action. The starting point of Olmedo's case study is the observation of neoliberalism as travelling concept and travelling practice. The author is interested in researching policy flows, that means finding "connections and alliances, agendas andmethods, cross-border movements, and local implementations" (ibid: 59). He suggests examining education policy through policy network analysis. By making reference to Knoke (2011), Olmedo defines policy network analysis as the following:

> „[P]olicy network analysis seeks to identify the important actors – governmental and nongovernmental organizations (NGOs), interest groups, and persons involved in policymaking institutions – to describe and explain the structure of their interactions during policymaking processes, and to explain and predict collective policy decision and outcomes." (Knoke 2011: 210 as cited in Olmedo 2016: 46)

Olmedo (2016) shows an example of such a network policy analysis in his work on the company Absolute Return for Kids, (hereafter ARK).[210] He sees the network of ARK as a

> „ 'connective tissue' (Ball and Junemann 2012: 12), comprising the 'circulatory system that connect and interpenetrate the local and the national' (Peck 2003: 229). It generates and accumulates what could be considered as *political* 'network capital' (Larsden et al. 2006), with the potential of being ‚traded' into other forms of capital when required (Bourdieu 1986)." (Olmedo 2016: 51)

Relying on Ball/Junemann (2012: 32) who state that „philanthropy has provided a 'Trojan horse' for modernizing moves that opened the 'policy door' to new actors and new ideas and sensibilities", Olmedo's finding is that „'new' philanthropy is facilitating access to new players to the field of social and education policy, is repopulating and reworking existing policy networks, and is finally giving legitimacy to the role of business in the solution of social problems" (Olmedo 2016: 49). For instance, Olmedo brings in, that Pearson Education is linked with ARK in upbringing their „Teaching Leaders program":

[210] See: http://arkonline.org/ [26.05.2022].

> „Through their participation in ARK's Teaching Leaders, Pearson is not only donating altruistically but also gaining back access to important 'hot knowledge' and situated and local experiences that would inform the company's operations in other fronts." (Ibid.: 49f).

Olmedo's visualization of the network of the philanthropic activities of ARK is an interesting work. It tells us about the central position of ARK and its connections to other players in the field. But what is missing in this study are the underlying meanings of the presented nodes and ties. *Why are they connected in this specific way? What do the different nodes trade? Who is allied with whom and for what kind of reason?*

Wieczorek et al. (2020), finally, investigate, how the OECD is embedded in the global field of power. Like the other previously presented studies, they combine Bourdieu's Field-Theory with network research. Their research design encompasses a two-level network analysis. Level one contains collaboration of organisations, and level two contains individual collaboration. The focus is set on inter-field relations and boundary spanning actors[211]. One of their findings is that the OECD has ties in different social fields and to different kinds of actors. In many times, they form a system of patronage with some key players at the core of the network and a vast wider network. However, non-human actors are excluded in this approach. To my mind the design of Wieczorek et al (2020) appears schematic. The analysis of the data set at hand showed, that epistemic spaces – defined as fields, netdoms or trading zones – often are overlapping other spaces and it is hard to tell, where to draw the borders between any kind of subnetwork. Thus, I take these studies and their research designs as orientation. However, my work focuses not mainly on power relations or forces, rather I am interested in getting to know the nature of the network and its dynamic first. In line with the approach of Harrison White (2008), I speak more of influences that lead to the dominance of positions or to the inequality of positionings in network constellations, hence I prefer the term *nodes of influence*. It is worthwhile to investigate the dimension of power in the approach of Harrison White further (see e.g., Gamper 2017), and to elaborate communalities and differences between the approach of White, and for instance, the work of Foucault (e.g., Foucault ([o.D.]/1994a+b). This needs to stay however for future research processes.

[211] Boundary spanning actors are actors that maintain ties in different fields and by that are connecting and modulating these different fields (see Wieczorek et al. 2020).

5.1. Research perspective of the study

The object of analysis is the global connection of nodes of influence and semantics in the education sector and therewith emerging transformation processes. The study focuses on the local level and takes the Indian experience with the OECD PISA 2009 Plus Project as case study. The research project investigates processes of transmission of global education conceptual offers and its domestication in local contexts. The focus of the analysis is set on *epistemic spaces* (Raina 2019) – meaning the international scientific community, including non-human relata – in the field of global educational policy with special focus on India. The object of the study is to analyse and outline these epistemic spaces as multi-layered and sensitive as possible. Thereby, and in comparison, to other, more static approaches, identifying the quality of the different *nodes of influence* and as well identifying the quality of their *connecting edges* to catch the underlying dynamic processes. Of interest are actions, practices, documents, ideas and orientations, ascriptions in different issue areas – or epistemic spaces – around the OECD PISA 2009 Plus project.

The assumption that educational concepts spread out globally and this only in one direction – that is centre to periphery – has been the point of departure of this study based on the existing literature. Student assessment such like the OECD PISA study and therewith connected educational conceptions are considered as ideas that spread out globally and alter local educational expertise and practice (see chapter 3). After the discussion of different theoretical approaches in chapter 4, I use the term *circulating concepts in epistemic spaces* instead of diffusion or translation of ideas. As shown in chapter 4, concepts that centre on the model of *diffusion* – as e.g., „globally travelling ideas" (Czarniawska/Sevón 2005) –, or concepts that rely on the model of *translation* (Callon 1986, Latour 1986) are not sufficient in the framework of this study. Instead, this study strongly takes *postcolonial theories and positions* into account (Clemens/Wulf 2011; Clemens 2020, 2021; Raina 2016; Woldegiorgis 2020; Woldegiorgis et al. 2021; Schramm 2020) and highlights the *multiple entanglements* through processes of globalization. Recalling Appadurai (1996) and Raina (2009, 2011, 2016), knowledge flows happen not only in one-way, but rather in multidirectional ways.

The study at hand explores the transmission of knowledge – or more specifically: circulating concepts in epistemic spaces around the OECD PISA 2009 Plus project – by bringing together the concept of trading zones (Galison 1997), perspectives of new materialism and Science and Technology Studies, (hereafter STS), (Knorr Cetina 1999; Haraway 1988), network theory according to Harrison White and others (White 1995, 2008; Godart/White 2010) and methods of qualitative social research (Mayring 2015; Schreier 2014; Howard 2002; Forsey 2008;

Desmond 2014). Thus, the idea is firstly to combine the concept of trading zones with network theory, and secondly, to combine both with perspectives of new materialism and STS, and thirdly with methods of qualitative social research.

The concept of *trading zones* (Galison 1997) – that I consider as epistemic spaces – offers the possibility to include as much relata and their relations as possible within the analysis. Whereas White's network theory enables us to include the dimensions of structure and dynamic processes of transnational connections within these epistemic spaces.[212] Furthermore, network theory gives room for the multiplicity and complexity of nodes (Albrecht 2010) and ties (Stegbauer 2008). Network theory according to White in combination with the concept of trading zones (Galison), and insights of new materialism and STS offers the advantage that a broader notion of node of influence is possible: not only human beings and organisations, but also non-human nodes of influence such as journals, papers and many more. As showed in chapter 4.3., neither the term *actor* (Latour 1986) nor *identity* (White 2008) is suitable for the research project at hand. Thus, I speak of *socio-material arrangements* (Knorr Cetina 1999; Haraway 1988), relata (Barad 2007) or *nodes of influence*.

I argue for a position, that neither reduces the relationship between human beings and things to meaning making processes of human beings in interaction with things (e.g., Appadurai 1986), nor fully agrees with the proposition of agency of things postulated by Barad (2007) or other scholars of new materialism. Instead, I propose that human beings and things are intricately linked together, and that things influence the practices, and meaning making processes of human beings. Drawing on network theory (White) and (new) material approaches within the realm of STS (Galison 1997; Knorr Cetina 1999), I argue thus for thinking of knowledge transmission processes as *socio-material processes*.

Finally, network theory according to White allows us to engage in an analysis that is culture-sensitive (see Godart/White 2010; Clemens 2015). With White's *cultural turn* meaning the consideration of culture in network research, the aim is to not only linking up nodes with edges (see e.g., the discussion of Olmedo 2016 earlier), but rather to examine the underlying meanings of the network.

Using *stories* as a tool of analysis throws light on who or what takes part in the transmission process, and additionally how they are related to each other. White's concept of stories makes it possible to describe relationality not only as a connection between nodes. It informs us about the underlying meanings of these connections. According to Clemens (2015) stories give

[212] I take the terms *trading zones*, *netdoms*, and *epistemic spaces* as equal. However, in future research differences and communalities of these three concepts need to be further explored.

information about the quality of the relationships, about the position of the actors in the relationship and about possible forms of actions of the participating actors – or nodes in this context – (see Clemens 2015: 239f; T.V.: translation).[213] Lastly, Häußling (2010: 80; T.V.: translation) states that „[q]ualitative content analysis offers the exceptional potential to empirically carry out the 'cultural turn' in the realm of relational sociology", proclaimed by White – and we might extend this here to the realm of social science or educational studies. With behalf of interviews as a method, *stories* of the interlocutors can be collected as part of the network data. These stories may inform us about the socio-cultural formations, everyday theories, and practices of the interlocutors. Stories might further be examined by hermeneutics or other methods, as stated by Häußling (2010), but in the context of this work, qualitative content analysis is sufficient.

However, telling stories does not happen in an empty space as the writer Elnathan John points out: „Language is not neutral. Language can damage as it can build. It carries baggage, historical, cultural, political" (John 2020: 14). He further asks,

> „How can we tell our stories, uninhibited? How can we move through this world full of violence (…)? How can we tell stories, counter injustice, create fresh narratives untainted by our daily constraints (…)? How can we dream? And how can we convey these dreams and ideas to the world without centering whiteness, whether in our struggle against it, or in the labour we often find ourselves engaged in, to explain ourselves to it?" (John 2020: 05).

The challenge is therefore to tell stories courageously and freely, but to be sensitive for the *baggage* that comes with words and their meaning. Secondly, to find alternative stories and to create new narratives. Lastly and most importantly, to decentre dominant positions. John sees a starting point for the decolonisation of knowledge and the world in the analysis of narratives of colonial thought and practices. For this, the following questions are of great importance: *Which narratives contributed to the process of colonisation? Which stories have been told by whom? Which stories are still told in our contemporary world and by whom?*

Indeed, using stories as tool of analysis can lead to harmful consequences. In her talk „The danger of a single story", Chimamanda Adichie (2009)[214] criticizes the repeatedly occurring reduction of African contexts to one single story of Africa. In fact, there are many different versions of this single story. Secondly, many alternative stories do exist. She encourages us to be sensitive to power structures that are at work in the production and dissemination of stories.

[213] See also: „Stories offer standpoints or structures of meaning that are able to influence and legitimize actions as well as perceptions of that actions through others. Therewith they map out the scope of action of actors." (Clemens 2015: 240; T.V.: translation).

[214] See: https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story/transcript?language=de and for more: https://www.chimamanda.com/media/video/ [26.05.2022].

Furthermore, to tell and read multiple stories of a context. Lastly, to focus not only on differences, but also on similarities of human beings around the globe. Referring to Chinua Achebe, she says, the goal should be to achieve a "balance of stories".

The above-mentioned examples from contemporary literature show that it is important to reflect on methods of data collection and data presentation and to integrate postcolonial perspectives in the research design. Like Adichie, I am interested in the *underlying meanings* of, in *multiple perspectives* on, and in *multiple stories* of India's participation in the PISA 2009 Plus project. Making reference to John, I look particularly for *decentring the assumed dominant position of the OECD*. In this, the study differs from the working group around Addey et al., that – based on the model of translation by Callon and Latour – brought one story of India's participation in PISA 2009 plus into the academic discussion. This story prominently centres the OECD as main protagonist in the process of India joining the OECD PISA 2009 Plus project (see Addey/Gorur 2021).[215]

The aim of the research project is to outline the process of India joining PISA 2009 Plus, and to find not only a thick description (Geertz 2017), rather „to describe and to explain processes in relations" (Schmitt 2017: 79; T.V.: translation) and to do this in a culture sensitive manner. The idea is trying to find as many sources of influence as possible as well as catching underlying meanings and dynamics expressed in stories. For this, the proceeding is informed by Donald (2012) who aims at weaving together different perspectives in a story.[216]

This study tries to overcome the divide between *sociological* (structure-oriented) and *anthropological* (process-oriented) perspectives on knowledge production and transmission by combining *network theory* according to White (2008) with the concept of *trading zones* by Galison (1997), with insights of *new materialism and STS*, with *qualitative research methods* including educational ethnographic research and with *postcolonial theory perspectives*. The concepts of *trading zones, networks, nodes of influence, ties, stories, switching, and netdoms* serve as units of analysis within the processing of the collected data. Stories as a tool of analysis shall give insights on the underlying *socio-cultural structure of network configurations*, as they shall illustrate the *nature* of the (sub-)networks at work. This proceeding is to a broad extend a new path and shall be elaborated in detail shortly afterwards.

The nature of the study is thus *explorative*. The study is transnational (see e.g., Münch 2012), transdisciplinary (see e.g., Mittelstraß 2007; Sukopp 2010)[217], and transcultural (see e.g., Raina

[215] Interestingly, Addey (2018b) previously took reference to Adichie's talk, too.
[216] Donalds' (2012) approach will be taken up in the section on ethics.
[217] Vollmer (2010) and Jungert (2010) discuss critical aspects on possibilities and drawbacks of interdisciplinary work.

2016) in its nature and is located very broadly in a critical and reflexive comparative education perspective (see e.g., Parreira do Amaral/Amos 2015, as well as the elaboration in the section on comparative education research in chapter 4). Furthermore, it considers diversity (see e.g., Budde 2017; Walgenbach 2017) as basic pillars of the research design.

The research topic is not situated in any one field – for example educational policy transfer – rather in multiple fields. Therefore, the combination of fields is part of the research design. According to Mayring (2015: 23), the principles of qualitative social research fit well with the idea of doing a case study. Doing a case study often means exploration and description of (the newness of) a field. Secondly, it offers possibilities for the development of theory and methodology. The triangulation of different methods and theories must be carried out carefully. Thus, in the following section the methods of collecting the network data are presented.

5.2. Methods

In this research project, the position of social constructionism is taken as a starting point. Here, social reality is seen as a co-construction of individuals and their ascription of meaning to communication processes (Flick 2011). Elsewhere Flick writes: "Constructionism (…) informs many qualitative research programmes with the approach that the realities we study are social products of the actors, of interactions and institutions" (Flick 2018: 36). However, the study at hand tries to go beyond social constructionism when it asks for the integration of materiality in the research design and when it considers reality as socio-material arrangements or networks. The approach of this study is thus informed and inspired by Niklas Luhmann, who sees action and actors as ascriptions done by other observers. Social interactions are characterised by complexity and contingence. This means the outcome of an interaction between two individuals is not predictable. In a social interaction, processes of communication and mutual observation occur simultaneously. Individuals as well as social collectives struggle and even fail in the attempt to control and change the many aspects and conditions of sociality (see Luhmann [1985]/2004), which brings Luhmann close to White's concept of *struggling for control*. Occurring events – operations or communications – alter the course of the interaction (see Luhmann [1985]/2004: 18f).[218] Observations or communications express merely one possible

[218] „Das Miteinander von Operation im Sinne der je aktuell laufenden Kommunikation und Beobachtung der Operation macht gerade die Komplexität der Interaktion unter den Anwesenden aus, so daß nie die ganze Fülle der Ereignisse in einer Hand zusammengefaßt oder durch einen Zentralplan gesteuert werden kann." (Luhmann [1985]/2004: 18f).

perspective and emerge from one horizon of possibilities (ibid.).[219] In the attempt to understand any social interaction between individuals or collectives, it is important, to reflect upon other, alternative horizons of possibilities that feed this interaction (ibid.).[220] Verbal and non-verbal communication processes hint towards a shared meaning, or towards divergent views amongst the participating members of the interaction. However, the occurring observations and thoughts of the individuals concerning this interaction remain hidden and oftentimes unshared.[221]

According to Lamnek/Krell (2016: 39, 27), qualitative social research is characterised by the interpretation of social situations and a profound interest for understanding the inner structure or nature of a social phenomenon, the positionings of individuals, their relationships, practices, rationales or motivations for actions, and contexts. Though, there are manifold different approaches in doing qualitative research, the *interpretive paradigm* is a unifying communality. Further, there are the following shared principles of doing qualitative research, as listed by the authors: (1) To begin with, approaching the research field with a general openness, (2) considering communication processes and dynamic processes in doing research, (3) maintaining a stance of reflexivity as a researcher, this means aiming at understanding statements in their context and being reflective of the own position as researcher, (4) conducting research in an explicative and transparent way, and (5) maintaining a stance of flexibility, this means conducting research in an exploratory way and giving justice to the processes of the field (see Lamnek/Krell 2016: 33ff). The limitations of qualitative research are the non-possibility, or at least difficulty of generalising statements or findings, as well as the problem of a possible transfer of the findings. From a viewpoint of STS, the possibility of getting to an objective, scientific description is to be questioned. This applies however also to quantitative studies (see Lamnek/Krell 2016: 259ff).

Going beyond the tenets of qualitative social research, and based on insights from new materialism and STS, I integrate non-human relata such as things and events in my study. To find out how it came that India joined the OECD PISA 2009 Plus project and to meet the complexity of the network, different types of data have been collected: literature research,

[219] „Zusätzlich muß man bedenken, daß sowohl die kommunikativen Operationen als auch deren Beobachtung nicht nur einfach das sind, was sie sind, sondern durch Differenzgesichtspunkte, Erwartungsschemata oder allgemeine, relativ unbestimmte Möglichkeitshorizonte gesteuert werden.“ Ibid.: 19).

[220] „Man muß sich daher immer fragen, von welchem Horizont anderer Möglichkeiten ein Schüler den Lehrer oder ein Lehrer die Schüler beobachtet. Kein ‚soziales Gesetz‘ kann garantieren, daß alle den gleichen Differenzgesichtspunkt oder den gleichen Möglichkeitshorizont zugleich im Auge haben.“ (Ibid.: 19).

[221] „Je nach dem Beobachtungsschema folgt der Schüler dem Unterricht oder nicht, aber in beiden Fällen nicht so, wie der Lehrer es planen oder sich vorstellen könnte. Was im System transparent wird und was die gemeinsame Aufmerksamkeit beschäftigt, ist nur die jeweils ablaufende Kommunikation. Diese kann weitere Kommunikationen festlegen und dadurch planen; sie kann aber nicht kontrollieren, mit Hilfe welcher Differenzschemata die Beteiligten registrieren, was vor sich geht.“(Luhmann [1985]/2004: 19).

documents, and interviews with experts. Documents, as for example reports, are „*institutionalized traces*" (Wolff 2010: 503; T.V.: translation) of socio-material processes. Whereas interviews with experts enable us to gather specific oral (and oftentimes not supposed to be published) knowledge on contexts and processes. The methods of data collection are described hereafter, beginning with describing the process of making entrée in the field.

5.2.1. Mapping the field

Contrary to Bourdieu, Amit (2000) argues against the notion, that a field for data collection is separated from the researcher. Instead, she emphasizes that the researcher is part of the field (ibid.: 02). The field is not something that "exists as an independently bounded set of relationships and activities which is autonomous of the fieldwork through which it is discovered" (ibid.: 06). Given the global entanglement of people, things and contexts, "the ethnographic field cannot simply exist, awaiting discovery" (ibid.: 06). Therefore, creating an ethnographic field means connecting and fitting in different types of relationships evolving from and in different contexts (see Amit 2000: 06) – spoken with White, we could say *netdoms*. Further on, thinking of a field as solely *away* is too narrowed down. Amit refers to Okely who holds that the binary field vs. home is an artificial opposition (ibid.: 05). Amit (2000: 15) says that "the distinction between 'home' and 'away' has become blurred by the transnational contexts in which anthropologists and their ethnographic subjects now move". She stresses the "interfusion of contexts, involvements, roles and perspectives" (ibid: 08). Instead of defining home as stationary, and field as a journey away (ibid.: 08), she makes a plea for taking the field with oneself (ibid.: 09). This resonates with the above-mentioned studies by Howard (2002) and Desmond (2014). In the realm of educational ethnography, Bollig et al. (2015) state that "[f]ields are defined by unsharp boundaries and a moving web of relationships between different people, positions, objects, artefacts, statements, or topics" (ibid.: 10). In addition to Amit, Bollig et al. include the material dimension. Further, they stress on diversity, ambiguity, and dynamic processes. Fields are constantly emerging and changing. This resonates well with the research design of the study at hand.

Getting access and making entrée in the field

In line with Amit (2000), the entrée to the field of this study was established via connecting with and interviewing already known experts. Based on their recommendations other experts were interviewed, following the *snowball principle*, or link-tracing approach (Adams et al 2020: 122) in network research. Over the course of the study, new interview partners were

identified via literature research and online research on persons, organisations, upcoming conferences and so on. The interviews were mainly conducted in New Delhi, which turned out to be a fruitful place, given the library facilities, the diverse universities, and the fact, that many (inter-)national organisations have a representational office there. Some interviews were conducted however in South India and in Germany.

A difficulty has been to identify interview partners in the northern and southern part of India. For this, I undertook several informal discussions with experts from northern and southern part of India in New Delhi. Eventually, the geographical field of investigation got expanded to South India with research stays in Karnataka and Tamil Nadu. In doing so, the perspectives of some people working at the state or regional level could be included in the data set. Though a research stay in Kerala has not been possible, some experts expressed their views on Kerala's position to India's participation in the OECD PISA 2009 Plus project. These have been interviewees that have done work in Kerala, or were originally from Kerala, or have expert knowledge on the education sector in Kerala. Including Kerala's stance on the PISA 2009 Plus project had been relevant for the analysis, as Kerala had been always seen as a *top-state*, or a *role-model state* (see Drèze/Sen 2014). Equally, it would have been enriching to include perspectives from some of the northern states of India. A research stay in North India was not possible due to limited resources. However, like Kerala, some of the interviewees who belonged to the northern part of India, or who share work relations with some of the states there, shared their perspectives and knowledge on Himachal Pradesh and some of the other northern states of India.

Many people from various backgrounds shared their perspective. However, some of the suggested experts where not reachable for an interview. For instance, the former national project manager and head of DEME/ESD of NCERT, the heads of ACER or ACER India during the time of the conduct of PISA 2009 Plus project, as well as the head of NCERT at that time could not be interviewed due to fluctuation processes in these organizations and the period of the data collection. However, interviews with some of their successors have been conducted. Furthermore, again due to limited resources, people from the government could not be interviewed. This perspective is considered within the collected data by other interviewees telling their idea and knowledge of the government perspective. Further, some of the interviewed experts have been working in the government earlier. In future research processes, putting up a request via the Right to Information Act would be helpful to obtain more knowledge on the government perspective. Trials to interview international organisations like the OECD and the World Bank were not successful. For instance, OECD does not have an office in New Delhi until today. A request to the Berlin OECD office got appeased. Likewise,

trials to approach people from the World Bank were unsuccessful. However, their perspectives are approachable in literature, multimedia and on their websites and are thus included in the study.

In the beginning, the idea has been to conduct a second interview with each interviewee. Due to limited resources and time constraints this was not possible. Furthermore, using the *snowball principle* is exposed to limitations. Interlocutors are often well connected and pass the researcher on to their network. In relying only on this approach, important voices that aren't linked to the networks of the interlocutors could be left out. This leads to the necessity as a researcher to reflect on the own positioning in the field, to what extend s/he gets access to the knowledge of the interviewees and of course to what kind of knowledge.[222] Addey (2019) deals with the question of doing research on international large-scale assessments, (hereafter ILSA) and especially of getting access to the ILSA-elite. According to her, the ILSA-elite that is involved in the ILSA decision making processes, is a community that consists mainly of male education policy actors, positioned in international organisations, governments, and global education businesses. To her view getting access is an issue of constant negotiation and is especially difficult for women researchers. To balance these limitations of getting to conduct interviews with experts, the idea has been to collect diverse types of data such as documents and literature texts. In the following section the methods of data collection are discussed.

5.2.2. Methods of data collection

Journals

Research has been conducted at several libraries in Germany and in India, mainly in Bayreuth and in New Delhi, but also in Berlin, Heidelberg, Bangalore, and Chennai.[223] The access to the journals has been difficult in the beginning. Most of the journals were not available as soft copies. To a certain extend they were not even available in print version. Some issues were lost. The situation got better during the conduct of the research project, as some of the journal sections of the consulted libraries got reorganized and restructured. Some journals got digitized and are now available on the web.

The phenomenon of international large-scale assessments and likewise its international academic discussion begun in the 20th century and grew especially since the 1990s (see Tröhler

[222] See also the foundational paper by Callon (1986).

[223] These were: Libraries at the Universities of Bayreuth, Berlin, and Heidelberg in Germany. In India, at Nehru Memorial Museum & Library (NMML) and libraries of NUEPA/NIEPA, NCERT, and JNU in New Delhi. In South India, at National Institute of Advanced Studies, NIAS in Bangalore and at Connemara Public Library in Chennai.

2013; Addey et al. 2017, Addey 2018a, as well as the discussion of the state of the art in chapter 3). Already, when the PISA study was conducted for the first time in 2000, it got discussed vividly in journals of international comparative education such as *Compare*, *Comparative Education Review* and others. This period is far too large for the analysis. *Thus, where to start the research?*

Preliminary the range for the literature review had been set on volumes of scientific journals between 2008 and 2011. The phase when the decision for India's participation in PISA 2009 Plus and the test administration happened. However, the review of Indian journals and international journals showed, that the publication density on India's participation in PISA 2009 Plus during this period is thin. Expanding the scope of reading keywords to the field of international assessment and education policy and stretching the time period, revealed that relevant texts have been published before and after India's participation in the PISA 2009 Plus project.

The new starting point for the systematic literature research had been set to 2003 onwards. It appeared appropriate to take 2003 as starting point, as some of the relevant Indian journals started publishing in 2003.[224] Moreover, it is in 2003 that the international scientific community significantly starts to discuss the PISA study (see chapter 3). As endpoint 2019 has been fixed, as here India's new participation in the OECD's PISA study was publicly announced. A further limitation to seven academic and institutional or organizational journals has been necessary and is reasonable as the research interest is focused on the discussion of the scientific community. These journals got examined thoroughly year by year, issue by issue with focus on papers, commentaries, book reviews and other remarks on India's participation in PISA. These are: [225]

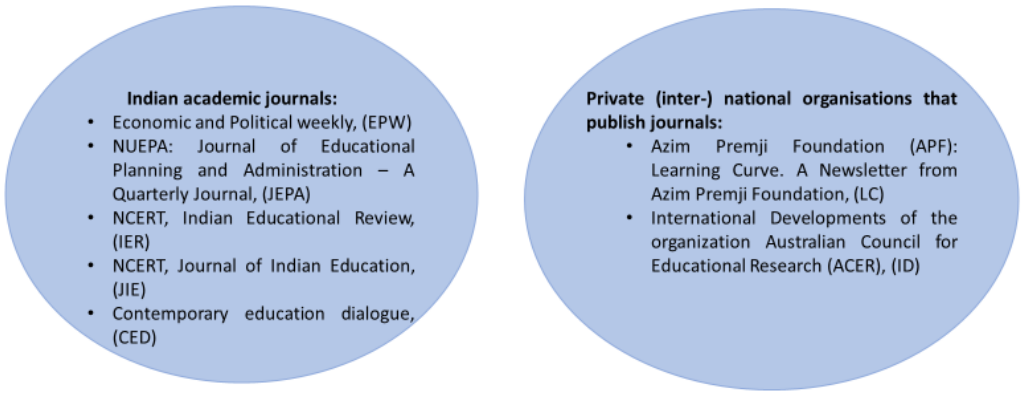


Figure 1 List of journals

[224] These are *Contemporary Education Dialogue (CED*) and the publication by Azim Premji Foundation (APF), *Learning Curve. A Newsletter from Azim Premji Foundation*.
[225] See a more detailed overview in the appendix.

I selected the seven academic and institution- or organisation-related journals, because first of all there are only a few Indian educational academic journals. This is due to *India as site of knowledge production situated in the so-called global south*, as mentioned by an expert. Hence, there is not much choice. Secondly, I looked in to journals and periodic publications of organisations and institutions to depict the discussion in and around of these organisations and institutions. Thirdly, the interest had been to collect and trace arguments of the scientific community. The analysis of these journals enabled me to view educational discussions in motion, meaning their beginning, intensity, shifting, or fading out.

Beyond publications in academic journals, a lot about education is published in daily or weekly newspapers and in social media. Here, laymen publish with their own, often not trained and not-academic ideas of education. Following Clemens (2007) these can be called as naive theories and it would be interesting to examine these also. However, in the framework of the given project this was not possible. A systematic review of daily newspapers such like *The Hindu*[226], or *Times of India*[227], and a profound analysis of more weekly journals, and small magazines like *Frontline*[228] or *India today*[229], *Mainstream*[230], *and* internet fora like *Indian Express*[231], or *Tehelka*[232], *as well as Social Media* had been left out, because of limited resources. However, some papers and articles are included in the data set.

In order to trace the current public discussion on education, and to keep informed about current and future changes in the Indian education system – for instance the announcement of a new participation in OECD's PISA – some articles have been included in the data set. Additionally, international journals in the field of comparative education have been included on the passing to map the international research discussion on international large-scale assessment, and specifically on PISA. These are: Firstly, journals that focus on the perspective of comparative education: *Comparative Education Review*[233], *Tertium Comparationis*[234], *Compare*[235], *Comparative Education*[236] and *Zeitschrift für internationale Bildungsforschung*

[226] Website: http://www.thehindu.com/ [26.05.2022].
[227] Website: http://timesofindia.indiatimes.com/ [26.05.2022].
[228] Website: https://frontline.thehindu.com/ [06.02.2022].
[229] Website: http://indiatoday.intoday.in/calendar [26.05.2022].
[230] Website: http://www.mainstreamweekly.net/article3.html [26.05.2022].
[231] Website: http://indianexpress.com/ [26.05.2022].
[232] Website: http://www.tehelka.com/ [26.05.2022].
[233] Website: http://www.journals.uchicago.edu/toc/cer/current [26.05.2022].
[234] Website: https://www.waxmann.com/waxmann-zeitschriftendetails/?tx_p2waxmann_pi2%5bissn%5d=0947-9732&tx_p2waxmann_pi2%5baction%5d=show [26.05.2022].
[235] Website: https://www.tandfonline.com/loi/ccom20 [27.05.2022].
[236] Website: https://www.tandfonline.com/toc/cced20/current [27.05.2022].

(*ZEP)*[237]. Furthermore, for following up on the German speaking educational discussion on OECD's PISA, journals on education from the German speaking context have been consulted in the passing: *Bildung und Erziehung*[238], *Zeitschrift für Pädagogik*[239], *Zeitschrift für Erziehungswissenschaft*[240], *Pädagogische Rundschau*[241]. Last but not least, the weekly newspaper: *Die Zeit*[242] had been consulted in the passing, as *Die Zeit* publishes regularly on the PISA study. Interestingly, it had published an article on India's participation in PISA in the year 2012, when the results were released (see Vidal 2012).[243]

At the beginning of the project, there was hardly any literature available and hardly any data existed. The literature review of Indian academic journals revealed that there were almost no publications on India's participation in PISA 2009 Plus until 2016. Therefore, a bibliometric analysis did not make sense. Thus in addition to the review of academic journals, documents were collected and analysed. Including documents in the research design is a common practice in educational policy research (see Ball 2016; Hogan et al. 2016; Addey/Gorur 2020). This is useful as many international organisations and other actors use and produce documents.

Documents

Following Wolff (2010), documents are fundamental elements of modern business administration. They serve as a basis for organization, decision making, and action. Documents carry meaning and they have meaning for the description and production of social reality. Documents differ from oral communication in terms of their range of communication: information can be preserved and transmitted independently from time and location. Documents are „written texts, that serve as record or proof for a process or situation" (Wolff 2010: 502; T.V.: translation), they are „*standardized artifacts*" (ibid.: 503; T.V.: translation, accentuation in Italic letters as in the original) and exist in „specific *formats*" (ibid.). Moreover, they are „*institutionalized traces*" (ibid.), offering „insights in the activities, intentions and thoughts of the author resp. represented organization" (ibid.). In the tradition of qualitative social research, documents are seen as „sources (…) that point out to other underlying

[237] Website: https://www.waxmann.com/waxmann-zeitschriften/waxmann-zeitschriftendetails/?tx_p2waxmann_pi2[zeitschrift]=ZEI1009&tx_p2waxmann_pi2[action]=show [27.05.2022].
[238]Website: https://www.vandenhoeck-ruprecht-verlage.com/zeitschriften-und-kapitel/42520/bildung-und-erziehung [27.05.2022].
[239] Website: http://www.beltz.de/fachmedien/erziehungs_und_sozialwissenschaften/zeitschriften/zeitschrift_fuer_paedagogik.html [26.05.2022].
[240] Website: http://link.springer.com/journal/11618 [26.05.2022].
[241] Website: https://www.ingentaconnect.com/content/plg/pr [27.05.2022].
[242] Website: http://www.zeit.de/index [26.05.2022].
[243] See Vidal, I. (2012): „Musterschüler China, Sitzenbleiber Indien", Zeitonline, 22.11.2012, https://www.zeit.de/gesellschaft/schule/2012-11/china-indien-schule [26.05.2022].

phenomena and intentions" (ibid.: 504; T.V.: translation). Often a specific reading (method) is applied, leading to the problem that the interpretation does not really engage with the document. Highlighting the fact, that documents are produced by human beings with specific intentions, the author suggests seeing „documents as independent methodological and situational embedded contributions of their authors" (ibid.: 504; T.V.: translation). According to Wolff (2010) the informative value of a document should be taken with caution. As stated above, documents are produced by human beings in a specific context and can be incorrect. Therefore, they serve „only in limited ways as proof or hints for situations or decision-making processes" (ibid.: 511; T.V.: translation). As data can be edited, a check of authenticity is needed. For example, *what kind of information got anonymized by whom and how was this done?* Documents should not only be analysed solely as source of information, also the specific context of their production should be considered. In a first step, the analysis should engage with the document itself, later context information, proceeding and subsequent documents can be considered in the analysis. Seeing the document with *foreign eyes* may be helpful to examine the in-depth meaning of the text. Furthermore, it is necessary to think about the relationship between documents and other types of data.

Flick (2011) mentions three core aspects: To begin with, documents "are informative for understanding social realities in institutional contexts" (ibid.: 331; T.V.: translation). The author also advises considering the sociality and intertextuality of documents (ibid.: 326). Documents are by nature made by human beings and refer to other (similar) documents. For example, the way a certificate is issued, or an annual report of an organization is produced and published. Documents are thus *relational* in their character. According to Flick (2011: 328) the researcher does not always get access to documents. Documents may get lost, they get destroyed, or they get kept under lock and key. Secondly, documents "are to be seen more as tools for communication – constructed for specific functional purposes –, and less as 'non-reactive' in the sense of 'uninfluenced' data" (ibid.: 331; T.V.: translation). The author suggests seeing "documents more as communicative tools and less as 'information-container'" (ibid.: 331; T.V.: translation). Documents „represent not only the reproduction of processes and experiences, but rather they are communicative tools in the construction of specific versions of these processes" (ibid.: 321; T.V.: translation). Thirdly, documents "are a useful addition to other sorts of data, when the context of their production and purpose is considered" (ibid.: 331; T.V.: translation). Documents may add to the knowledge and information gained out of interviews and observations. "Documents should be analysed in the context of their production and application in the field of investigation" (ibid.: 321; T.V.: translation). Documents can be

coded and categorized by using content analysis, or they may be examined with conversation analysis. Apart from that, other sources suggest approaching documents with thematic analysis, critical discourse analysis, narrative analysis, or framework analysis (see e.g., Grant 2019).

According to Madan (2017) a document is a complex text, as it encompasses many statements and voices. In the context of policy document analysis, it is necessary to focus only on some topics and issues, and secondly, to shed light on the silences and unvoiced voices within the document. Furthermore, it is mandatory to consider the purpose of the document and the conditions of the making process of the document. *What kind of underlying interests is legible? With what kind of diligence has the document been created and by whom? What kind of practices - e.g., 'copy and paste' – have been used in the production of the document?*

For instance, Rürup (2018) examines discourses and critiques on education reporting in media and science in Germany. He suggests relying not only on national education reports but also to engage with reports of private actors on education. These „shadow reports" (ibid.: 39; T.V.: translation) may serve as a control body. Considering however the Indian context, in which this is already the case – prominently represented by the ASER reports of the Pratham organization (see ASER centre 2017) – this suggestion appears to be not fitting without a critical examination of these private actors' reports. Serving as a control body of the government and state is not the only interest of these private actors. Rather they seek to be powerful in the shaping of education itself. This raises questions on the quality of the *relationship between state and private actors*, whether it is collaborative, peaceful, co-existent and supportive, or marked by conflicts (see e.g., Gopalan 2013).

In this project, documents such as annual reports, as well as other reports, conference papers and concept notes have been collected through literature and web-based research as well as through the interviews with experts (see the appendix for a table overview of the documents). Documents were online accessible or have been researched in archives. Documents and the transcription of interviews were considered as being equal information sources, validating each other and were proof checked with literature data gained out of the analysis of journals and the overall literature research in the frame of this study.

Interviews with experts

Interviews with experts help to find orientation in the exploration phase of a research project. But they also enrich in-depth empirical research after a first literature research (see Przyborski/Wohlrab-Sahr 2010: 131). The specific feature of an interview with experts, is

exactly that it is an interview with experts. This means human beings that have knowledge, and social status as an expert. Przyborski/Wohlrab-Sahr define experts as

> "human beings, that possess specific knowledge about their professional role; human beings, on which this specific knowledge is ascribed to by others; and human beings who therefore possess a specific competence." (Przyborski/Wohlrab-Sahr 2010: 133f; T.V.: translation).

Expert knowledge is therefore an internal knowledge, or *insider knowledge* which is of interest for the conduct of an expert interview (ibid.). Three types of expert knowledge do exist. These are processual, interpretive, and contextual knowledge. Experts have knowledge on informal social rules in institutions or organisations they belong to. They are capable to interpret relationships in their field, and they have knowledge on other topics and areas that are linked up with their specific domain or profession (ibid.). The authors advise structuring interviews with experts in six steps:

> "(1) preliminary talk, (2) self-presentation of the expert, (3) stimulation of a self-referential narration, (4) follow-up question on examples and additional details, (5) stimulation of a more specific narration, and (6) stimulation of theorization" (Przyborski/Wohlrab-Sahr 2010: 138; T.V.: translation).

Furthermore, they advise "meeting the expert on an equal footing, meaning, addressing him in a professional manner; and at the same time, making clear the own information needs concerning the specific practical knowledge of the expert" (ibid.: 138; T.V.: translation). The aim of interviewing experts should be accessing practical knowledge, to move beyond the explicit knowledge stated in household publications or elsewhere in the public domain (ibid.). Here, Forsey's approach of doing ethnographic interviews is helpful. Forsey (2008: 70)[244] suggests doing ethnographic interviews "to help reveal the structural and cultural patterns impacting the social trajectories" of the interviewees. He states:

> "Rarely do we get to meet the people behind the quotes, and, more importantly, we often do not come to appreciate the social context that shapes their discourse and lived realities. Ethnographic interviews should lead the researcher and her/his reader to appreciate the intricate stories that influence and shape individual choices people make, the complexities they face and the realities they help create." (Forsey 2008: 69).

What does interviewing ethnographically mean? Or: "What makes an interview ethnographic?" (Ibid.: 58). Quoting Briggs, Forsey understands the interview "as a 'communicative event' in social science writing (Briggs 1986: 2)" (ibid.: 57). Other researchers described the ethnographic interview as informal conversation as well as an event, in which both the

[244] Forsey (2008) aims at firstly "using the interview as a major means of coming to understand social reality" (ibid: 57), secondly, at "widen the focus beyond the relationship between interviewer and interviewee to contemplate the interactions between researcher and reading audience" (ibid.), and thirdly, at "examining the ways in which we translate the interview into readable, communicative text" (ibid).

interviewee as well as the interviewer engage in the interviewing process and share their knowledge. An ethnographic interview in Forseys definition

> "aims at revealing the cultural context of individual lives through an engaged exploration of the beliefs, the values, the material conditions and structural forces underpinning the socially patterned behaviour of any individual." (Forsey 2008: 59)

There is no strict framework for an interview to be ethnographic. However, it "must be conducted within the context of the broader sorts of participant observer studies" (ibid.: 59). This means it should be a part of the participant observation process. It is equally important to consider people, who have been in the field for a long time, and people who just entered the field, to gain insights on how the field works, and on its dynamic processes. It is crucial to listen to the diverse thoughts and experiences while interviewing people: "ethnography requires the researcher to trust its process as the stories and key themes unfold before us" (ibid.: 63). Questions in an ethnographic interview shall be asked with *a knowing naïvety*, meaning asking naïve, but informed questions. Forsey specifies:

> "The questions we ask in an ethnographic interview should allow us to locate the biography of the individual in the broader cultural domains in which they live. Consequently we should be able to link aspects of their personal story to the issues we are seeking to describe and analyse in the formal write-ups of our research data." (Forsey 2008: 59)

Forsey's approach of speaking more of conversations than of interviews is important for this project because of the aspect of doing interviews with experts for the purpose of exploration of the research topic. However, differently to Forsey, I am not particularly interested in biographical aspects of the interviewed experts but rather in the interviewee's knowledge on how it came that India joined the PISA 2009 Plus project. This means finding shared stories and listening to different perspectives.

Drawing on ethnographic interviews allows to focus on the cultural context and the *embeddedness* (*netdomains*, White 2008) of the interviewee and thus gives space for researching relationality. Furthermore, as showed earlier, we must consider postcolonial theory insights and be critical about the tools and concepts we use. Approaching the field and the interviewees with methods of qualitative social research that got developed in Western contexts, cannot be employed without any changes in other contexts. Departing from Forsey, I argue, that doing an educational ethnographic interview – with the purpose of exploration and focusing on the cultural context - must not necessarily be part of a classic participant observation study. Secondly, I suggest broadening up his perspective by including insights of new materialism, meaning not limiting the method of doing ethnographic interviews to reconstruct solely social

reality. And, following from this, pairing interviews with other methods, such as document analysis, as conducted within this study.

Description of the interview setting and interview guide

The style of the conducted expert interviews varied with the phases of research. In the beginning, expert interviews with the purpose of exploration were conducted. In the middle and end, the purpose changed to systematize the collected data and to the construction of theory. Additionally, the interview arrangement varied. Altogether, three forms of interview settings took place. These are: (1) two persons: interviewer and interviewee, (2) three persons: two interviewers and one interviewee, and (3) three persons: one interviewer and two interviewees. The idea to conduct a focus group interview setting was deliberated upon during the conduct of the research. But after a thoughtful consideration, the decision has been made, that it did not fit in the research design. This because a different type of knowledge was wanted.

In a first step, for the preparation of the interviews, a brainstorming about relata and realms (for instance social circles) that are of interest – e.g., experts in academia, policy making, economics, (international) organizations, and NGOs – has been conducted. Followed, by a web-based research on institutions and organizations, they belonged to, and by reading texts or paper published by these experts. In a second step, possible interview partners got identified – based on the previous literature research and based on the previous conducted interview data – and were contacted via email, or via phone calls. In some cases, this was only possible by *mediation* through other previously interviewed experts.

To explore the field, experts from academia, educational policy making, and the field of economy have been interviewed in semi-structured expert interviews. In the first and second wave of the conduct of interviews from 2016 to 2018, seventeen interviews got conducted. These interviewees cover the perspectives of experts from academia, policy making, and the conduct of assessments by quasi-government or private organizations. Of interest has been their estimation and perspective on how it came that India joined the PISA 2009 Plus project. The idea has been to let the experts describe the process and by that gaining knowledge about the decision-making and test administration process.

In the beginning, the interview setting was explained and the research interest was outlined briefly: *"In 2009, Himachal Pradesh and Tamil Nadu joined the PISA test. We are very much interested in the whole process of this participation."* (See the semi-structured interview guide in appendix). The first opening question has been: *"Could you please tell us from your perspective how it came that those two states participated and what happened then?"* (See the

semi-structured interview guide in appendix). This question has been deliberately kept wide allowing giving space to the interviewees to respond according to their knowledge and their frame of reference (see Bohnsack 2010). In a second part, content-related questions were asked, to concretise and deepen topics. These were questions such like: *"How precisely took the process place? Thus, what happened and how did it happen? Who participated? Could/Can you tell us any names? How did it come that Tamil Nadu and Himachal Pradesh were chosen? Why these two states? Can/Could you also tell us anything about the process of rejection? When was PISA gone?"* (see the semi-structured interview guide in appendix). In a third part, questions about the current situation were asked: *"What is it like today?"* (See the semi-structured interview guide in appendix). Of interest has been also, in what specific ways the participation of India in the PISA 2009 Plus Project lead to any changes in the educational field in India. Thus, the question has been: "*Yet, are there changes in the educational system related to PISA and the global diffusion of educational concepts (for example the so called 'standards')? (If an answer or no answer is given, then: for example, within the curriculum?)"* (See the semi-structured interview guide in appendix). In a fourth part, again a very wide question has been asked, to enquire about the educational theoretical knowledge on student assessment in general of the interviewee and about his general opinion on student assessment. This question has been: *"Thinking about education in the 21st century and given challenges like f.ex. education for all and given the worldwide diffusion of the philosophy of testing – do you think the idea of assessment helps in whole? Or in what regard"* (see the semi-structured interview guide in appendix). Finally, in a fifth part, standardized questions have been asked with the aim of gaining ideas and orientation for the ongoing research. These were questions such like: *"Regarding our research project, do you have any suggestions? Which kind of journals should we consider? Which kind of experts (also experts belonging to other areas) should we ask? Which kind of texts or papers should we read?"* (See the semi-structured interview guide in appendix).

During the conduct of the interviews, more or less the same questions (optically highlighted by underlined words, see the semi-structured interview guide in appendix) were asked, to enhance the possibility of comparing the interview data over the different survey waves. But also, in view of the aim of a network theoretical analysis, where counting out frequencies is a common practice. To meet peculiarities of the field, but also to maintain the comparableness of the interviews, the interview guide got slightly adjusted in the second wave (see the revised semi-structured interview guide in appendix). For instance, when it comes to the wording of the questions. Often the word *rejection* got questioned or felt inappropriate by experts. Thus, it

was changed to *withdrawal*, a suggestion by interviewees. The idea has been also to work with periods or phases rather than terms like *rejection*. Based on the interview with experts, I differentiated three phases: (1) the initiation phase for PISA 2009 Plus from 2006 to 2010, when OECD was courting India (2) the post-PISA 2009 Plus phases I from 2011 to 2015, when the discussion and decision to not take part again happened, and (3) the post-PISA 2009 Plus phase II, from 2015 to 2019, when the discussion and decision to re-join PISA happened.

Accordingly, the questions asked had been: (1) Period 2006-2010: *"What was the situation in India like before the participation? What have been hopes/expectations?"* (2) Period 2010-2012 and 2012-2015: *"What was the situation in India like after participation of India in PISA? What kind of critique/reflection on how PISA has been conducted in India?"*, *"When was PISA gone? How exactly did it happen? (When and how was the decision made to withdraw from PISA?)"*, Period 2012-2015: *"Can you also tell us anything about what happened after 2012 (the withdrawal) from it?"* (3) Period 2015-2019: *"Given that newspaper articles say India is most likely to take part in PISA again, what is the situation like today? How many states will take part in next round? And which states will take part? Which kind of schools? What kind of hopes/expectations for next round?"* The question asked in the third and fourth part of the interview guide appeared to be too big and too difficult in terms of the wording. Thus, it got simplified to: (1)*"A widely shared view is, that PISA changes the way testing is done in India (e.g. transformation of NAS). What do you think today about this, are there already visible changes in the educational system related to PISA?"* (2) *"Thinking about education in the 21st century – do you think the idea of assessment helps? In whole? Or in what regard?"* (See the revised semi-structured interview guide in appendix).

A major difference between the first wave and the second wave has been the knowledge of the interviewers. Whereas the first eleven interviews were conducted with the purpose of exploration and with few background knowledge, the second wave in 2018 got conducted with profound background knowledge and with the aim to broaden this knowledge and to clarify gaps or questions, and to build theory. For instance, more emphasis has been put on the reasons for the selection of the two participating states. The question has been asked as follows: *"According to one comment, four states were asked, but only two accepted: HP and TN. Why HP and TN? What have been the other two possible states? Why not Kerala?"* (See the revised semi-structured interview guide in appendix). Also, the standardized questions got specified and simplified. These were *"Do you know any experts in HP and TN?"* and *"Where can I find documents stating the decision to participate or withdraw from PISA?"* In the following section the processing and documentation of the collected data is discussed.

5.3. Processing and documentation of the collected data

To meet the standards of good scientific research (e.g., transparency) a detailed management and documentation of the collected data was necessary. The following section describes the data set and the processing of the collected data.

5.3.1. Data set

The data set contains: *A review of academic journals* from 2003 up to 2019: For the Indian research context: Contemporary education dialogue (CED); Indian Educational Review (NCERT); Journal of Indian Education (NCERT); Journal of Educational Planning and Administration – A Quarterly Journal (NIEPA), and selected papers from Economic and Political weekly. Furthermore, *a review of publication series of (inter-)national organizations* such like APF's Learning Curve. A Newsletter from Azim Premji Foundation and ACER's: International Developments. For the german-speaking research context: Tertium Comparationis (TC); Zeitschrift für Erziehungswissenschaft (ZfE); Zeitschrift für Pädagogik (ZfP); Zeitschrift für internationale Bildungsforschung und Entwicklungspädagogik (ZEP), Pädagogische Korrespondenz. For the transnational research context: Compare; Comparative Education; Comparative Education Review, as well as other transnational journals. Furthermore, selected articles from newspapers such as The Hindu; Indian Express; Times of India; Die Zeit and others more (as described in this chapter earlier, see also the table overview of the analysed journals within the appendix).

A collection of documents: Laws, e.g., the constitution of India, the RTE 2009. Policy documents as e.g., the NPE's 1968 and 1986, and some of the drafts for the new National Education Policy 2020. Further, the report of the PISA 2009 Plus project by ACER (Walker 2011) and some exemplary photocopies of the PISA 2009 Plus test items in Tamil language. Additionally, annual reports of government and quasi-government institutions such as the education ministry (MHRD), NCERT and NUEPA/NIEPA, as well as annual reports of national and international non-governmental organizations such as ASER, Central Square Foundation, (hereafter CSF), ACER, and OECD, as well as other publications of OECD and the World Bank (for instance, working papers or mission statements). Furthermore, parliament requests from 2014 till today related to India's participation in PISA 2009 Plus and to the possibility of India re-joining PISA, related to NCERT's National Achievement Survey (NAS) and to the new National Education Policy (NEP 2020), as well as to the World Bank and UNESCO. Lastly, a concept note, resp. strategic paper by NCERT on the implementation of

the Item-Response-Theory (IRT) within NCERT's NAS and a conference paper by DFID and NCERT on NCERT's NAS (see also the table overview of documents in the appendix).

The conduct of interviews, encompassing three exploratory interviews, fourteen semi-structured interviews based on an interview guide, and approx. five informal not technical recorded discussions with experts. The interviews were conducted in Bayreuth, New Delhi, Bangalore (Karnataka) and Coimbatore (Tamil Nadu) (see table overview of the interviews within the appendix). The following picture gives a brief overview of the different types of data:

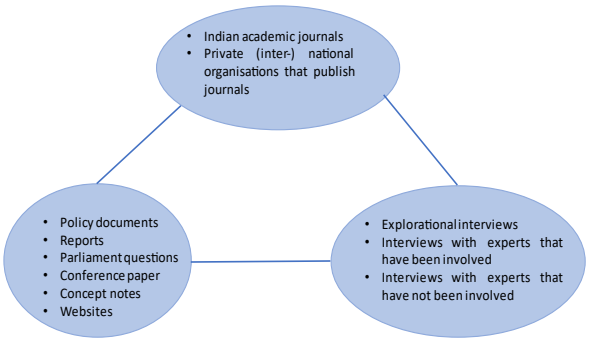


Figure 2 Methods of data collection

To analyse the information collected in the interviews with experts, these were transcribed as described in the following section.

5.3.2. Transcription and anonymization of the interview data

Processing interviews – transcribing them and analysing the transcripts is "time consuming and requires careful attention to detail" (Forsey 2008: 68). Therefore, to manage big qualitative data sets, computer-aided data processing and analysis has been established as a widespread standard and practice in social science, following Kuckartz (2018: 163). Using software can be of help in the phase of data collection, documentation, and analysis. Moreover, it serves as a data storage system. At least until now, the analysis and interpretation of qualitative data is nevertheless a human capacity. For instance, figuring out a robust category system is a cognitive performance (ibid.: 27). To my mind, however, recent developments in artificial intelligence, challenge this certainty about the unique human capacity of making sense. This has been demonstrated prominently based on the example of AlphaGo Zero: After 40 days, the software „surpasse[d] all other versions of AlphaGo and, arguably, [became] the best Go player in the world. It [did] this entirely from self-play, with no human intervention and using no historical

data"[245]. Indeed, Kuckartz (2018) points out, that to a minor extent content analysis programs based on artificial intelligence already do exist. For instance, in the realm of network research, Lietz (2007) suggests doing semantic network analysis. The aim is to do a computer-aided content analysis of big data sets, that maps out complex semantic systems without losing the semantic embeddedness of the concepts and words.

In this project, the collected data has been processed by using the software programmes Microsoft Office, f4 Transkript, and f4-Analyse. The analysis and interpretation took place man-made. In a first step, to get an overview on the content of the audio files, a table overview of the different interview passages has been made. In a second step the audio files were transcribed using the programme f4. The aim of the transcription process has been to make the information expressed in the interviews accessible for the analysis of the overall collected data. Hereby, the content mattered, not *how* these ideas were expressed. A literally transcription including elements of oral speech was not necessary (see the key for transcription within the appendix). The interview data was anonymized to protect the informants. The study does without a clear assignment of statements from the interviews to prevent any possible identification of interviewees. Knowledge taken from the interviews is summarized and cited indirectly. Only in few cases, catchphrases are taken up. These are highlighted in Italic letters. While doing the analysis of the full data set, the transcripts of the interviews were considered as equal to the documents and literature texts. Statements from the interviews were summarized and related to documents and literature texts.

5.3.3. English as mediating language

The working language within the project has been English from the beginning. This because the project partners and interviewees were either native speakers or were able to speak English. As most of the existing literature is already written in English, and as the data had been collected in English, writing in English turned out to be more sensible than writing in German or any other language. But more importantly, writing in English became inevitable during the research process, with the growing idea of rendering the work accessible to the English-speaking world. However, over the course of the project, I observed, that in the Indian context, more and more documents were published only in Hindi. Without any resources for translation, these were not accessible, and thus could not be included within the analysis.

[245] Blogpost: Silver, D./ Hassabis, D. (2017): AlphaGo Zero: Starting from scratch https://www.deepmind.com/blog/alphago-zero-starting-from-scratch [13.07.2022].

An essential problem in analysing and interpreting any data material is making sense. According to Przyborski/Wohlrab-Sahr (2010: 308), in the case of analysing foreign language material this problem is crucial in every phase of the research process: from collecting the data, processing the data as well as analysing and finally presenting the data. The core question is therefore: „How shall we engage with data material, that has been collected in a foreign language?" (Przyborski/Wohlrab-Sahr 2010: 308; T.V.: translation). Przyborski/Wohlrab-Sahr (2010) suggest reflecting on the own language competency as well as on the knowledge of the cultural context of the study. They point out, that data material can be interpreted and discussed with experts that know either the language or the cultural context or both. Moreover, it is necessary to reflect on the language in which the data material shall be transcribed and what kind of resources are necessary and available for this task. Also, to decide, whether it is necessary to transcribe the whole interview or only some passages and parts. Translations do not come without difficulties. For example, there may be a loss of clarity, and deviations from the original might occur. Another aspect is, that the interpretation process can consume a lot of time but can as well enrich the analysis with new and interesting insights. A better knowledge of language and culture of the object of investigation may also be a reward. For the purpose of presentation – when the presenting language differs from the data language - presenting bilingually might be an option. This means depicting quotations in the original language as well as in the translated one. Generally spoken, Przyborski/Wohlrab-Sahr (2010: 309) advise that making a reference to the translation problem and reflect upon it is always possible, as well as trying to stick to the original text as far as possible. For this, footnotes and memos are of help.

5.3.4. Ethics

As discussed, in chapter 4, a crucial problem of doing a case study, very broadly situated in comparative education, is the problem of ascription and exoticization of the specific case (see Clemens 2009b; Raina 2016; Rottenburg 2005). The question of *doing research on or with India?* has been a key question over the course of the study, leading to several thoughts and deliberations on how to conduct research that is culture-sensitive and considers postcolonial theory perspectives. Donald (2012), for instance, stresses how intensely entangled the human experience is. Instead of maintaining ignorance against other knowledge systems, taking possession of these knowledge systems, or destroying them, he makes a plea for developing a

„decolonizing research sensibility" (ibid.: 536).[246] Doing research with an approach of ethical relationality, means to "not deny difference, but rather [seeking] to understand more deeply how our different histories and experiences position us in relation to each other" (ibid.: 535).[247] The author looks for multiple, parallel, and interwoven perspectives that manifest themselves in stories. He considers the standpoint of the storyteller, specific contexts, places and artifacts in the analysis. Being reflective on the own perspective as a researcher is of importance, as likewise being reflective on the viewpoints expressed in stories told by interlocuters (ibid.: 549). He aims at

> "telling a story that braids parallel perspectives together to show that our individual preoccupations with certain artifacts, places, and colonial constructs are really part of a larger collective and difficult understanding of those concerns (ibid.: 548)."

Furthermore, he holds, that stories give not only descriptions of actions, rather they inform us about relationality and differences, about power dynamics and transformation processes (ibid.: 548). Todd (2016: 19) points out that not only an ethical relationality – understood as „pay[ing] attention to who else is speaking alongside us" – is required but also a methodological relationality. We might connect these thoughts later with Haraway and other thinkers that foster the relational perspective such like Harrison White.

According to Borgatti/Molina (2003: 348) there is a necessity for „ethical guidelines for network research in both academic and managerial settings". In this endeavour „protecting research participants from harm" (ibid.) is important as well as „protecting the network research enterprise from backlash by respondents" (ibid.). In view of possible negative consequences, Kadushin (2005) suggests cautiously collecting data and carefully monitoring the research process. He states: „Proper handling of the data and the analysis, including complete control by the investigator can virtually eliminate harm to respondents and those they nominate" (Kadushin 2005: 139). Furthermore, research findings often only help academic scholars and organizations within the scientific society, however seldom research participants: „On the

[246] Donald (2012: 535) writes about the concept of ethical relationality, referring to „Plains Cree and Blackfoot wisdom traditions". In these traditions, human beings relate to the environment in multiple ways, that means with other living beings, nature, and artifacts. He states: "We need more complex understandings of human relationality that traverse deeply learned divides of the past and present by demonstrating that perceived civilizational frontiers are actually permeable and that perspectives on history, memory, and experience are connected and interreferential. The key challenge is to find a way to hold these understandings in tension without the need to resolve, assimilate, or incorporate." (Ibid.: 534).

[247] „This concept of relationality instantiates an ethical imperative to acknowledge and honour the significance of the relationships we have with others, how our histories and experiences position us in relation to each other, and how our futures as people in the world are tied together. It is also an ethical imperative to see that despite our varied place-based cultures and knowledge systems, we live in the world together with others and must constantly think and act with reference to these relationships. Any knowledge we gain about the world interweaves us more complexly with these relationships and gives us life." (Donald 2012: 536).

benefit side, academic researchers always benefit, organizations, society and science may benefit, but individual respondents rarely do." (Ibid.)

Following Borgatti/Molina (2003), the conduct of the research in this project shall impose no harm for the research participants, but also should not put-up impediments for the conduct of the research project. For this, the following measures were helpful: Firstly, a careful and conscious stance during all research steps and tasks. Secondly, conducting the research in English and writing the thesis in English, hence it is readable in India as well. Thirdly, citing content from interview data only indirectly and anonymously. Lastly, nurturing a critical reflection of my own position as researcher through the discussion of my work at manifold (inter-)national conferences and in (inter-)national discussion groups. Before outlining the specific analytic framework of this study in the following section, some demarcations to other possible methods of analysis are discussed.

5.4. Analysis of data

At first sight, analysing the processes of India participating in PISA 2009 Plus with discourse (network) analysis appears reasonable, as for many the OECD is to be seen as a core producer and controller of the discourse on international educational assessment and global education policy (e.g., Münch 2009[248]; Bloem 2016).[249] However, I argue against using the method of discourse (network) analysis in this project for two reasons. Firstly, I am interested to know more about the linkages between diverse nodes of influence. The analysis of the data shows that it is not the OECD who is the core producer and controller of knowledge flows, but rather other (inter-)national organisations *struggle for control* (White 2008), *shift* and *co-construct* the processes. Secondly, I do not use the method of discourse (network) analysis because the literature research and the analysis of journals showed that until 2019 hardly anybody from the scientific community wrote about India's first participation in the PISA test. This means that there was not enough material for an in-depth analysis of the change of narratives within the international scientific community. In ongoing research processes on future participations of India in PISA, there will be more material, as more and more publications on India's

[248] Münch (2009) examined power relations of the OECD PISA networks (see chapter 3) and is interested in the „dispositives of power of a global knowledge production regime" (ibid.: 32; T.V.: translation).

[249] In the method of discourse analysis, the focus is set on actors, practices, and artefacts (texts, images), to examine power relationships and power mechanisms (Keller 2011). According to White (1995) there is a difference between discourse analysis and network theory: „Discourse analysis insists on taking the perspective of a floating origin, the perspective from the person as ego. In their work, context becomes a subjective construct, one in sharp contrast with network-domain. Only a perspective which unifies domain with network can properly deal with sociocultural ambiguity, since both sociocultural structure and strategy are involved." (White 1995: 1059). However, more recently, research has been conducted that attempts on combining network theory and discourse analysis (see Diaz-Bone 2007).

participation in the PISA 2009 Plus project appeared and are appearing. An increased academic and public interest on India and PISA has been observed already over the course of the research project. With more resources, it is worthwhile to include public data, especially social media, in the analysis. Based on Honan (2015), I argue thus, that a modified discourse (network) analysis, that is not only informed by Foucault, but also by Deleuze/Guattari is possible. Honan writes:

> "This ceaselessness of the connections between rhizomes shifts attention away from the construction, inner meaning, particular reading of any text towards a new careful attendance to the multiplicity of linkages that can be mapped between any text and other texts, other readings, other assemblages of meaning." (Honan 2015: 212)

Accordingly, the potential lies in the fact, that Deleuze/Guattari stress multiplicity, complexity, and dynamic processes. They caution to fix a statement to a specific meaning and motivate to look for multiple readings and connections between texts. However, as I stated earlier, doing an analysis that is informed by White and Galison appeared to be more suitable for me.

A qualitative multi-layered analysis of social reality based on objective hermeneutics (see Hummrich/Kramer 2018), could have been another possibility for this project. But from the perspective of network theory, Hummrich/Kramer's research design does not fit the purpose of analysing linkages between different levels, and it appears to be static. To my mind, this model does not allow us to cover dynamic processes in the analysis. Furthermore, I argue, that the method of objective hermeneutic is not suitable for analysing connectivity and reciprocity between relata. Objective hermeneutics focuses on analysing single actors and their meaning making processes and looks for descriptions of the state of being of a single actor (see Lamnek/Krell 2016; Flick 2018). Whereas a difference between the methods of objective hermeneutic and network analysis is, that the latter holds, that *meaning emerges between relata* (e.g., human beings), and is therefore *socially constructed* (see also Flick 2018: 511).[250]

With the aim to examine meaning-making processes in social interactions, Bernhard (2018) links small story research and network theory according to White. This proceeding is based on two steps. Firstly, identifying „small story sequences from a text and [investigating] their identity positionings (small story level)" (ibid: 1; T.V.: adjustment of words), and secondly, „[integrating] all small stories about a tie and [teasing] out varieties of identity positionings, their patterning, and their inner logic (tie level)" (ibid.). Bernhard (2014) suggests a

[250] Moreover, because the method of objective hermeneutics looks for states of being rather than processes, it does not give justice to postcolonial perspectives. Until today, there aren't many publications in Germany but also elsewhere that bring objective hermeneutics and postcolonial perspectives together. I see a research desideratum here. This applies equally to the composition of interpreting groups, especially when research is conducted in the so-called global south.

combination of concepts by White and Lucius-Höhne/Deppermann to reconstruct narrative identity. Bernhard argues, that it is possible to combine both approaches because they focus both on relations and stories. To my mind, a difference between both approaches is the focus on the social and the relational perspective in White's conception and the fact that not only human being but also collectives and things are part of the research, whereas in the conception of Lucius-Höhne and others the focus is set only on human beings. I am not using this approach, because I am interested in the *whole network*, particularly the *reciprocal ties* between nodes of influence, and not so much in single in-depth perspectives. In my research I include non-human relata. As argued before, both terms actor and identity are not suitable in this case.

5.4.1. Outlining the analytic framework of this study

From the outlined approaches above, I take the general openness and curiosity to combine differing methodological concept offers. For the analysis at hand, I suggest to draw on a combination of network analysis (White 2008; Godart/White 2010), qualitative content analysis (Mayring 2010, 2015; Schreier 2014; Kuckartz 2018), ethnographical research (Howard 2002; Forsey 2008; Desmond 2014), and new materialism (STS) (Knorr Cetina 1999; Haraway 1988). Lastly, to consider postcolonial theory perspectives in the analysis of the data (Bhambra 2014; Castro Varela / Dhawan 2020; Clemens 2020, 2021; Kerner 2017; Woldegiorgis 2020; Woldegiorgis et al. 2021; Raina 2016). This proceeding shall be explained in the following section.

Combining qualitative content analysis and network theory (White)

According to Mayring (2010: 468), the idea of doing a qualitative content analysis is to get an overview of ideas and topics within the data set. Whereas in the beginning the method has been developed to analyse text material quantitatively and qualitatively, it is applied nowadays to a wide range of data materials, forms of knowledge, and types of analytic strategies.[251] The proceeding of qualitative content analysis is based on theory and rules. A starting point is to structure a text (or other material) into small units of analysis. These small units of analysis are examined based on the research question and based on scientific standards (as e.g., transparency, replicability, and testability of research, analysis, and documentation of results). A code is given to each text passage and a coding frame is built up eventually (ibid.: 471; see the description of the coding frame later in this chapter).

[251] The method of qualitative content analysis has been developed and transformed in different European and Anglo-North American research contexts (for a brief overview see Schreier 2014).

Mayring (2010: 472) outlines four basic types of doing qualitative content analysis: (1) *Summarizing content analysis*: Here, the key aspects of each passage get identified and a short text is produced. This is useful in cases of big data samples and when only the content is important. (2) *Inductive qualitative content analysis:* Categories are not built prior to the analysis, rather they are built based on the data and in the process of coding and analysing the data. Schreier (2014) labels this as "data-driven".[252] (3) *Explicating qualitative content analysis:*[253] Here, further context knowledge and other sources are considered when analysing the text. (4) *Structural content analysis:*[254] Specific questions are examined and categories are built prior to coding the data material. Schreier (2014) labels this as "concept-driven".

In the preliminary analysis of the data material in this study, I used the method of *summarizing content analysis* to gain a quick overview of the different statements on the relationship between India and OECD's PISA. However, for the purpose of the main analysis of how it came that India joined PISA 2009 Plus, I shifted to using the method of *inductive qualitative content analysis*. This shift to an open coding and data-driven way, has been necessary to analyse the data set in-depth and to grasp the inherent structure and nature of the data set. Though while clustering and interpreting the data material, the context of the collection of the data material had been considered and some of the categories of the coding frame had been built in a concept-driven way based on the semi-structured interview guide, the methods of explicating qualitative content analysis and structural content analysis were not considered as entirely suitable for this study.

Common to all types above is a rule-guided, but at the same time flexible way of proceeding (see Schreier 2014). *Rule-guided*, as steps and phases are outlined, which built up upon each other. *Flexible*, because the design and arrangement of these steps and phases varies according to practitioner and research school.[255] Mayring (2015: 85) describes six phases for an inductive qualitative content analysis, which had been used as an orientation frame for the analysis at hand: The first phase – the preparation of the analysis – is about processing the collected data (e.g., transcribing audio files), selecting parts of the data set, and defining the focus of the analysis (research question). In a second phase, relevant text passages are provisionally marked, paraphrased, and memos are written. This proceeding is inspired by open coding processes of grounded theory. However, differently to the approach of grounded theory, the qualitative

[252] However, she distinguishes between coding data-driven and inductive coding.
[253] Flick (2018: 486; T.V.: correction and without italic letters) uses the term "[e]xplicative content analysis".
[254] Flick (2018: 486; T.V.: correction and without italic letters) uses the term "[s]tructuring content analysis".
[255] That the description of the phases varies becomes visible when comparing different methodology guides (see e.g., Schreier 2014; Flick 2018; Kuckartz 2018).

content analysis aims at organizing, clustering, and reducing the data set. Depending on which specific type of qualitative content analysis is conducted, the text material is coded based on a concept-driven coding frame, or alternatively, codes and categories are identified while coding and processing the data material. In doing so, a coding frame emerges. It is important to test this coding frame on a short amount of data before applying it to the whole data set, which is the third phase. In a fourth phase, especially, when coding in a data-driven way, the coding frame is re-organised, and the data set is re-encoded where necessary. In a fifth phase, the material is processed one last time and a short summarizing description of each case is written. Lastly, in a sixth phase, cases are interpreted and analysed. Here, Mayring (2015) suggests counting frequencies of codes and categories. However, this step can be extended to comparing and contrasting cases with other cases. Theoretical assumptions can lead to thesis building or to the formulation of small theories. Finally, the result of the analysis can be linked up to the existing research discussion.

The advantages of doing qualitative content analysis according to Mayring (2010) are: Firstly, the rule-guided way of proceeding with a clear structure that provides orientation, for both the researcher and the reader. Secondly, the coding frame is not static but flexible in its nature, allowing adjustment during the full ongoing research process. Thirdly, it is based on scientific standards. Fourthly, it offers the possibility to process a big amount of data. Lastly, qualitative content analysis might be easily combined and connected to various other qualitative, quantitative, or mixed-method approaches. As limitations of the qualitative content analysis, the author mentions the need of a well-defined, narrowed down research question and secondly, the possibility of building a coding frame.

In my assessment, the method of qualitative content analysis offers the advantage that a big amount of different data can be structured, systematized, and analysed. However, there is the danger to lose sight of linkages and relationality within the data set. The qualitative network analysis of the data set at hand showed a huge and complex number of linkages between diverse nodes. Thus, I suggest that combining qualitative content analysis and qualitative network analysis helps in doing justice to the relationality of the data material as well as it enables the researcher to get a much-needed overview of the data set. Both approaches complement each other in the goal of *achieving a systemized overview of the data set and the inherent relationality of the data*.

This attempt of combing qualitative content analysis and network research is not new. In fact, Hollstein (2011) makes a plea for combining qualitative approaches and network research and for mixed method research designs. Qualitative approaches serve to describe the nature of

the object of analysis, but they "can also be of explanatory value: they can help to uncover how networks actually matter (...) and how networks evolve and change over time" (ibid.: 408).[256] Furthermore, they help in researching the "problem of agency, linkages between network structure and network actors, as well as questions relating to the constitution and dynamics of social networks." (ibid.: 404). A mixed method approach brings in the possibility that the object of analysis can be described in-depth (qualitative methods) and in a vast range (quantitative methods) (ibid.: 404). There is not one way of doing qualitative research, rather this is "a heterogeneous research landscape, which, due to this variety, is difficult to comprehensively account for." (ibid.: 404).[257] However, oftentimes studies are based on interviews with experts aligned with document research (see ibid.: 406).

According to Hollstein (2011), analysing network dynamics is still a big theoretical and methodological task. As methods the conduct of interviews, participant observation, and the analysis of documents is equally possible. Changes in networks can be researched, when looking for actors and their orientations, as well as their practices in interaction with other actors (see ibid.: 408). Hollstein cautions for analysing change in networks only with quantitative methods, as "standardized studies on whole networks mostly limit themselves to assessing only a few contact and relationship variables and asking only about more general relationship patterns" (ibid.: 409). For the study of complex networks and for grasping their inherent nature (as far as this is possible), she suggests the "use of open-ended, less structured methods of collecting data on certain aspects of network structures can prove to be more effective than sole reliance on standardized procedures" (ibid.: 409). Depending on the respective research question and object of study, "qualitative interviewing sometimes may be the best (or only) way of obtaining information from certain populations" (ibid.: 409).

For investigating underlying meanings and relationality within egocentric networks, the research group around Andreas Herz developed the method of qualitative structural analysis (see Herz et al. 2015). Here, the conduct of a qualitative interview is paired with the tool of drawing network maps (for a description see chapter 5.5.). In a first analytic step, these network maps are described and transformed into a text (narrative). In a second step of analysis, the network maps and texts are interpreted. Of interest is gaining insights of the network structure

[256] "The potential benefits of a qualitative research approach in network research, however, are not just limited to the opportunities for exploring and developing new concepts" (ibid.: 404).

[257] "Among them are different forms of observation, interviewing techniques with low levels of standardization (such as open-ended, unstructured interviews, partially or semistructured interviews, guided or narrative interviews), and the collection of documents or archival data." (Ibid.: 404). For example, when exploring egocentric networks of a certain group of people, networks of organizations, or networks in their entirety (German: 'Gesamtnetzwerk') (see Hollstein 2011: 406).

and its underlying meanings for the interviewee (ego). In a third analytic step, the text composition is in the focus. Interpreting discussions are recorded, and summaries are written. In writing memos and aiming at finding key passages, this method is referring to reconstructive qualitative research (Bohnsack 2010) and grounded theory (Strübing 2014).

Hack (2019) suggests combining qualitative structural analysis according to Herz et al. and qualitative content analysis, specifically the type of structural content analysis, according to Mayring for the analysis of ego-centred networks. She is doing this by integrating the concept "network" as a main category and "positions (actors/nodes)", "relations (ties)", and "structure" as subcategories in the coding frame.[258] She then looks for descriptions of each category in the data material to describe positions and relations and in a second step to analyse them. Additionally, she looked for descriptions of relations and structural holes amongst other nodes in the data material.

My proceeding is based on the outlined earlier contributions of Hollstein (2011), Herz et al. (2015), and Hack (2019), but differs in certain aspects. I argue to move beyond Hollstein, and to not draw the line between social constructionism and natural science. For this, I consider the dimension of new materialism and am drawing on Haraway (1988) and Knorr Cetina (1999, 2007), which will be outlined shortly afterwards. I do not use the approach of qualitative structural analysis by Herz et al. (2015) because I am interested in the *whole network*, in the *reciprocal ties between nodes*, not so much in the single in-depth perspectives of one node, as for instance the OECD, which has been done already briefly by the research group around Camilla Addey (see Addey/Gorur 2021). Like Hack (2019), I integrated the dimension of *relationality* in my coding frame by taking *networks as a main category*. The name of the main category is *Networks and Subgroups, Exchange and Lobbying*. In a data-driven way, I created the following subcategories: *Networks and subgroups*, *Messaging apps and phone calls, documents* and *funding/money*. The category on networks in my coding frame encompasses descriptions of networks in general and descriptions of subnetworks in particular. Positionings and relations are considered as well as diverse modes of communication, e.g. via messaging apps and phone calls. There are for instance intra- and inter-institutional whatsapp-groups. Further, it contains a description of flows of knowledge in networks as a cascade. Furthermore, descriptions of documents are collected, e.g., the Right to Education Act 2009. Lastly, flows of money and funding, e.g., the funding of PISA (see the description of the coding frame in chapter 5.4.2 and a detailed table overview in the appendix).

[258] As Hack (2019) is an online publication, there are no page numbers.

The combination of qualitative content analysis according to Mayring (2015) and network research according to White (2008) enabled me to *identify nodes of influence and expressed topics* within the data set. Using stories as a tool of analysis helped in shedding light on different *descriptions of the process of India joining PISA 2009 Plus*, similarly on *reflections* of this process, on gaining *knowledge of the history and embeddedness of human beings, organisations, events, and material nodes* (for instance: the PISA test). Through identifying nodes and their connecting ties, *subnetworks* and implied *trading zones* became visible.

While encoding the data, limitations of a combination of only qualitative content analysis and network analysis became visible. It was necessary to think outside the proceeding of encoding data and aligning the codes to categories as suggested by qualitative content analysis. Network research according to White allows to integrate culture into the analysis but misses out on hierarchy and power dimensions. Secondly, it focuses on structure and configurations but misses out on the dramatic nature of stories. In order to being able to describe flows of knowledge and trading zones in their' relationality, and being inspired by Ball (2012, 2016), Howard (2002) and Desmond (2012, 2014), I integrated educational relational ethnographical research in the analytic framework.

Combining network theory, qualitative content analysis and ethnographical research methods

Earlier in this chapter, the combination of network theory and ethnography had been displayed (see the works of Ball 2008, 2012, 2016; Howard 2002; and Desmond 2012, 2014). It had been stated earlier, that the goal of this study is not to find a thick description (Geertz 2017) of India joining PISA 2009 Plus, but finding *descriptions that highlight the relationality* amongst different nodes of influence (see Schmitt 2017).

To cover the dramatic and relational nature of stories in the method of qualitative content analysis, I decided to code not only text passages spoken by interviewees but also by the interviewers. For this again Forsey's approach of *doing ethnographic interviews* was helpful. In his description of doing ethnographic interviews, Forsey (2008) starts by doing a biographical summary of each interview. Secondly, he codes the transcript. Lastly, he writes a short portrait of the interview, aiming at developing *biopics*, that "provide a vivid way of demonstrating the cultural influences and the structuring forces impacting on an individual's life, the goals they pursue and the choices they make" (ibid.: 70). By writing a summary of the interview, he seeks to "locate the cultural context of the interviewee's life" (ibid.), considering "the material conditions and structural forces underpinning the socially patterned behaviour of

the persons that emerged in the interview" (ibid.).[259] As Forsey (2008) does not explicitly tell us, how he is coding the ethnographic interviews, I suggest, drawing on qualitative content analysis is one possibility. In this research project, interviewees were asked in the beginning to present themselves and their work as kind of *warming up*, and to get a more detailed picture of the *situatedness* of the interviewee. But instead of writing biopics of each interviewee, *network maps* with a description focused on the research question, how India joined PISA 2009 Plus, have been created. Additionally, network maps with a description have been created concerning the specific embeddedness of key nodes of influence (mostly organisations, but also events).

Like Bernhard (2014), the data set got analyzed with a focus on stories or story segments, told by the interviewees, or, in my case, also displayed in documents, or journal articles. Secondly, the inherent *descriptions of positionings and relations* was distracted from the text and coded in the coding frame. To grasp the nature of the story, – as Bernhard puts it: "their patterning, and their inner logic (tie level)" (Bernhard 2014: 1) – I suggest to include the perspective of educational relational ethnography in the analysis. This means *thinking outside of the box*, looking for images and patterns and integrating the practice of free association. This however paired with being sensitive for postcolonial theory perspectives.

The question of how network theory, qualitative content analysis and ethnographic research methods can be connected is a current methodological question in social science (see Flick 2011, 2018; Hollstein 2011; Bollig et al. 2015). A review of the work of Ball (2008, 2012, 2016) showed that including things and events in the analysis is timely. With Rottenburg (2005) and Amit (2000) it had been earlier discussed that the researcher is involved in the research process. For me this meant, reflecting my own position in the research process. What is missing is a profound consideration of postcolonial theory perspectives in the framework as well as what role materiality plays in the research design, what I am going to suggest in the following.

Including the material dimension and being sensitive to postcolonial theory perspectives

Fenwick et al (2015) give ideas on how to include the material dimension while collecting data. They suggest using the method of *diffractive analysis* according to Barad (2007) as one way to integrate the material dimension in the analysis. But Barad's approach appeared as not suitable in this project, because it is too complex and contested, as shown earlier.[260] More fruitful

[259] Furthermore, it could be interesting to connect qualitative content analysis with grounded Theory (see Strübing 2014). But this endeavor goes beyond the frame of this study. Nevertheless, this is an intriguing area to turn towards in future research.

[260] Investigating common grounds between the concept of diffractive reading by Haraway (Lemke 2020) and diffractive analysis by Barad (2007), and combining or differentiating it from the approach of Deleuze/Guattari (see Murris/Bozalek 2019) must stay for further research processes.

appeared the approach of Ball and colleagues (Ball 2008, 2012, 2016; Hogan 2016). Ball's approach is inspiring because he uses web-searches on nodes, documents and interviews to create a data base of nodes and linkages. Secondly, because of his drawing of a preliminary network computer-aided or by pen and paper. Thirdly because he integrates things, events and concepts in his research such as money, meetings, and assessment. Hogan (2016) includes annual reports, which have been in my data set an important source, too. Addey/Gorur (2020, 2021) combine STS with ANT in order to trace the tie management of OECD's PISA-group. However, I looked for a different approach that did not focus on one node and its tie management, rather I looked at different *nodes of influence and their struggle for control* (White 2008).

Earlier the work of Haraway (1988), Knorr Cetina (1999, 2007), Häußling (2020) has been introduced. Haraway (1988: 594) calls these „material-semiotic generative nodes" (ibid.: 595) or "'material-semiotic actor[s]'" (ibid.) pointing out to the understanding of „the object of knowledge as an active, meaning-generating part of apparatus of bodily production" (ibid.). Knorr Cetina (1999, 2007) speaks of epistemic cultures. As Häußling (2020) puts it „socio-material assemblages" (ibid: 50; T.V.: translation), or „socio-material networks" (ibid.). In my framework of analysis I integrated materiality by drawing on the concepts of epistemic cultures (Knorr Cetina) and epistemic spaces (Raina). This helped in describing the entanglement of human beings, things and events in subnetworks or trading zones. In doing an ongoing web-based search, keeping informal communication with interlocutors, in not focusing primarily on specific human beings as source of information, but rather in focusing on other nodes of influence like organizations and things, I tried to be sensitive to dynamic processes and change.

Further, I considered postcolonial theory perspectives (Bhambra 2014; Castro Varela / Dhawan 2020; Clemens 2020, 2021; Kerner 2017; Woldegiorgis 2020; Woldegiorgis et al. 2021; Raina 2016) to correct the methods of qualitative content analysis, network theory and educational ethnographic research. Qualitative content analysis aims at systematizing and measuring the data set, it runs the danger of overseeing dynamic processes and relationality between different aspects within the data set.[261] Network theory has the potential to miss out on power dynamics. Questionable is also, what kind of nodes, relations, and stories are collected and interpreted, and which other nodes, relations, and stories remain unseen and excluded from the data set. For this Donald (2012) and Todd (2016) had been helpful in reflecting on *who is*

[261] To my knowledge, at the beginning of the research, there had not been a handbook on considering postcolonial perspectives in the conduct of qualitative social research in the German-speaking discussion. However, there is an upcoming publication by Flick (in press, to be published in 2022) on qualitative research and postcolonial perspectives. This is the first edition of Flick's handbook that broadly deals with postcolonial theory perspectives.

speaking and *who is speaking alongside with us*. Lastly, educational relational ethnographic research runs the danger of ascribing stereotypes to the object of analysis.

Bringing everything together

The analytic framework of this study is based on the combination of different theoretical influences and methodological proceedings. It is centred on the idea to not use the concept of story merely as the final finding of the research, as for instance a *thick description* (Geertz 2017), a reading of a process or socio-cultural phenomenon, but rather to *use stories as a tool of analysis* to identify key nodes of influence, their embedding, and most importantly shared knowledge within different subnetworks and trading zones. The method of qualitative content analysis according to Mayring (2010, 2015) helped in developing a coding frame, summarizing, comparing and contrasting the different types of data, and in counting the frequency of codes and categories. The collected data – interviews, documents, and literature – had been analysed with qualitative content analysis (Mayring 2010, 2015; Schreier 2014; Kuckartz 2018). Story segments on how it came that India took part in PISA 2009 Plus and other important passages were searched for and identified. Then topics and ideas were clustered, and categories were built. Memos were written to collect ideas and theory segments and to dos. Advises for the research – literature, journals, experts, and other suggestions – were extracted from the texts and compiled in a table.

To not lose sight of the *relationality between the nodes and topics*, I combined qualitative content analysis with network theory and network analysis. The focus has been set on counting nodes and ties, on figuring out subnetworks, on including the dimension of culture and change, and on focusing on relationality, and on using maps as a tool of visualization of subnetworks, trading zones and relationality in general, which will be explained shortly afterwards. To identify key nodes of influence, potentially interesting nodes of influence from the data set have been compiled in a table and a web-based search on these nodes has been done. Followed by writing a short description of these nodes. For instance, in the case of organisations, their mission statement, history, and how they work. The focus has been set on counting, how often these nodes were named in the data set and which kind of relations to other nodes exist and whether these relations are reciprocal. After that, to identify shared stories, in a first step single perspectives have been summarized and visualized in network maps. I decided to not write a *biopic* of each interview as suggested by Forsey (2008), but to draw a *network map* for each relevant interview and to write a description of the map. Additionally, these maps and descriptions were compared, and combined with maps from the other interviews as well as with

maps based on documents and literature. Then in a subsequent step, the single perspectives were brought together in a synopsis and visualized in a common network (or subnetwork). A limitation of this proceeding is that also free hand drawn network maps add to a static impression of processes due to its two-dimensionality and the arrangement of nodes and lines (see the discussion in chapter 5.5). In order to overcome the rigidness of building categories within the method of qualitative content analysis, I added the perspective of educational relational ethnography. Three aspects were here of importance. Firstly, the practice of free association – *thinking outside of the box* – looking for images and patterns and lastly being sensitive for postcolonial theory perspectives. This brought me closer to the goal of looking for *multiple stories and perspectives*, as introduced earlier by referring to the two examples of contemporary literature.

A problem with the outlined framework of analysis is, that often one is striving after cohesion, but the social reality is a puzzle with millions of pieces. Ruptures, and tensions do exist. Single pieces must not necessarily fit together. Speaking with Appadurai (1996), Deleuze/Guattari (2004), and Hollstein (2011), the idea is to look especially at finding *disjunctures*. Of interest are not only stories and data *within the scope of the synopsis* of different perspectives. Of interest are also stories and data *outside the scope of the synopsis*. Lastly, by integrating the material dimension, the analytical framework aims to *decentre the human being as focal unit of analysis*. Relying on STS and new materialism enabled me to include the material dimension in researching knowledge production and transmission. The figure below gives an overview of the analytic framework:

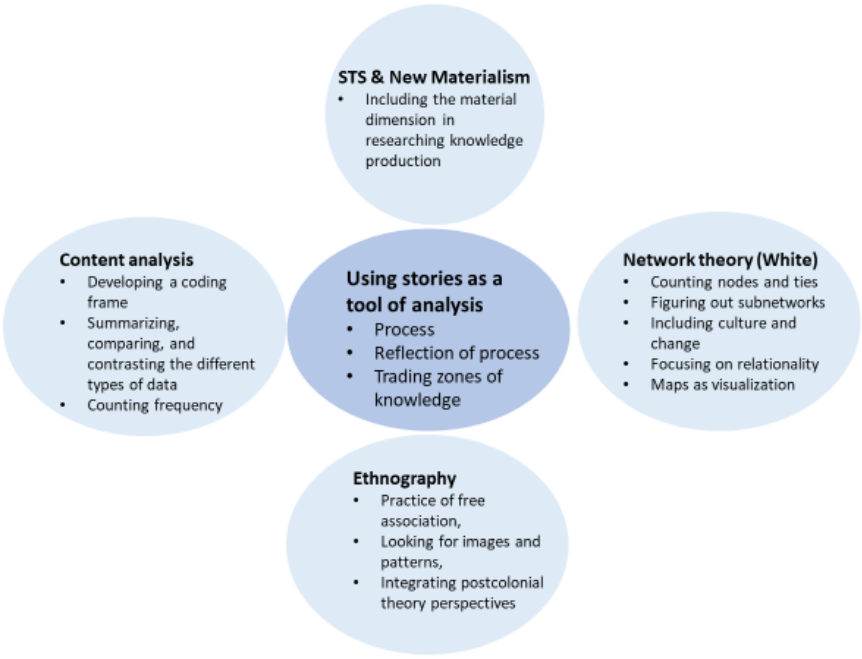


Figure 3 Theoretical-methodological framework

From the development of the analytical framework for this study and based on my reading on postcolonial theory perspectives (Bhambra 2014; Castro Varela / Dhawan 2020; Clemens 2020, 2021; Kerner 2017; Woldegiorgis 2020; Woldegiorgis et al. 2021; Raina 2016), I gained four insights. Firstly, it is possible to combine network theory and qualitative content analysis. Secondly, methods that have been developed in one context cannot be transferred to another context without any modification. Thirdly, the decolonisation of knowledge and research encompasses theory, research design, methods of data collection, tools of analysis and the presentation of findings. Fourthly, it is helpful and necessary to build heterogenous interpreting groups in order to discuss the data material.

5.4.2. Coding frame

Building a coding frame is a necessary tool to get an overview of the data material. It serves as the basis for theory development. There are many different styles of coding frames. A coding frame is set up out of *categories*. Categories can be divided in main categories, subcategories and sub-subcategories. Two subcategories and one main category are the minimum requirement for a coding frame (see Schreier 2014: 174f). In building the coding frame the researcher constantly moves between generating and structuring of categories (see Schreier 2014: 176). Schreier (2014) differentiates between categories and codes. She uses the term category to indicate main- and subunits of the coding frame. She defines codes as connected directly to specific text passages. Through the practice of connecting a code to a text passage, and likewise codes to categories, a coding frame emerges.[262]

A category includes a name, a description, rules, and examples. Schreier (2014: 175) mentions three requirements of building categories. These are the requirement of one-dimensionality, the requirement of mutual exclusiveness, and the requirement of exhaustiveness. The requirement of one-dimensionality applies to main categories. These should focus only on one aspect of the analysis. The requirement of mutual exclusiveness applies to subcategories. These should not overlap with other subcategories. Lastly, the requirement of exhaustiveness applies to the entire data set. Every bit of the data set should be considered and encoded to prove the validity of the coding frame. Schreier (2014) puts emphasis on the aspect that the building of the coding frame must be seen in context. In practice, not all three requirements must be or can be met. Categories can be built in a data-driven way, or a concept-driven way, or through a mix of both ways. Analysing the data in a concept-driven

[262] However, according to Kuckartz (2018), the terms category and code are not easy to differentiate. He uses both terms as equal to each other.

way, means approaching the material with theory. Identifying categories in a data-driven way implies clustering the content of the text without any theory (ibid.: 176).

There are three strategies for building categories in a data-driven way (see Schreier 2014). These are subsumption and successive summarizing, as well as comparing and contrasting. *Subsumption* means filing subcategories in a data-driven way within the main categories that are created in a concept-driven way by looking at the data. The strategy of *successive summarizing* is used for constructing the whole coding frame based on the data material. In a first step, passages are identified, rephrased, and reduced to their main manifest meaning. In a second step, similar rewordings are collected and systematized within the existing coding frame (ibid: 176). Additionally, the strategy of *comparing and contrasting* may help as this means comparing and contrasting different kinds of data material (ibid).

The building of the coding frame takes time. It is best understood as a process. Schreier (2014: 175) recommends to not built it in one attempt, but rather to split the process in small units and to focus on small sections of the data material. This allows to constantly modify the coding frame and to prevent being cognitively exhausted by the data. Once a first version of the coding frame exists, it can be tried out onto another section of the data material.

Categories within the coding frame of this project emerged partly concept-driven, and partly data-driven. The category *Selection of the states to test* for example emerged as a concept-driven category out of a question from the interview guide on how it came that these two states were chosen and not any other. The category *Diversity and context-sensitivity* emerged as a data-driven category in the process of coding the data material and based on the strategy of successive summarizing. Reading keywords such like *student assessment*, OECD, and *PISA* were transferred into categories and subcategories within the coding frame as *International organisations* for OECD and PISA, and *(Inter-)national educational testing in India* for student assessment. The category *Networks and subgroups, exchange and lobbying* encompasses descriptions of networks in general and descriptions of subnetworks in particular. Positionings and relations are considered as well as diverse modes of communication, e.g., via messaging apps and phone calls. The category contains a description of flows of knowledge in networks as a cascade. Furthermore, descriptions of documents are collected as well as descriptions on flows of money and funding. This category is at the heart of the coding frame as it considers positions, relations, structure, images, materiality and stories, trading zones and netdoms. The coding frame served as a memory data base, as well as for the purpose of documentation of the

work progress, and to get an overview of the data material. The main categories are depicted in the figure below:[263]

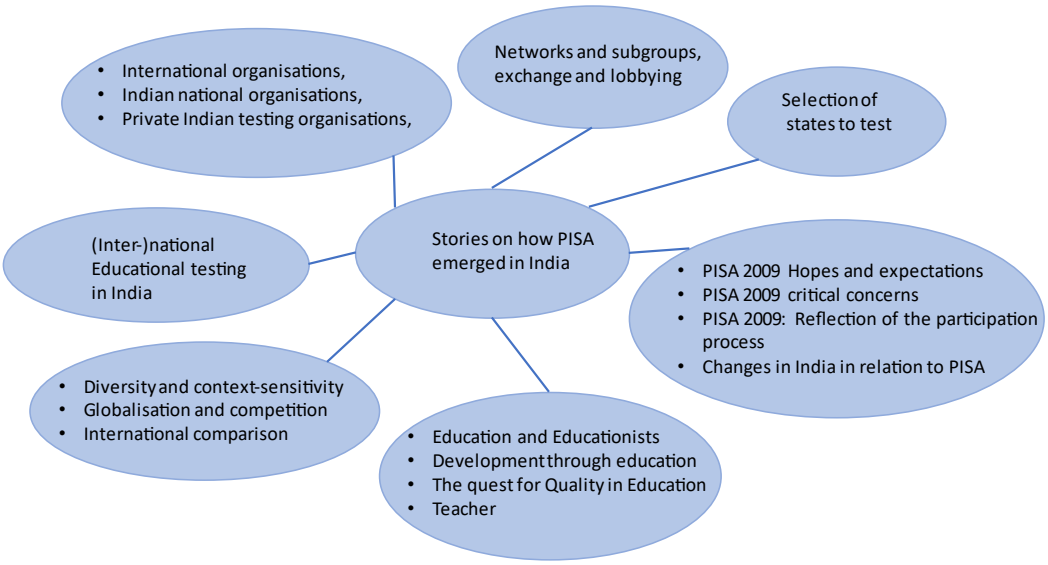


Figure 4 Overview main categories

(1) On nodes of influence (organisations): International organisations, Indian national organisations, private Indian testing organisations
(2) On knowledge transmission processes: Networks and subgroups, exchange and lobbying
(3) On the process of PISA 2009 in India: Stories on how PISA emerged in India, selection of states to test
(4) PISA 2009: Hopes and expectations, critical concerns, reflection of the participation process, and changes in India in relation to PISA
(5) On testing: (Inter-)national educational testing in India
(6) On diversity and globalisation: Diversity and context-sensitivity, globalisation and competition, international comparison
(7) On education: Education and Educationists, development through education, the quest for quality in education, teacher

The last section of the chapter introduces the method of network visualization and presents the use of network visualization within this study.

[263] See the detailed coding frame including subcategories and descriptions in the appendix.

5.5. Network visualization

The method of network visualization facilitates an overview of nodes and linkages between nodes and generates thus insights on the embeddedness of nodes, as well as the structure of networks (see Krempel 2011). According to Freeman (2000), researchers are often interested in finding social and structural patterns. They look at the positioning of nodes: "Network analysts study the patterning of the social connections that link sets of actors" (Freeman 2000: 01). Freeman (2000: 01) states that visualization is at the core of network research: "Images of social networks have provided investigators with new insights about network structures and have helped them to communicate those insights to others". Straus (2010: 527) points out that especially in the realm of qualitative research, network imagery allows us to reflect upon findings with interviewees. Gamper/Schönhuth (2016) hold that visualisation is an important part of network research. Visualisation is often a method to present and illustrate the analysis. Given the *visual turn* in social sciences, the authors make a plea for putting more emphasis on visualization during the whole research process, not only during the last phase of presenting the findings of the study.[264] According to them, this is often paired with participative data collection methods and helps in better grasping the underlying meaning of networks. Using network maps in interview settings, allows interviewee and interviewer to jointly work with the told stories and to reflect upon them. In the following, the history of network visualization shall be briefly presented, and current challenges shall be discussed. Afterwards, the creation and interpretation process of network visualization with behalf of network maps in general and in particular within this project is described.

On the history of network visualization

Krempel (2011) gives a brief overview of the emergence of the theory and practice of network visualization. He mentions the example of trade networks – e.g., the silk road – that leave their traces and form geographical maps. Geographical space can thus be seen as a unit of analysis for researching and mapping social phenomena. Accordingly, the basic idea of cartography is to "represent information in visual form" (ibid.: 560). However, given the development of internet and IT-facilities, researching mobility and information flows in the contemporary social reality must be extended to researching virtual information flows, too. Today, diverse communities are researching networks and are engaging with possibilities of visualization of networks (ibid.: 558).

[264] The term *visual turn* means considering the importance of images to a greater extend in the realm of the social sciences (Gamper/Schönhuth 2016: 02).

Recent developments and challenges

Visualizations (or representations) of networks can be fed by different sources, for example surveys, interviews, and participant observation. Relational data sets contain descriptions of relations and nodes, provided that the data collection used relational methods.[265] Doing a visualization means producing "information-rich landscapes" (Krempel 2011: 567) that are readable by others. In doing so, these landscapes bring in a sense of objectivity. Network visualisations can be drawn by hand or can be computer-generated. Nevertheless, a visualization is a sensual impression. Three problems become visible. Firstly, the presentation of dynamic processes in social networks is still a great challenge (see Hollstein 2011). To depict dynamic processes, Krempel suggests drawing one map per specific point of time.[266] However, I did it differently (see chapter 6). Secondly, this refers to the problem of placement in network visualization: *where to place which node?* There are centre and periphery positions in a network, as well as positionings in the middle of both. The way nodes are coded (size, colour, form) informs us about the positions of the nodes within the network. Often, we find a mixture out of sizes, colours, and forms. It is possible to not only visually depict one entire network, but also many different single networks. One way – traditionally – is using statistics for this. The other way – which is a new field – is using qualitative measurements. Thirdly, considering diversity, and postcolonial theory positions is obligatory: being critical about the representation and classification of content, nodes, links and so forth.

Depicting nodes and links, proximity, and distance

A node can depict a human being, place, event, a concept, or an institution (see Krempel 2011: 559). The closeness of nodes enables or limits the "spheres of influence, potential scopes of action, and contexts of entities" (ibid.: 560) as well as "the type of relationship (i.e., friendship, contact, communication, cooperation, exchange, commerce, transference of information, energy flows, or food chains" (ibid.). *Nodes* can be depicted with shapes, symbols, icons, circles, quadrangles, stars, pictograms and many more. *Relations* can be depicted by lines or arrows in different sizes and widths. Arrows can point out in one direction or can be pointing out in two directions. They may run in parallel, or overlap with other arrows or lines (see the discussion of Deleuze/Guattari in chapter 4). The quality of the relation – e.g., strong or weak ties – can be depicted by using different widths or colours. Using colour schemes is another possibility to bring in structure and orientation in the network visualization. Choosing differing

[265] Basically, "relational data sets (.) describe relations among n different sets of nodes" (Krempel 2011: 559).
[266] Personal communication with L. Krempel, 1.10.2021.

colours helps to separate and cluster specific nodes and linkages. Colour schemes may also help for the purpose of visualization of explanations (ibid.: 567). Colours come with meaning, that is often bound to specific contexts. Colour schemes are "related to aesthetical impressions, cultural meanings, and physiological reactions" (ibid.: 563). The meaning of a colour is further defined by its "*hue, lightness*, and *saturation*" (ibid.; T.V.: accentuation in Italic letters as in the original). It is noteworthy to consider that besides the colour of nodes and arrows, the colour of the background of the map – for example white or black – also portrays meaning.

On network maps

Following Straus (2010: 527), network maps are suitable to visualize linkages between human and non-human relata. These linkages are often hidden in daily life and cannot be grasped by using one single (qualitative or quantitative) method alone. Network maps allow us to build a *dialogue between the different kinds of data and perspectives of actors (relata or nodes)* and support us in *understanding the underlying relationality* amongst the nodes. Straus (2010) mentions four different kinds of network maps that are common in the realm of qualitative network research: (1) ego-centric network maps, (2) non-egocentric maps, (3) material network maps, and (4) freehand drawing. There is also a new development of creating network maps that combine human nodes and non-human nodes and are called *socio-material network maps*. These offer the possibility to better grasp the socio-material reality we are living in (see chapter 4.). Network maps can be created by pen and paper or by using a computer programme (e.g., VennMaker).[267] Network maps are often used as a method in interviews to encourage interviewees in sharing their insights of their socio-material embedding in networks.

On interpreting network maps

According to Straus (2010: 534), network maps can be interpreted in different ways. One possibility might be already within the interview by asking the interviewee to reflect on the network map – e.g., the existing nodes and lines – whether something is missing, or something needs to be changed, highlighted etc. Secondly, there are possibilities after the interview. Here, the network map gets compared with the corresponding transcribed interview, and both are examined mutually. In doing so, socio-material linkages and their underlying meanings become visible. Another option is finding out key nodes by using quantitative measurements, that means counting how often nodes and edges are named within the data set. Furthermore, to my mind,

[267] The idea of drawing networks by hand is very old. Often the work of Jacob L. Moreno is cited as one of the first studies using sociograms to depict social relations and social patterns (see Straus 2010; Freeman 2000).

comparing network maps with other network maps adds to gaining insights on the nature and structure of the socio-material networks. In fact, Straus holds, that the analysis of network maps aims not only on seeking insights through describing positionings, but also in gaining insights on the structure of the network.

Further on, Straus (2010: 536) mentions three limitations of network maps. These are comprehensiveness, time requirements, and a two-dimensional representation. Preferably, a network visualization should give justice to all relevant perspectives (*comprehensiveness* of the network map). This is however not possible. Therefore, the aim is to depict as much as possible different perspectives in one map. Secondly, using network maps as tool of analysis is time-consuming and requires a careful selection of relevant nodes and edges to be focused on (*time requirements*). Lastly, a limitation is the two-dimensional representation of networks when drawing networks by pen. This leads to a reduction and distortion of the complex socio-material reality (*two-dimensional representation*). Gamper and Schönhuth (2016: 23f) see a limitation in the legibility of network maps. Accordingly, a network map must not be overloaded with forms and colours, to still represent a meaning and communicate a message to the reader. When using network maps in an interview setting, they recommend being sensitive to the cultural meaning of the used color-codes and to reflect upon inclusive matters.[268] The use of network maps in this study will be displayed in the following section.

The use of network visualization in this study

Based on a visualization done by Alkaher/Gan (2020: 424), I created a map with the content of my research project. Like Alkaher/Gan, for a first try, I put OECD's PISA study in the centre as central node and arranged other sets of nodes of influence around it: international organisations, NGOs, educationists and the Indian education ministry, (hereafter MHRD/GoI). The arrows indicate linkages of the node OECD's PISA to other nodes.

[268] Gamper/Schönhuth (2016) refer exemplarily to possible colour blindness or disturbances of the interviewees.

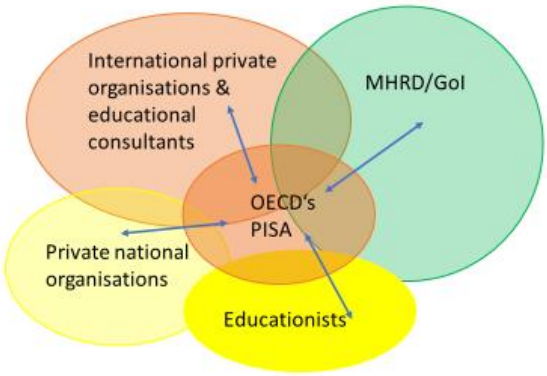


Figure 5 Visualisation of nodes

Other than Alkaher/Gan, I did without giving numbers to each set of nodes and also without marking the quality of the linkages by different thicknesses or endings. This type of visualization was not sufficient for my study. Alkaher/Gan's model is interesting because it tries to depict dynamic processes between the different nodes, it appears to be less static then for instance a model suggested by Hummrich/Kramer (2018: 137). The problem lies in the fact, that Alkaher/Gan's model is centralised to one node, in my case OECD's PISA[269], and it only focuses on the linkages of OECD's PISA to other nodes. Linkages between other nodes are not considered. But I aim at analysing and depicting them. Secondly, my aim is to visualize trading zones or epistemic spaces. For this, I found Hummrich/Kramer's (2018: 137) model helpful. Again, based on their visualization, I created a map with content of my project:

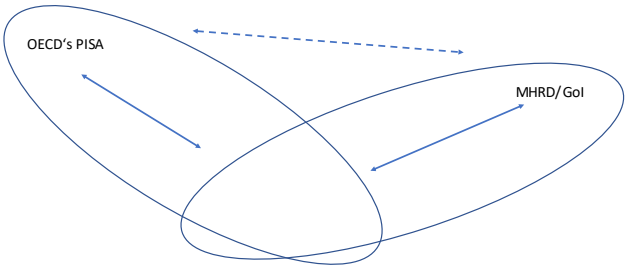


Figure 6 Visualisation of trading zones

[269] However, the analysis showed, that OECD's PISA had not always been the central node of influence.

In the model of Hummrich/Kramer, different sets of nodes and their relations are marked by ellipses. Hummrich/Kramer did not only analyse the sets of nodes in their realm, for instance amongst the bureaucracy apparatus of either the OECD or the Indian government (MHRD/GoI), but they were also interested in analysing the interplay of the different spaces. Hence, the overlapping of the two ellipses. The interplay between the two is indicated by a broken arrow. Using ellipses to indicate trading zones had been a possible and fruitful way of proceeding for me. However, I did without using the broken arrow, as I do not see the gain of it, rather in my case of the many different trading zones, it would have further complicated the maps without adding substantial gain of insights. Hummrich/Kramer (2018: 136) offer a second aspect of inspiration, as they attempt to depict the connectivity of different layers of social reality, namely the macro-meso- and micro-level in another visualization. Based on that I created a template for the visualization of the hierarchical stratification of the PISA 2009 Plus administration. For instance, I chose different shades of the colour green to differentiate the different layers within the bureaucratic apparatus of the Indian government and quasi-governmental bodies. The oval in light-blue points out to the global level defined as global education sector. I reduced the arrows to the minimum in order to not overweigh the network maps and to keep the maps as light and readable as possible.

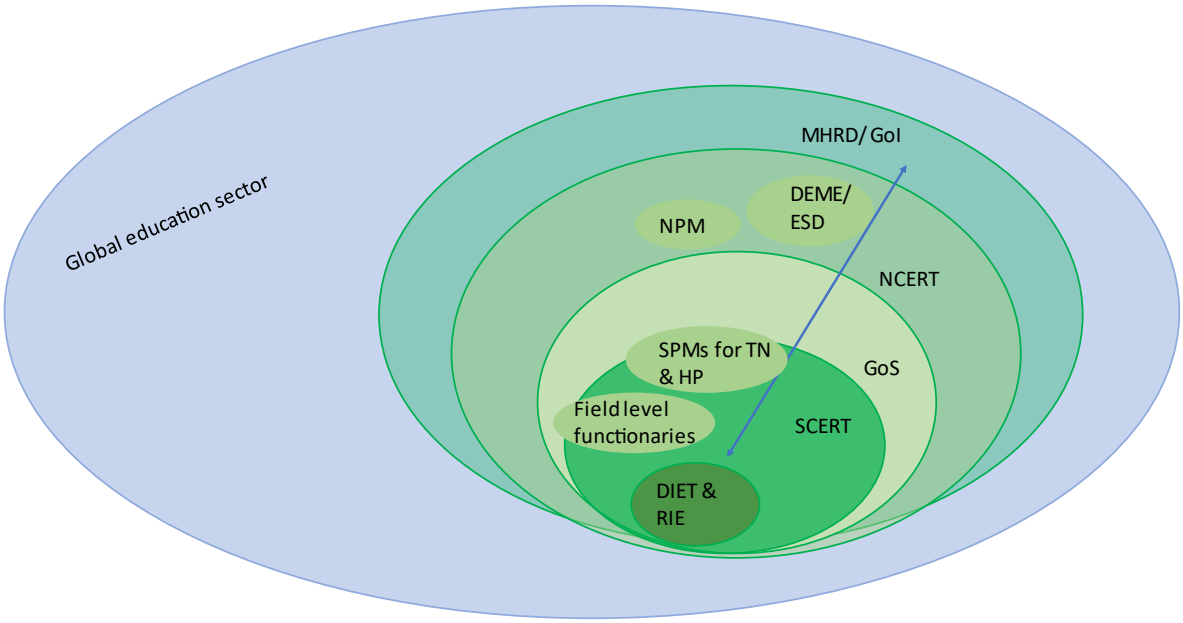


Figure 7 Visualisation of the background field

Both, Alkaher/Gan and Hummrich/Kramer focus only on human beings and organisations but not on material nodes of influence. Thus, inspired by Alkaher/Gan (2020: 424) and Hummrich/Kramer (2018: 137), I developed my own proceeding. I used *freehand drawing, non-egocentric, socio-material maps* as a heuristic step in the analysis, because this fitted the purpose the best. Different kinds of maps have been created. There are for instance maps based on single expert perspectives, and of events that took place. Then there are maps that bring different perspectives together in one map. The maps are not representative. They give a visual orientation of the processes and dynamics in the process of India joining PISA in the 2009 Plus project. The key for colours and shapes is given in the appendix.

In this work, network maps have not been used in the interviews, but as a step of the analysis. The decision against using network maps in the interviews had been made, because the focus had not been set on the ego-centric perspectives of the experts alone, rather the idea had been to reconstruct a whole network – as far as this can be achieved – that includes many different perspectives and non-human relata – things and events – as well. Thus, the visualisation done in this project serves to display *closeness and distances between nodes, their embedding, and linkages to other nodes and to depict trading zones between different sets of nodes*. The findings of the analysis shall be displayed in the following chapter.

6. Results of the analysis: India's participation in PISA 2009 Plus

This chapter starts with the description of the unit of analysis – India's participation in PISA 2009 Plus – based on the project report by Walker (2011) (6.1). The second and third part discuss some of the underlying network structures of the PISA 2009 Plus project. The second part gives an overview on the most important nodes of influence and their embedding. This part is based on interview and document analysis (6.2). This is followed by a description of subnetworks, which is based on the analysis of the interviews (6.3.). After this, the process of India joining the OCED PISA study is outlined (6.4.). This section starts with a description of the general PISA application proceeding for non-OECD members, based on OECD data. After that documents that describe the proceeding for India's participation in PISA 2009 Plus are compiled and analysed. This outline of the process is further contrasted by an exhaustive description and analysis of single perspectives – from outsider and insider perspectives – based on the interview data. In the last part (6.5.), shared stories on India's participation in PISA 2009 Plus are compiled based on the entire data set: interview data, documents, and literature research. Here, a standard story is contrasted with an alternative story. Further, rationales for a participation of India in PISA 2009 Plus, as well as critical concerns that were (and are still) raised against India (re-)joining OECD's PISA are discussed, followed by a description of the rationales for the selection of the two participating states. A synopsis – called from a bird's-eye – finally aims to bring the different perspectives together, to highlight differences and ruptures, and to give a relational description of the process. In an outlook, selected post-PISA developments are briefly discussed showing dynamic processes and change in the Indian educational landscape after India's participation in PISA 2009 Plus. This section is based on interview data, documents, and literature research.

6.1. India and PISA 2009 Plus

The PISA 2009 Plus project had been conducted in addition to the 4th cycle of PISA. Along with "34 OECD countries and 31 partner countries and economies" (Walker 2011: i), ten more countries resp. economies joined the PISA test. The two Indian states Himachal Pradesh and Tamil Nadu have been amongst them. The other countries of PISA 2009 Plus were: "Costa Rica, Georgia, (…) Malaysia, Malta, Mauritius, Miranda-Venezuela, Moldova, (…) [and] The United Arab Emirates" (Walker 2011: i; T.V.: Adjustment of sentence and omission of bullet points). There was a delay in the preparation and administration of the test, so that it had been conducted in 2010, instead of 2009 (see Walker 2011: i). An international group under the supervision of ACER (earlier introduced in chapter 2) and in consultation – "collaboration"

(Walker 2011: i) – with the PISA Plus countries organised the project. This international group consisted of ACER, Westat[270], cApStAn Linguistic Quality Control[271], and the National Centre Staff for the PISA Plus countries. Maurice Walker, the author of the PISA 2009 Plus report, Juliette Mendelovits and Ross Turner were team members of ACER. Maurice Walker had been the project director of PISA 2009 Plus. Juliette Mendelovits participated in Reading coding, and Ross Turner participated in Mathematics coding (see Walker 2011). Gopal Krishnan and Avtar Singh are listed as team members of the National Centre Staff for India (see Walker 2011: 193). Beyond that, Gopal Krishnan had been neither mentioned in the collected documents nor in the interviews with experts. Avtar Singh has been the head of the Department of Educational Measurement and Evaluation (DEME) of the National Council of Educational Research and Training (NCERT) at the time when India joined PISA.[272] During the PISA test administration in India, he has had the role of the National Project Manager, (hereafter NPM). According to Walker, the task of the NPM is to be "responsible for implementing the PISA standards based on consortium advice as contained in the various operational manuals and guidelines" (Walker 2011: 99). The task of the international partners, the "ACER-lead consortium" (ibid.), had been the quality control management. These had been done in two steps: Firstly, by spreading information through operational manuals and meetings (quality control), and secondly, by assessing the process of data collection (quality monitoring) (see ibid: 99). Walker (2011) outlines the quality control management in detail. The here listed measurements encompass the training of the staff at all levels of the test administration and additionally, the preparation of manuals and guidelines for all levels of the test administration. Furthermore, the encouragement of the establishment of advisory ties between senior consortium staff and national PISA staff through obligatory meetings during the phase of the test administration. Further, the supervision of the test administration through the appointment of PISA Quality Monitors that were engaged by the ACER consortium and that acted at the local level (cf. Dhamija 2011, draft).[273] Lastly, this document mentions the supervision and final quality control of the translation of the test by the ACER consortium. It becomes visible, that the ACER group ran its engagement cross-sectionally along the different hierarchical levels of national state bureaucracy of the participating countries. There are measurements described for every level from top to bottom.

[270] https://www.westat.com/ [29.06.2022] This organisation is an expert in the conduct of large-scale assessment. They work together with OECD since 1998.
[271] https://www.capstan.be/ [29.06.2022] This organisation is doing the translation of the PISA test items. They work together with OECD since 2000.
[272] http://www.ncert.nic.in/new_ncert/ncert/organisation/sr_functn/head_dept.html [13.03.2022].
[273] "PISA Quality Monitors are individuals employed by the consortium and located in participating countries. They visited a random sample of schools to record the implementation of the documented field operations procedures in the main survey. They typically visited 7 or 8 schools in each country." (Walker 2011: 99).

Hereafter follows a brief glimpse at the test administration in India, the construction of the test items for PISA 2009 Plus, and the results for the two Indian states.

6.1.1. Test administration of PISA 2009 Plus in India

There was no change or adjustment of the test-items in the PISA 2009 Plus project, even „the same technical and quality standards" (Walker 2011: i) of the main PISA test were applied. However, some items were related to the Indian context. An example for this is the item "Balloon" (as published in Walker 2011: 27). This test item is based on the "[h]eight record for hot air balloons [by the; T.V.] Indian pilot Vijaypat Singhania" (ibid.) in 2005. However, despite the contextualization, Indian students scored low on this item. The question is therefore, whether changing the content or adopting the content to the cultural context helps; it does not necessarily help (as shown for instance by Maddox 2014). In India, the PISA test had been conducted in three languages. These were Hindi, Tamil and English (Dhamija 2011, draft: 03).[274]

6.1.2. Results for India in the PISA 2009 Plus Project

In the overall league table for reading for all participating countries and economies, India's two states are placed on the bottom of the table (see Walker 2011: 108). The results for Himachal Pradesh in literacy, maths and science were amongst the last of all PISA participants. Moreover, they showed a severe gender bias, as girls scored less in math and science than their male peers. Tamil Nadu did better in reading than Himachal Pradesh. However, it scored the same in maths and science. Other than Himachal Pradesh, in Tamil Nadu, there was not any noteworthy difference between boys and girls in maths and only a small difference in science (see the appendix for the results for Himachal Pradesh and Tamil Nadu in detail). The ACER report advises that the results for India "should be interpreted with caution" (Walker 2011: xii). In fact, within the tables in the appendix of Walker's report, it reads often "NS" instead of a number. The report defines "NS" as "Not supplied, data were of insufficient quality to report" (Walker 2011: 101). Elsewhere, it is stated:

> "Himachal Pradesh-India and Tamil Nadu-India did not meet PISA standards for student sampling. Due to irregularities in the student sample numbers, it was established after the testing that these economies sampled from student lists that were often incomplete: not all 15-year-olds within the school were listed. It was not possible to determine whether any bias existed in the obtained sample. Caution should be exercised when using the data from Himachal Pradesh-India or Tamil Nadu-India and when interpreting the reported analyses." (Walker 2011: 104)

[274] http://prayatna.typepad.com/education/2011/12/india-in-pisa-2009-process.html [13.03.2022].

Dhamija (2011, draft) gives a more detailed picture on what happened during the test administration in the two states. We will come back to this in section 6.4. ACER, one of the key nodes in the process of India joining OECD's PISA has been presented already briefly. In the following section, the embeddedness of ACER and the other key nodes is discussed.

6.2. Key nodes and their embeddedness in the Indian educational assessment landscape

Key nodes of influence in the process of India joining PISA have been juxtaposed to ACER, firstly, international organizations such as the OECD, UNICEF, UNESCO, the World Bank, and DFID. Secondly, Indian governmental institutions such as the education ministry (MHRD) and the Government of India (GoI). Thirdly, quasi-government bodies such as NCERT, SCERTs and exemplarily, the former state project manager for PISA in Tamil Nadu. Fourthly, private bodies such as Pratham's ASER and APF. Fifthly, material, and processual nodes of influence. This means objects and events such as money, the Memorandum of Understanding (MoU) between the OECD and the Indian government, an international conference at Udaipur in 2009 (see MHRD 2009a), and the PISA test itself. The following section points out to key nodes and their embeddedness within the landscape of Indian educational assessment and in view of India's participation in PISA 2009 Plus.

6.2.1. Organisations as nodes of influence

State bodies and their embedding

The Indian education ministry, (hereafter MHRD/GoI)[275], was mentioned by experts that it shares work relations with. These have been independent researchers (e.g., educationists), NCERT-staff, APF-staff, and the former state project manager for PISA in Tamil Nadu. Likewise, state governments, (hereafter GoS)[276], were mentioned by experts that they share work relations with. These have been NCERT-staff, APF-staff, Pratham/ASER-staff and independent researchers (e.g., educationists). The quasi-government body NCERT was mentioned by independent researchers (e.g., educationists), by (former) NCERT- and SCERT-staff, APF-staff, ACER India-staff, Pratham/ASER-staff, and as well by the former state project manager for PISA in Tamil Nadu. The government-related body NCERT is the only node of influence that has been talked about in every interview. Thus, NCERT is considered as a key

[275] GoI stands for Government of India.
[276] GoS stands for Government of States.

node of influence.[277] The government-related bodies SCERTs, that function at the state level, were mentioned by NCERT-staff and SCERT-staff, the former state project manager of PISA for Tamil Nadu, by educationists, and by APF-staff. All these bodies – MHRD, the state governments, NCERT and SCERTs – maintain relations to other states, to the Indian union government, to private Indian agencies, and to international large organizations, such as ACER and ACER India, UNICEF, UNESCO, and DFID.

The background of the map below, coloured in light-blue, indicates to the global education sector. The map shows how the state and state-related bodies – MHRD, state governments, NCERT, and SCERTs – all coloured in different shades of green, are embedded in the national and global education sector. Key node of influence is the government-related body NCERT. Other governmental-related nodes are DEME/ESD, a subdivision of NCERT, that is in charge of educational assessment, and DIET & RIE, which are bodies at the district and regional level.[278] This map also shows some of the various (inter-)national, often private stakeholders in the conduct of educational policy making, educational programmes and educational assessment. International organisations are coloured in orange, whereas private organisations and the scientific community are coloured in yellow.[279] The group of educational consultants is not directly included in the map, but indirectly, as these are often belonging to international organisations and companies. There are arrows in the map pointing out to various epistemic spaces or trading zones. (1) There are for instance arrows between the government of India and international organisations. (2) Then, there are arrows between state bodies, state-related bodies and private Indian organisations. (3) Further, there is an arrow between NCERT and the scientific community. (4) Lastly, there is an arrow between the state bodies.. These different trading zones are displayed in detail later in the chapter. It becomes visible that in the global, national and local education sector, many different stakeholders are involved.

[277] Only in one case, the body NCERT had been brought into the interview by the interviewer.
[278] DIET stands for District Institute of Education and Training. DIETs are connected to the SCERTs. RIE stands for Regional Institute of Education. RIEs are connected to the NCERT.
[279] Both, the scientific community and private organisations are coloured in yellow to keep the colour scheme simple. Further, in reality, both groups are often overlapping, as for instance, academicians work in private organisations.

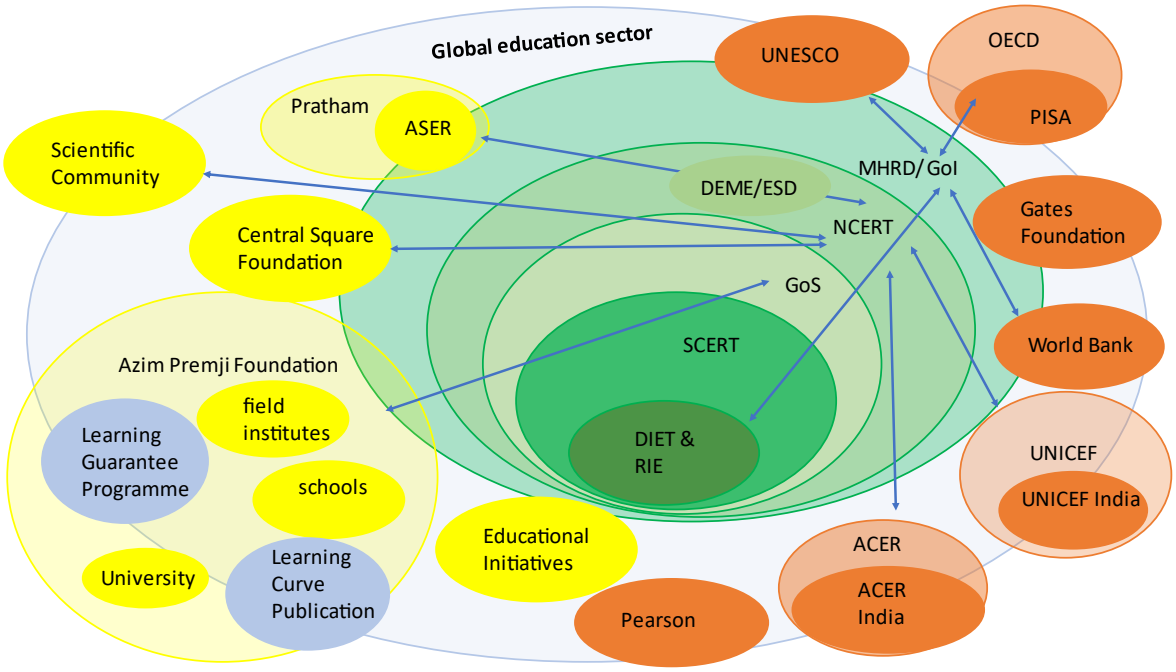


Figure 8 State bodies and their embedding

It is important to note that not all linkages between the different nodes are displayed here. These are far too many. This is why there are no arrows pointing from Educational Initiatives' and Pearson to the state-related bodies; though certainly, linkages are there. Exemplarily with the organisation APF (discussed already earlier in chapter 2), things, buildings and events are included in the map. The Learning Guarantee Programme, (hereafter LGP), is considered as an event, as it introduced competency-based assessment in some of the Indian states. Likewise, APF's *Learning Curve*, the periodically published journal that compiles and disseminates knowledge on assessment within the (inter-)national assessment community is considered as an event. Both nodes are coloured in light-blue. Further, buildings, schools, universities, offices in general are of importance, as they provide space as meeting places. In the following section the embeddedness of private Indian organisations, beginning with APF, is displayed.

NGO's and their embedding

APF

The organization APF – as earlier presented in chapter 2 – had been mentioned by experts that are familiar with the context in which APF is working. That is both, on a pan-Indian level but also in particular in Bangalore and the state Karnataka. Furthermore, experts that share work relations with APF or it's daughter organization APU. These are for instance state level functionaries, educationists, and APF-staff. Lastly, experts that have detailed knowledge on the

Indian educational landscape at state level (e.g., educationists, state level functionaries). APF maintains relations to private Indian agencies, to Indian state bodies and to various international large organizations as depicted below. Experts described APF's university, APU, as *site of knowledge on school education*, and – amongst other top universities such as JNU in New Delhi and TISS in Mumbai – as *one of the few urban hubs of academic discussion in India*. This reflects also in APF's publication *Learning Curve*: There is a special issue on science education, that encompasses a contribution by the organization Educational Initiatives (see Agnihotri et al. 2009), which is pro large-scale educational assessment and has been earlier discussed in chapter 2. Further, in the issue on reading, Juliette Mendelovits from ACER Australia discusses reasons why India should participate in OECD's PISA (see Mendelovits 2009). In the special issue on school mathematics, Ross Turner, who also belongs to ACER Australia, writes about what India may learn from PISA (see Turner 2010).[280] Finally, Sujatha Rao, an educationist at APU, gives an overview on the field of educational assessment in a special issue on assessment in school education (see Rao 2013). She makes reference to Finland, which is successful in PISA. We will get back to these papers in the section on rationales for the participation of India in PISA 2009 Plus.

The background of the map, coloured in light-blue, indicates to the global education sector. The map shows that APF is well connected in the Indian national and the international landscape of educational assessment and is therefore considered as a key node. (1) There are arrows between APF and state bodies indicating work relations. (2) Then, there are arrows between APF and educationists, and other private Indian organisations as well as international organisations. Trading zones exist between APF and state bodies, APF and educationists, APF and private organisations, as well as APF and international organisations. As introduced earlier, material and processual nodes play a role, such as the LPG, the *Learning Curve* publication, or offices as meeting places. Both, APF-staff and SCERT-staff mentioned that they meet regularly together with government officials to discuss education policy matters. Together with Educational Initiatives, Pratham, Central Square Foundation, Learning Links Foundation, and the Gates Foundation, APF has been part of a task force on assessment by FICCI in 2010-2011. This task force sought to deliberate and discuss on India's position on large-scale assessment (see Deora et al. 2014).[281]

[280] Until now, there is no OECD document on what India may learn from PISA. However, there are many alike for other countries, e.g. Mexico (OECD, 2011). Interestingly, Kumar (2005) wrote about lessons from India for the international education policy.

[281] FICCI stands for Federation of Indian Chambers of Commerce & Industry, https://ficci.in/ [12.07.2022].

Furthermore, APF has a strong connection to ACER Australia resp. ACER India. APF for instance learned about PISA through a formal collaboration with ACER. It has been APF, who reached out for ACER to provide trainings for their organisation in 2007, as shared by an expert. Through ACER, APF engaged with the test items and the methodology of international large-scale assessments, such as PISA and TIMMS.

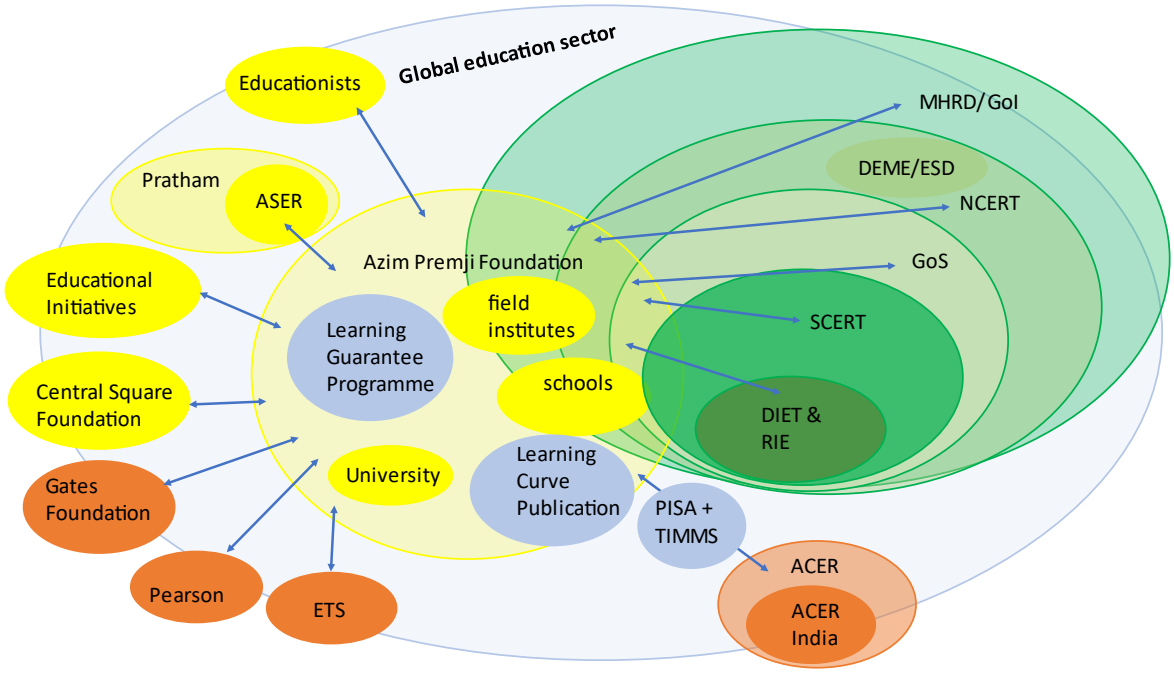


Figure 9 APF and their embedding

The international organisations UNICEF, World Bank and OECD are not mentioned in the interview data. Hence, they are excluded from the map. However, mentioned are the Gates Foundation, Pearson and ETS[282]. According to the interview data, APF seemed to maintain loose connections with these organisations, as for instance within the FICCI task force on assessment. In contrast, Pratham and Pratham's ASER have been described as bodies of detailed expertise in educational assessment in India. Both, APF and Pratham/ASER were part of the international platform Learning Metrics Task Force, which will be discussed in the end of the chapter.

[282] ETS stands for Educational Testing Service, https://www.ets.org/ [12.07.2022].

Pratham's ASER

Pratham as an organization is mentioned by experts that are part of the organization, that share work relations with Pratham (e.g., NCERT-staff, APF-staff, CSF-staff, and ACER India-staff), that studied their assessment tool ASER (e.g., educationists), or that simply know that Pratham and ASER are there in the Indian educational assessment field (e.g., government officials and state level functionaries). Pratham is known by almost all experts I interviewed. Each interviewee that mentioned Pratham or ASER had basic up to detailed knowledge of the Indian educational assessment landscape. Interestingly, those, who were doing assessment themselves referred more to Pratham's daughter organization ASER, that is conducting the educational assessment for Pratham. Pratham maintains relations to other private Indian agencies, to Indian state bodies and to international organizations such as ACER, ACER-India and OECD. ASER publishes its report every year, accompanied by a large media coverage and discussion within the fields of policy and academia (as descripted earlier in chapter 2).

The background of the map, coloured in light-blue, indicates to the global education sector. Pratham and ASER are considered as key nodes of influence. Other nodes of influence are international organisations, state bodies, private organisations, and human beings such as educational consultants. The ASER reports are considered as things and as events, as they have a material and non-material dimension. The ASER test is well documented in literature (see chapter 2). Whenever an ASER report comes out, there is a huge media coverage. (1) There is an arrow between OECD's PISA and Pratham's ASER, as the ASER team studied the PISA test after India's participation in the PISA 2009 Plus project. ASER argues that their test is different from OECD's PISA, as stated in the interview data. (2) Another arrow exists between Pratham and educationists. Educationists studied the ASER test and observed the discussion about the ASER test and Pratham's influence in academic journals and in media. (3) Then, there is an arrow between Pratham and NCERT, because both acknowledge each other for their testing tools. (4) Lastly, there are also arrows between Pratham and other private (inter-)national organisations, showing that Pratham is well connected in the (intern-)national educational assessment landscape. As discussed earlier in chapter 2, over the course of the years, sister organisations of ASER emerged around the world, as for instance, UWEZO in Kenya. Hence, trading zones exist between OECD's PISA and Pratham, between ACER and Pratham, between other (inter-)national organisations and consultants in general and Pratham, between Pratham and Indian state bodies and state-related bodies, as well as between Pratham and educationists.

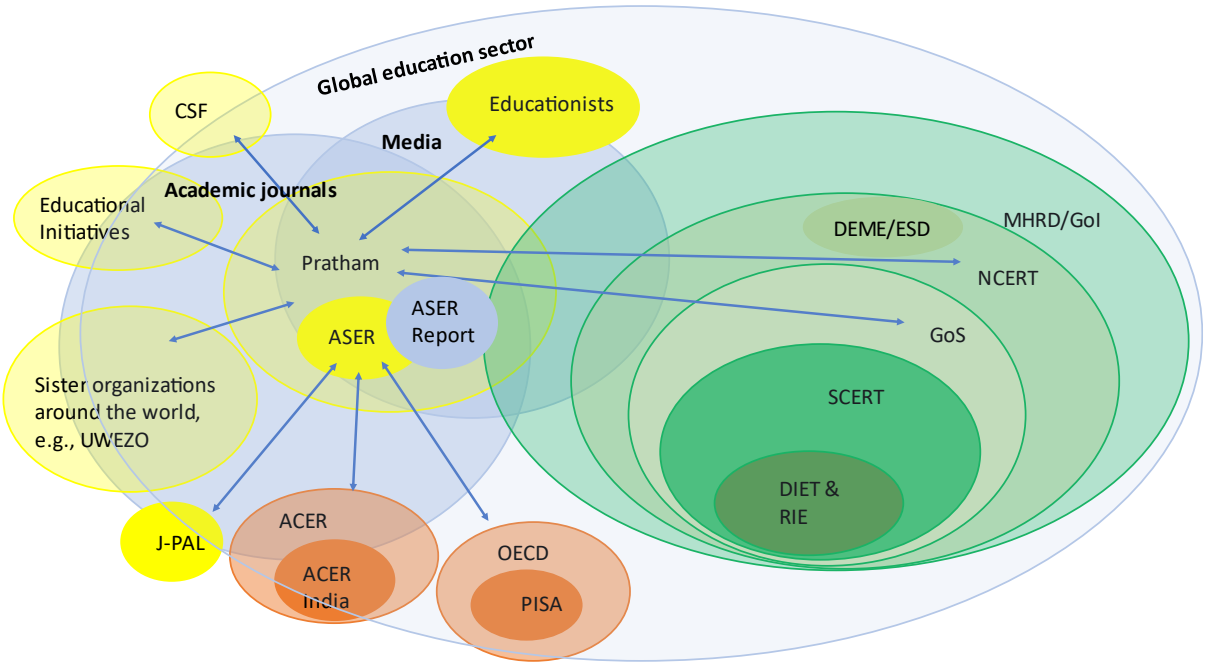


Figure 10 Pratham and their embedding

Like APF, ASER shares a strong relationship with ACER Australia and considers the latter as expert in international large-scale assessment. ASER asked ACER to evaluate its assessment tool. In the past, ACER (India) gave trainings to ASER. Recently, ASER, ACER India and UNICEF collaborate at the state level in providing trainings and capacity building in educational assessment for state government officials in some of the Indian states. In the following section, the embeddedness of key international organisations in the Indian educational landscape shall be discussed. Here, accordingly, UNICEF and ACER are given special emphasis.

International organizations and their embedding

UNESCO

For a long time, the government of India's international cooperation activities have been clustered around relations and activities with UNESCO, as a review of the chapter on "International Cooperation and UNESCO" in the annual reports of the MHRD showed. However, since the independence in 1947 (and even before), the government of India maintained various relations with other international organisations as for instance the World Bank and UNICEF. In the context of the study at hand, of interest has been, whether the OECD is mentioned in the annual reports of the MHRD. The review revealed that the OECD is mentioned in the reports of 2004-05 (MHRD 2004) and 2006-07 (MHRD 2006). Both times, it

reads that India took part in the World Education Indicators Programme, conducted by UNESCO and OECD. India delivers data on a yearly basis to both organisations. The OECD is also stated in the reports of 2011-12 (MHRD 2011), 2012-13 (MHRD 2012), and 2014-15 (MHRD 2014). However, the OECD is not mentioned in the reports between 2007 and 2011 (MHRD 2007, 2008, 2009b, 2010), as well as in the reports 2015-16 (MHRD 2015), 2016-17 (MHRD 2016c) and 2017-18 (MHRD 2017). A notification that India participates in PISA could not be found in any report. Experts mention UNESCO as international organisation that is conducting assessment, that has been involved in the conduct of the international conference in Udaipur and that brings out the GEM Report. UNESCO was mentioned by independent researchers (e.g., educationists), former NCERT-staff, and by a private organisation. There is no map of UNESCO because of time constraints.

World Bank

Like UNESCO, many independent researchers did mention the World Bank. Within the scientific community, there is knowledge and critical concern about World Bank's engagement in India. Independent researchers pointed out to papers that have been written on World Bank (e.g., Basu 2006). Besides them, World Bank got mentioned by NCERT-staff and ACER India-staff. The latter mentioned that they share project-based work relations. Documents, as e.g., conference reports, stated that the World Bank has been (and still is) funding several projects, publications and conferences. There is no map of World Bank because of time constraints.

UNICEF

UNICEF was mentioned by independent researchers, e.g., educationists, by local-international players, e.g., ACER India-staff, by state players, e.g., NCERT- and SCERT-staff, and by local private players, e.g., CSF-staff. When comparing ACER (India) and UNICEF (India) with each other, it seems that UNICEF has a wider network. This perhaps due to its long engagement in India since India's independence in 1947. ACER started its engagement in India only in 2007. Documents, as e.g., conference reports, show, that UNICEF has been (and still is) funding several projects, publications and conferences: For instance, the international conference in Udaipur in 2009, which has been introduced earlier in chapter 2, several post-PISA projects, such as the further transformation of the NAS and post-NAS interventions, as well as ongoing on demand collaboration. As it turned out that UNICEF and UNICEF India are particularly important nodes of influence in the Indian education sector, there is a map on UNICEF below.

The background of the map, coloured in light-blue, indicates to the global education sector. In this map, UNICEF and UNICEF India are key nodes of influence. Differently to the other maps, this map combines different time periods in one map. It depicts several projects in which UNICEF resp. UNICEF India had been or is still involved. Other nodes of influence are international organisations, state bodies, private organisations, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, written reports, as well as events such as the international conference at Udaipur in 2009, or the post 2016 NAS transformation. There are five different trading zones: (1) The international conference in Udaipur 2009: There is an arrow between UNICEF (India) and the MHRD. UNICEF had been funding the conference. (2) Then, there is the post 2016 NAS transformation. There is an arrow between UNICEF India and DEME/ESD which belongs to the quasi-government body NCERT. (3) Then, there is the post 2017 post-NAS intervention. As UNICEF conducts workshops with local state organisations at the state level. (4) Further, there is an ongoing collaboration between UNICEF India and Indian state and private organisations (see also the document by Sahoo/ UNICEF India 2019). (5) Lastly, there has been an announcement of the partnership between UNICEF and ACER recently.

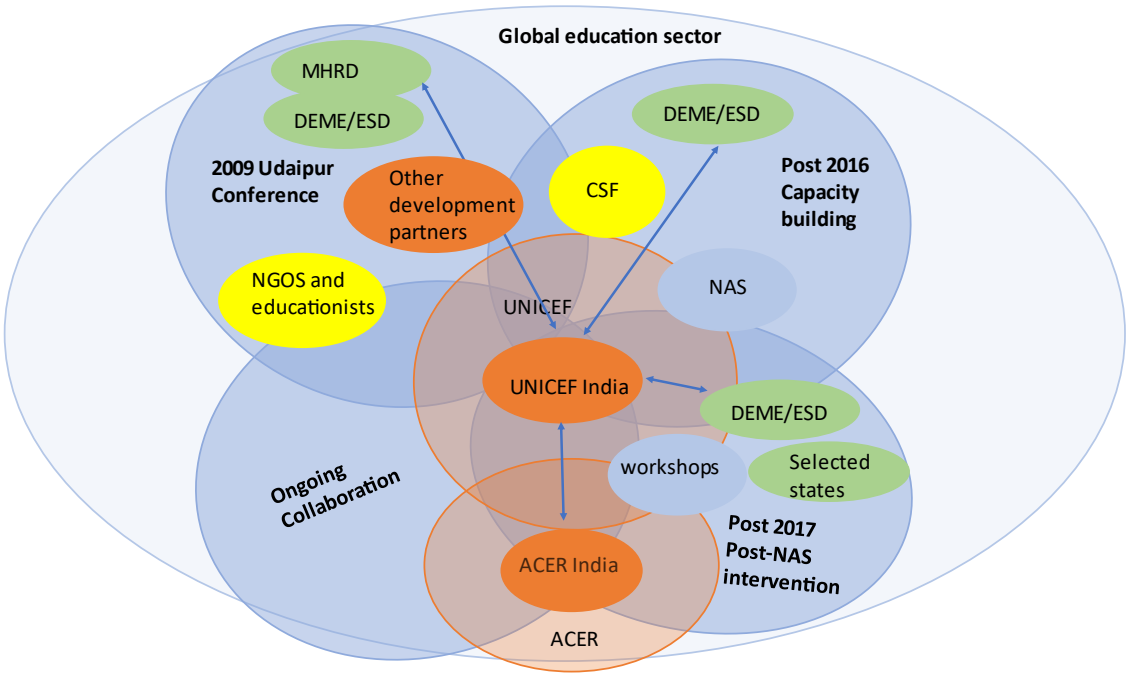


Figure 11 UNICEF and their embedding

By being involved in many national and international processes, and by giving funding and trainings to local state and private players in India, UNICEF India is setting standards and is a key influential node within the many different subnetworks. Furthermore, by being part of many different subnetworks and trading zones over the last decade, UNICEF could gain, maintain and expand its influence. With the example of Rudra Narayan Sahoo, an educational assessment specialist, who has been with UNICEF India until 2020 and who is now with UNICEF Nigeria, the fluctuation of staff and expertise between (inter-)national organisations can be demonstrated. Before joining UNICEF in 2016, Sahoo had been with NCERT from 2007 until 2011 – coordinating the PISA 2009 Plus project and the NAS – and from 2011 until 2016 he had been with ACER India. Earlier, from 2008 until 2010, he worked as independent researcher with the state governments of Tamil Nadu and Himachal Pradesh. He provided knowledge on educational assessment to the state governments and has been part of the programme evaluation of the activity based learning method in Tamil Nadu (cf. Mahapatra 2009).[283] An interview with Sahoo has not been possible until now, as he has not been mentioned neither by any of the interviewed experts, nor in any of the publicly available, official documents on India's participation in PISA 2009 Plus. It was only through the study of UNICEF's current engagement in India, that the focus had been set on Sahoo. Thus, the next section discusses UNICEF's recent partner ACER and its daughter organization ACER India.

ACER and ACER India

ACER and ACER India are bodies that provide expertise, knowledge, training, teaching material, evaluation, and support to other local Indian state, state-related and private organisations. ACER India works together with Indian states, state-related bodies, and local NGOs. ACER and ACER India work not only on the Indian local and national level, but as well on the international level. ACER and ACER India are embedded in a thick web of national and international partners. Members of ACER India maintain personal relations with members from other organisations. Many people I spoke to – especially from private local organisations – said that they know the current head of ACER India in person[284], and referred to ACER as a body of knowledge and expertise. ACER is being perceived as a big player in the assessment

[283] Information gathered from https://ng.linkedin.com/in/rudra-narayan-sahoo-0281291a [12.07.2022].

[284] Which in 2018 had been Amit Kaushik, see the Website of ACER India: https://www.acer.org/about-us/locations/india [12.07.2022]. See also: Kaushik, A. (2018a): From access to quality: improving learning outcomes in South Asia, (Blogpost 31.01.2018), https://rd.acer.org/article/from-access-to-quality-improving-learning-outcomes-in-south-asia [29.11.2018]. And: Kaushik, A. (2018b): Reforming Assessment - Time for Change, (Blogpost 08.04.2018), http://shikshamatters.blogspot.com/ [29.11.2018].

landscape (or even: industry), alongside with other international large organisations such as Pearson or ETS.

ACER India has been engaged in several groups and task forces such like the capacity building program for NCERT's NAS, the organization of the PISA 2009 Plus project in India and the Brookings group, "Learning Metrics Task Force" (2013-2018). ACER shares work relations with private organisations. As discussed already earlier, the organisation did trainings for APF in the early 2000s, as it did so for Pratham's ASER. Additionally, ACER did evaluate Pratham's ASER in 2014. Like UNICEF, by being involved in many national and international processes, and by giving trainings to local players in India, ACER India is setting standards and is a key influential node within the many different subnetworks.

To decipher the influence of ACER (and later ACER India) in the field of educational assessment in India, a review of their publication *International Developments* had been undertaken. The development of ACER's activities in India shows exemplarily, firstly, how in the attempt of OECD to widen its influence and network worldwide and especially in the Indian context, at least one other node takes profit from this endeavour, and secondly, that ACER pursues its own interests. Over time, from 2007 until today, ACER could establish and expand its activities in India. Whereas in the beginning there has been engagement in some Indian states, ACER did eventually set up an ACER India office in New Delhi. ACER participated in the transformation of state assessment tools such as NCERT's NAS. Recently, ACER attempted to influence Bangladesh and other neighbouring states of India. Thus, for now it seems that the organization ACER is more important in the Indian or Sub-Asian context than the OECD.

ACER's engagement in the educational assessment landscape in India started in 2007. Being sponsored by the World Bank, ACER's objective had been to provide expertise to the Indian government in the implementation of the SSA programme and the development of the national assessment tool (see ACER 2011: 09). In the next issue (ACER 2012), it is stated that in 2011 ACER expanded its footprint in India by providing more human resources, data analysis, focus on ILSA, educational programmes, publication, and marketing. Additionally, the formation of ACER India took place. ACER India's main tasks had been enhancing educational research and development work. The conduct of an international conference, 'Development in Assessment: Scope of assessment in teaching and learning,' happened in New Delhi in 2011. It is stated that "the main aim of the conference was to highlight assessment needs in Indian schools and address assessment best practices" (ACER 2012: 12). At that time, the ACER India Manager

has been Ratna Dhamija. Furthermore, the issue mentions a memorandum of Understanding between CBSE[285] and ACER:

> "Memorandum of Understanding between CBSE and ACER in Melbourne in April 2010 to collaborate on programs and initiatives that apply international best practices in educational research and assessment to support educational development." (ACER 2012: 13)

Moreover, ACER had been collaborating with APF in Bangalore. ACER gained more influence in India through the building up of an office (see ACER 2013: 04). ACER describes itself as having a

> "world-class expertise in understanding the particular education challenges faced by developing countries, and is contributing to a body of evidence-based knowledge on education and development" (ibid.: 04)

This issue depicts the history of the institution ACER, its founding idea, and its expertise. ACER's objective is the transfer of expertise to developing countries:

> "ACER has developed a specific research agenda around education and development, with the principle aim of making a contribution to the improvement of educational capacity in education in developing countries by working in partnership with governments and development organisations to design and implement contextually relevant policies and programs to increase education access, quality, inclusiveness and achievement for all learners." (Ibid.: 4f).

Amongst collaboration with other organisations, I highlight ACER's collaboration with Cambridge Education on the transformation of NCERTs NAS (ibid.: 18).

> "ACER in partnership with Cambridge Education is working with India's National Council of Educational Research and Training on the design, implementation and reporting of data from a new National Achievement Survey of students in Year 10. The National Achievement Survey – conducted under the auspices of the Rashtriya Madhyamik Shiksha Abhiyan program of the Ministry of Human Resource Development to enhance access to and improve the quality of secondary education – is monitoring student progress in terms of the National Curriculum Framework in India." (ibid.: 18)

The relationship between ACER and NCERT began with the capacity building project in collaboration with Cambridge Education with the goal of further development of the NAS.

Moreover, ACER maintains connections with US-American organizations and foundations, as well as with (inter-) national non-governmental organisations (see ACER 2015: 16). Rukmini Banerji from Pratham's ASER is highlighted as speaker at a conference in Melbourne in 2015 on "Learning assessments: Designing the future". Further, ACER has been involved in PISA for Development. ACER's activities in India are ongoing. The subsequent issue contains a description of ACER's work in India: "ACER in India is providing ongoing support to the

[285] CBSE stands for Central Board for Secondary Education, https://www.cbse.gov.in/ [12.07.2022].

National Council of Educational Research and Training to design, implement and report a new National Achievement Survey of students in Class X" (ACER 2016: 22). Furthermore, ACER developed its own large-scale assessment, called Indian Progressive Assessment Scale.[286] ACER's expansion becomes more and more visible. In the issue no. 7, it reads "ACER's global operation grows" (ACER 2017: 05). Next to the various collaboration projects with other (inter-)national and private organisations, ACER had been part of a common publication of a handbook in educational assessment (see ACER 2017: 20). This handbook emerged out of the previous international collaboration between DFID, Cambridge Education and NCERT. It is called: „Large Scale Learning Assessments: A Handbook for the Indian context" (cf. Robertson et al. 2015). In the issue no. 8, it is mentioned that ACER India expands its work and influence on neighbouring countries such like Bangladesh, Nepal, and Maldives. It reads "ACER India's work in capacity development to support student learning assessments has never been more relevant in the region" (ACER 2018: 12). Besides several regional workshops and projects, ACER India works in collaboration with UNICEF India (ibid.: 13). Two issues later, ACER announces its partnership with UNICEF in providing expertise and support in the development of educational assessment in regions of Eastern and Southern Africa and South Asia (see ACER 2021). As ACER (India) is a key node of influence, there is a map on its relations below.

The background of the map, coloured in light-blue, indicates to the global education sector. In this map ACER resp. ACER India is a key node of influence. Like the previous map, this map combines different time periods, as it depicts different projects in which ACER resp. ACER India had been involved. Other nodes of influence are international organisations, state bodies, private organisations, human beings and educational consultants. Furthermore, nodes of influence are things such as the NAS and events such as the capacity building projects between Pratham and ACER, between APF and ACER, as well as between the NCERT and ACER. Furthermore, the PISA 2009 Plus project, and the platform Learning Metrics Task Force. There are arrows between ACER and Indian state bodies, between ACER and international organisations, and between ACER and other private Indian organisations. Trading zones exist between Pratham and ACER, ACER and NCERT, ACER and APF, and around the organization of the PISA 2009 Plus project in India.

[286] see: https://ipas.acer.org/ [18.06.2022] and "International Benchmark Test", see: https://ibt.acer.edu.au [18.06.2022].

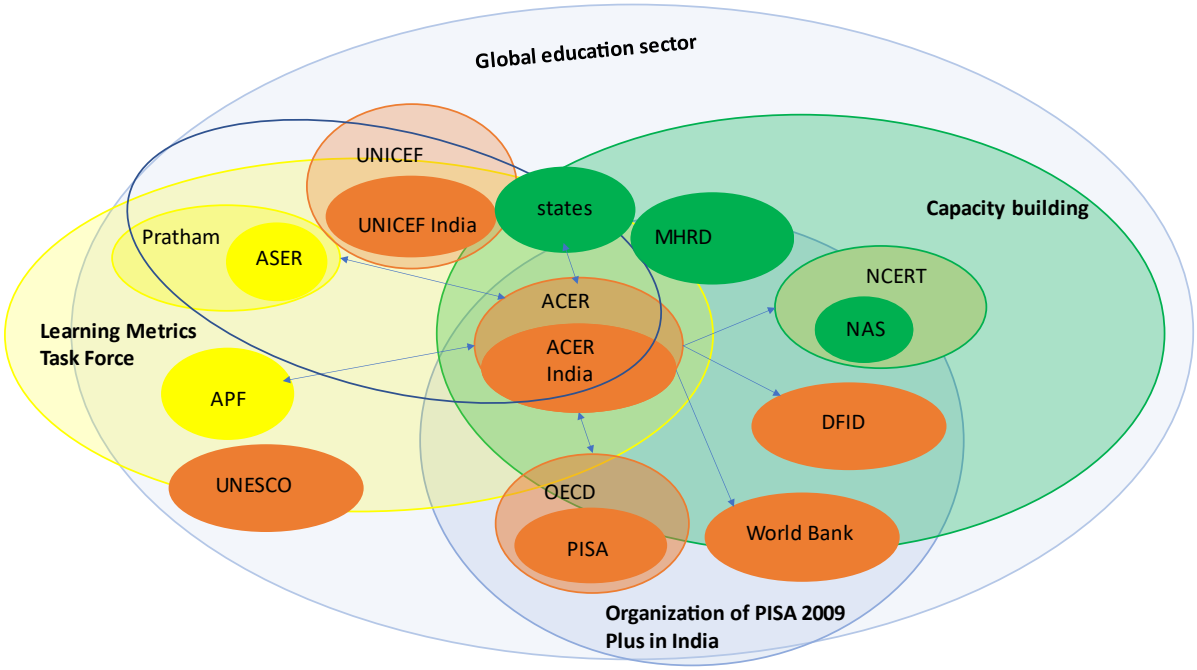


Figure 12 ACER's embedding

Until 2015, ACER had been collaborating with the OECD for the conduct of the PISA study. The current relationship between OECD and ACER remained an open question. Nevertheless, in the following the embeddedness of the OECD is displayed.

OECD

The organisation OECD was mentioned by independent researchers (e.g., educationists), NCERT-staff, former government officials, and by the former state project manager for PISA in Tamil Nadu, as well as by private players, e.g., Pratham's ASER. It is notable that in some cases, interviewees were referring to PISA and ACER, but not to the OECD. Oftentimes, experts pointed out to the fact, that there is not much written about the OECD in India. Furthermore, there is not really any exhaustive description of the OECD given by the interviewed experts. Often it is referred to as *the OECD*. There are descriptions of the OECD as a group of people, or as an organization. From state level perspective, the OECD is described in an undefined manner as *some international body*. Differences are marked by interviewees by explicitly stating that India is not an OECD-member and by questioning the impact of OECD in Indian educational contexts. Organisations that conduct assessment themselves hold that their assessment tool is different to the PISA framework. Additionally, they state that they do not follow any idea of global expansion with their assessment tool. There are some descriptions that see the *OECD as powerful and influential group of people*. For instance, it is stated by

interviewees, that Western agencies can open up schools in areas of the so-called global south. However, agencies of the global south have limited scope of actions to do the same in countries of the global north. Another expert described the OECD as *pushing forward* and as a *master of persuasion*. The positioning of OECD, and its relations to Indian state bodies is discussed in the section 6.5.6.

To sum up, the positioning of state and state-related bodies appears as hierarchic and static in its structure. Secondly, the development and spread of private national and international organisations over time such as Pratham's ASER, APF, ACER and ACER India, UNICEF and UNICEF India within the Indian educational assessment landscape is impressive. Thirdly, by contrast, OECD appears as latecomer and if at all loosely connected with national bodies or private organisations, especially at the local level. Before India joined the PISA 2009 Plus project, the OECD had been part at an international conference. This had been an influential and gate keeping event and thus the conference will be displayed in the following section.

6.2.2. Events as nodes of influence

International conference at Udaipur 2009

As introduced already earlier, an international conference on teacher education took place at Udaipur in February 2009, shortly before the PISA test had been conducted in Tamil Nadu and Himachal Pradesh. According to a story told by an interviewed expert, this conference had been influential as it was during this event, that the OECD made its entry in the Indian education sector. The international conference at Udaipur is thus considered as a key node of influence. According to MHRD (2009a), the conference has been funded by UNICEF and UNESCO, European Commission, the World Bank and DFID. Further, Dr. Mihaylo Milovanovitch, policy analyst at the Directorate of Education of the OECD, is listed as participant (MHRD 2009a: 33). The title of Dr. Milovanovitch's talk is „Attracting, Developing and Retaining Effective Teachers in OECD Countries" (ibid.: 37). Elsewhere, the report takes reference to the OECD. Here, educational assessment is considered as serving as a tool and strategy to mend the poor learning standards in schools:

> "At the same time large-scale assessments have brought in evidence of student achievement, which has also put the school head into the position of having to respond to testing results more strategically than he or she has had to in the past. The quality of teaching and learning at a school can no longer be solely in the individual teachers' hands, because it demands coordination and coherence across teachers and classrooms. They have a more direct influence by means of motivational impact and well-chosen human resource development activities and have a direct influence on the quality of the learning experiences of students." (MHRD 2009a: 19)

Likewise, standards as a concept are considered as being helpful to ameliorate the quality of teaching and learning processes. However, it is mentioned, that this concept cannot be adapted without domesticating it:

> "Teacher performance standards have worked well in OECD countries to improve student learning, but these must be developed in full consultation with the teachers and their representatives to have value –the good work begun by ADEPTS under SSA should be built upon in this regard." (MHRD 2009a: 25)

Further, the document enlists successful education systems such as Korea, Finland, Singapore, Hong Kong and the USA. By comparing their status of teacher recruitment and by making reference to the OECD average, the document outlines a horizon of international comparison (MHRD 2009a: 26). Lastly, the report stresses that the status of the teaching profession in India needs to be revalued and teacher education and the working conditions need to be improved:

> "Teacher salaries in India are already attractive relative to other professions, in some States, primary teachers' pay is equal to 13-15 times per capita State GDP. By contrast, in most OECD countries primary teachers' pay is equal to or less than per capita GDP. Job security is already guaranteed for India's regular teachers. It was therefore felt that improving the image and status of teaching while also improving working conditions and career structures would be the most productive approach for attracting the best people for teaching in India." (MHRD 2009a: 26f)

This conference has been observed and discussed by the scientific community. For instance, Dhankar (2011) writes:

> "A case in point is the International Conference on Teacher Development and Management held at Vidya Bhawan Society, Udaipur on 23 to 25 February 2009 and its sequel in International Seminar on Pre-Service Elementary Teacher Education held at NCERT on 2-4 February, 2010. On both occasions, particularly on the first, [the] key recommendations cited repeatedly for improving teacher quality were taken from McKinsey & Company report titled 'How the World's Best-performing School Systems came out on top'. The only measure of quality the report mentions is ranking of countries in the PISA. The seminars were held in collaboration by MHRD, NCERT, World Bank, DFID, UNICEF, UNESCO, et al. Eight or so further seminars are planned to be held on similar lines. Of course the notion of quality in education system and preparation of teachers for it may shift, hopefully to more worthy ideals, in the seminars to be held in the future in this series; but the linking of educational quality and measurable indicators of subject knowledge is obvious so far." (Dhankar 2011: 02; T.V.: correction).

Further, the author holds that the notion of quality postulated by the OECD's PISA is "often visible in India as well" (Dhankar 2011: 02). As stated earlier, Dhankar is critical about the narrowed down definition of quality. He mentions the OECD's goal of enabling an international dialogue (see ibid.). But other than the interviewed expert (see the section on single perspectives later in this chapter), Dhankar (2011) does not mention anything about the power laden

proceedings before and during the conference. The map below takes the conference at Udaipur as key node and centre of the map.

The background of this map Indicates to the global education sector. Key node of influence had been the international conference at Udaipur in 2009. Other nodes of influence are international organisations, private organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, the conference report and events such as the entry of the OECD. (1) There are arrows connecting the Indian education ministry, MHRD, with educationists, an NGO, and several funding agencies. (2) Then, there is an arrow between educationists and the OECD, as well as between educationists and the NGO. (3) Lastly, the conference setting is considered as trading zone between the OECD, the PISA-people, other international organisations and educational consultants, educationists, state bodies and state-related bodies and therewith belonging bureaucrats.

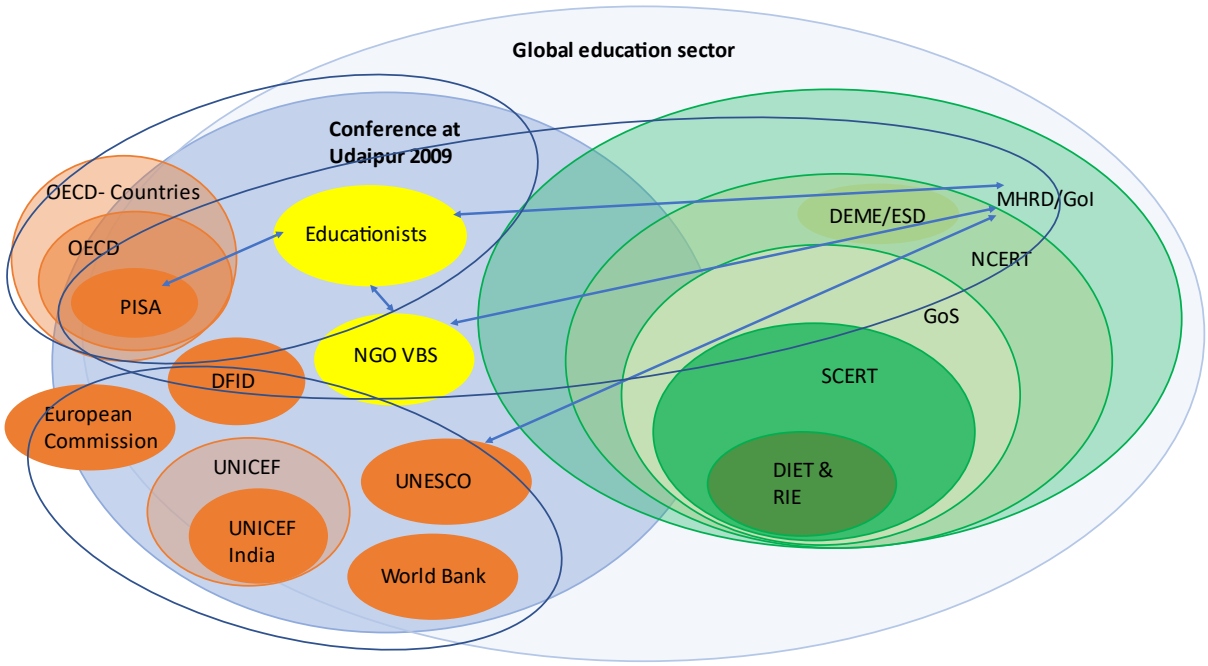


Figure 13 The conference at Udaipur as node of influence

This conference is linked with the process of India joining PISA as it was here that the OECD made its entry in the Indian education sector or at least the educational academic and policy discussion. What exactly happened, and which kind of steps of action were taken after the conference in Udaipur remained an open question. Based on the knowledge of one expert and backed by Dhankar (2011), there have been more meetings and seminars held between the OECD and Indian state and state-related bodies. The international conference at Udaipur as

processual node of influence is linked with the question of how it came that India joined the OECD PISA 2009 Plus project, as there has been one expert that made reference to this conference. Hereafter, the PISA study as processual key node shall be discussed.

The PISA study

The interviewed experts learned about PISA at different points in time. Some recalled that their personal interest in PISA started slowly from 2007 onwards, activated by attending conferences and trainings. Others mentioned that it had been directly after India's participation in PISA 2009 Plus, or after the publication of the results. Then again others were only recently exposed to OECD's PISA in the frame of attending workshops at the local level. Interestingly, only two interviewees referred to the *PISA 2009 Plus project*, all others spoke of *PISA*.[287] Most often, interviews referred to the *PISA tools*, *PISA items*, *PISA survey*, *PISA test*, *PISA instrument*, *PISA assessment*, and *PISA examination*. Additionally, only one expert mentioned the subsequent project *PISA for Development*. Interviewees described the people behind PISA as the *PISA-implementers*, *PISA-team*, *PISA-group*, *PISA-people*, *PISA-organizations*, and *PISA-side*. Generally, they spoke about the *PISA-thing*, or the *OECD-PISA-thing*, and the *PISA process*. One expert mentioned that *PISA comes with educational consultants*. Another expert reflected about the different uses of PISA: *PISA as political tool*, *PISA as pedagogical tool*, *PISA as macro level tool*, and *PISA as political policy making tool*. Then again other experts looked at the PISA approach, at PISA's definitions of concepts such as literacy, the construction of test items, its framework in general, and so on. This happened mostly after India's participation in PISA 2009 Plus.

In the interviews it is often stated that in the beginning the Indian government was not in favour of participating in OECD's PISA, likewise not the bodies MHRD and NCERT. Until 2006 or 2007 there had not been a clear intend to participate in PISA from the government of India side. The participation came in short notice. Many experts referred to political pressure to join or not join the PISA test. Some mentioned that there has been a hesitation in taking part. Obtaining bad results had been a critical concern to not enter the PISA test. It is in this context, that the idea of joining PISA in the framework of the PISA 2009 Plus project had not been to compare India at an international level, but to get its capacity built. Experts stated a lack of understanding of the theoretical and methodological framework of large-scale assessment before and during the conduct of PISA in India. But for others, the rationale for the participation had been to find out where India stands in the World. The background for the participation of

[287] Additionally, in one interview the term *PISA 2009 Plus* had been brought in by the interviewer.

India in PISA is to be seen in India's integration in the international community through EFA from 2000 onwards. This will be discussed in detail later.

To sum up this section of events as processual nodes, it can be firstly stated, that the conference at Udaipur had been of importance because it had been a platform for many different nodes of influence to come together and meet. It is thus considered as an epistemic space allowing concepts to circulate between institutions, organisations and amongst human beings – researchers, bureaucrats, and educational consultants. Secondly, the OECD PISA study is described by many as a collective, others refer mainly to the test and its tools. The PISA study is a node of influence as even if experts don't have any knowledge about how India joined PISA, they still have knowledge on the existence of the PISA study. Both nodes of influence the conference at Udaipur and the PISA study are listed as events but have a material dimension, as for instance reports are published on these events. Besides that, material nodes were of influence such as money, the Memorandum of Understanding (MoU) or the RTE Act 2009.

6.2.3. Material nodes of influence

Money

Money – and funding as specific flows of money – is mentioned by almost all experts. It is seen as a crucial resource in providing public and private education. Experts that mention money are independent researchers, (former) NCERT-staff, APF-staff, the former state manager of PISA in Tamil Nadu and ACER India-staff. Money is not mentioned by Pratham resp. ASER-staff, CSF-staff, and SCERT-staff. Funding is mentioned by independent researchers, ACER India-staff, APF-staff, the former state manager of PISA in Tamil Nadu and by NCERT- and SCERT-staff.

Prior to India's participation in PISA there has been a European funding for the enhancement of the NAS. Through this project basic knowledge on international-large-scale assessment came in, e.g., the usage of IRT in questionnaires. The pilot study has been financially supported by DFID and the World Bank. Funding agencies played an important role in the process of India joining PISA. As the government of India has been reluctant, a funding agency has been approached. This agency didn't talk to the government, but directly to the two best states. It tried *to bypass the education ministry*, as shared by an expert. Against other opinions, one expert holds that the government of India paid for the participation in PISA. There is no reason for a funding agency to step in. There are bigger issues than funding, so the statement. However, it is stated in the ACER report by Walker (2011) that World Bank contributed to the funding of India's participation in the PISA 2009 Plus study. According to

another expert, World Bank was not only funding, but was also involved by providing consultants. They supplied the NCERT body with technical knowhow but had their own interests. For another expert, the PISA fee has been a major drawback from a participation. The cost for taking part in PISA is high for low- and middle-income countries. Money that could be spend elsewhere for a better purpose. The question is also, should that money be spent on an international agency or should it be spent on own national testing agencies? Knowledge on the details of the contract, how much money has been spent and who spent the money remained blurred. According to another expert, India has put a lot of money and time into PISA. However, there hasn't been an organized committee to analyse the PISA experience.

An expert that operates at the state level, said, that decisions about money are taken at the government level in India. The central government is funding education at the regional level. It has created funding mechanisms for that. Testing is important because it gives information about the status of education. It serves as a legitimation for money spent by the government. The Indian government requires educational testing. State government have interest in money (from the national level) because it is at the state level, that projects like SSA are implemented and conducted. Another expert from the state level stressed that *assessment should be taken seriously, it should lead to actions, and resources such like money should not be wasted*. But testing also leads to comparing states and influences the flow of money as another expert points out. According to test results money is going to one state, but another state – who perhaps equally deserves the money – doesn't get it.

Memorandum of Understanding (MoU)

The Memorandum of Understanding, (hereafter MoU), between the OECD and India is a key node in the conduct of the PISA 2009 Plus project in India. But besides one expert hardly anybody mentioned it. Likewise, it did not happen to be mentioned in any document or published text in journals. Trials to get access to the memorandum or to other *secret* documents remained unsuccessful. However, for the purpose of this work, that is to reconstruct the process of India joining PISA, it suffices to take the memorandum of understanding as node of influence, without knowing the exact content of the document.

Right to Education Act 2009 (RTE)

The Right to Education Act 2009 (hereafter RTE) got mentioned as an important event by independent researchers and ACER India-staff. That means experts that have detailed knowledge of the Indian education landscape. The implementation of the RTE had been a

struggle. Different coalitions were arguing for and against it. The RTE is a policy document of relevance. The Right to Education Act 2009 puts pressure on private players in the education sector and it puts emphasis on enhancing the quality of learning. Some experts point out that it was only after the enactment of the RTE, that the government of India finally agreed to take part in PISA. Reflecting about the point of time, when India joined PISA, some experts mentioned that at that time several developments took place in India. Educational programmes for primary and secondary school were implemented, the RTE got enacted, and NCERT and Pratham started its own assessment tools and published their results in annual reports and other reports (see the discussion on it in chapter 2).

Within the data analysis, it became visible, that money had been an important resource for participating in PISA and for the realization of teaching and education in general. Furthermore, it became visible that money as material node has been stated frequently in interviews and documents. Thus, it is considered as a key node of influence. The MoU as document links up nodes and builds the foundation for action resp. the enactment of the PISA 2009 Plus project in India and is equally considered as key node of influence. The RTE Act 2009 appeared as an example of policy making processes. The RTE is a key node of influence, because according to many, the government of India agreed to take part in PISA only after the approval of the RTE. The discussion of the different sets of nodes of influence already sheds light on their various kinds of connectedness, preliminary trading zones became visible. Thus, hereafter different subnetworks shall be highlighted.

6.3. Subnetworks

In the complex socio-material reality, there is an indefinite number of subnetworks. It is important to note, that these networks are not existing juxtaposed to another, rather they are intertwined and linked up with other subnetworks in manifold ways. In the complex socio-material reality, networks exist between three or more different relata. For instance, when governmental bodies, quasi-governmental bodies, private national organisations and educationists come together for round table meetings at the national or at the state level. Here, material objects and events play an important role, as these meetings are scheduled on specific dates, and proceedings of the meetings are documented in reports.

Within the data set seven types of subnetworks became visible. Firstly, there are *networks of government bodies and government-related bodies that are engaged in the field of policy*

making in the Indian education sector[288]. In terms of advice and decision making the Indian education ministry (MHRD) draws on the quasi-government body NCERT and its suborganisations SCERT and RIE. Further, the MHRD transfers research and teacher training to the body of NCERT. One expert used the image of a *cascade of flows of knowledge and influence* to illustrate the hierarchical structure of these networks. Secondly, there are *networks between government and government-related bodies and academic scholars, that are engaged in the Indian education sector***.** When needed, NCERT and MHRD seek input by academics. This happened for instance after the PISA 2009 results came out. The knowledge of academic scholars had been requested in analysing the PISA items and results. Thirdly, there are *networks between government and government-related bodies engaged in the Indian education sector and private Indian organizations.* There are different kinds of relations between NCERT, NIEPA, the SCERT's and private organizations such as Pratham or APF. These relations are of the quality of appreciation and acknowledgement.[289] Fourthly, there are *networks of private (inter-)national players and governmental bodies:* Between Pratham resp. ASER, the World Bank, ACER, Central Square Foundation, and APF friendship and advice ties exist. The relationship between Pratham and PISA or Pratham and the Indian education ministry (MHRD) remained unclear. Fifthly, there are subnetworks amongst *private (inter-)national organisations,* as for instance between APF and Educational Initiatives. Sixthly, there are subnetworks between *private Indian organisations and academic scholars,* as for instance between APU and independent researchers. Lastly, there are subnetworks between academic scholars (e.g., educationists) and private international organisations, for instance when educationists attended international conferences.

The map below shows some of the above-described subnetworks. In the picture, material relata (things) and processual relata (events) shall be understood as being included. Though they are not depicted visually for the purpose of reduction of complexity and legibility of the map (see chapter 5.4. on drawing network maps). The light-blue background stands for the global education sector. Nodes are international organisations, private organisations, state bodies, human beings such as educational consultants, educationists, and government officials. (1) One arrow links up international organisations and the Indian education ministry resp. government of India, (MHRD/GoI). (2) Another arrow connects international organisations, and private Indian organisations. (3) Furthermore, arrows exist between private Indian organisations and Indian state bodies, as well as between private organisations and

[288] In section 6.3, Italic letters are used for the purpose of accentuation, not for indicating catchphrases of interviewed experts.

[289] Certainly, there exist as well negative ties. However, these were not stated within the interviews.

educationists. (4) Lastly there are arrows between educationists and Indian state bodies, as well as between educationists and international organisations. Trading zones become visible between international organisations and educationists, between international organisations and Indian state bodies, between international organisations and consultants in general, between private organisations and Indian state bodies, between private organisations and international organisations and between private organisations and educationists.

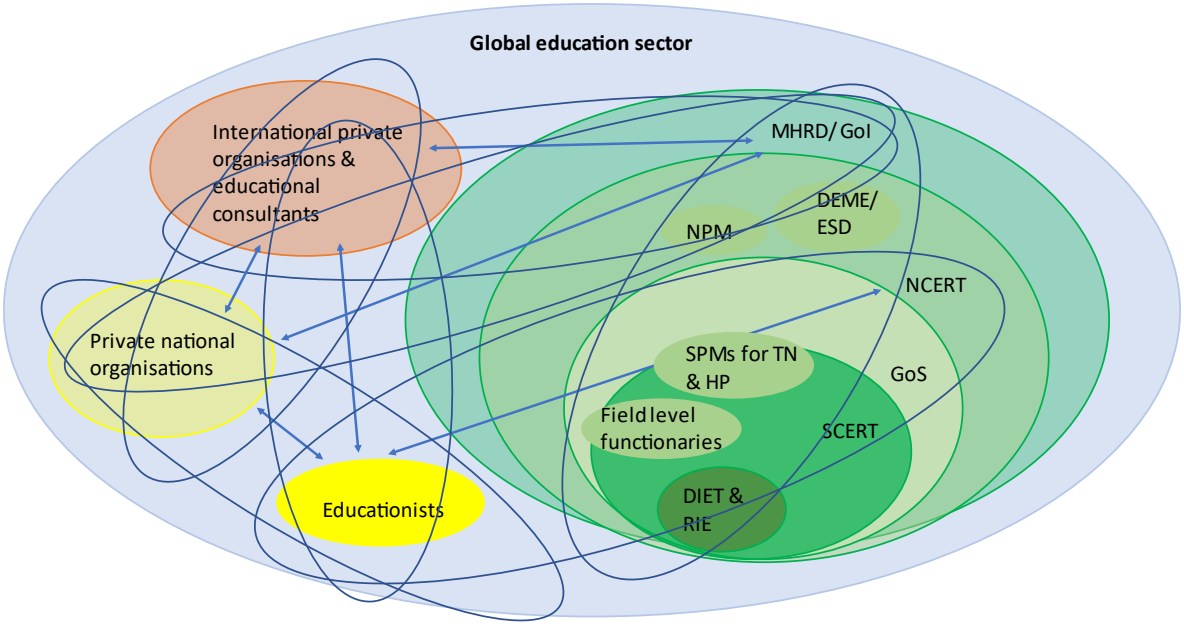


Figure 14 Different, overlapping subnetworks

The subnetwork of the PISA 2009 Plus project that is in focus here is a mixture of the different types of networks described above. Dependent to the perspective of the storyteller (that can be an expert or a document), the set of nodes and edges varies as will be illustrated hereafter.

6.4. Outlining the process: The administration of the PISA 2009 Plus project in India

Before presenting some of the many different threads that led to the process of India joining PISA, the general proceedings of an application in PISA for non-OECD-countries is depicted in advance. This serves for the purpose of orientation, contrast, and control of the analysis.

6.4.1. General proceedings of an application in PISA

In 2019, the OECD published information about the *how* of the PISA application process for non-OECD members – including financial requirements – on their website. This is to be seen as a response to an often-posed critique that the OECD is reluctant in sharing detailed information about the PISA test including the costs of a participation (see e.g., Radtke 2003).

In fact, this section of the OECD website is currently under construction.[290] Thus, there is no recent data on the costs of PISA available in the public domain. Fortunately, the published information about the requirements of a PISA participation for non-OECD members had been saved as a pdf document during the conduct of the research. Hence, in the following, the collected information on the costs of PISA from OECD's website will be treated as a document with temporary validity.

The document starts with a description of the tenets of PISA. Here, the PISA study is presented in a neutral way, hiding delicate aspects. There is no information on how context-sensitive issues – as for example the premise of the global comparability of testing 15-year-olds – are dealt with in contexts with high dropout rates of students in secondary school education. Furthermore, only the main cycles are listed. The many PISA-related small projects are excluded from this overview. Hereafter, the requirements for a participation in PISA based on PISA 2021 are stated. Taking part in PISA is costly for a non-OECD country. Base cost and additional support together make € 665 000. This is a lot. Additional money must be spent for the local administration of the programme. The document further outlines logistical and compulsory pillars for the administration of the test. There is the requirement to designate a knowledgeable and skilled National Project Manager (NPM), and additionally a representative for the PISA Governing Board. Lastly, the country or economy wishing to apply is requested to provide a motivation letter, that speaks directly to Mr. Andreas Schleicher. The application will be discussed within the PISA Governing Board.

While there is no such document for the process of 2009 available or accessible, it is possible to identify aspects, where OECD seems to have learned from India's PISA experience. The detailed description of the requirements for the NPM – for instance, being skilled and knowledgeable –, or the description of the local test administration – pointing out to keeping with OECD standards and ensuring the proper translation of the test –, are to be read on the basis of this knowledge. Based on the analysis of the collected data, it becomes visible that the proceeding of India's participation in the PISA 2009 Plus project has been in some respects similar to this outline of a general proceeding, but also differing in other aspects. The presentation of the general proceeding is now contrasted with perspectives shared in documents and interviews.

[290] The section on OECD's webpage used to be titled: "How to Join PISA. Requirements for OECD Partner Countries and Economies to Participate in PISA". Currently, no data but a contact address is given (see https://www.oecd.org/pisa/contacts/howtojoinpisa.htm [09.03.2022]). The following quotes were retrieved from this website on 31.01.2019 and saved as a pdf. See the appendix for the original text. However, recently, the OECD gives information about the costs of PISA in their FAQ. Here, it is stated that the costs per PISA cycle differ based on the income or seize of the participating countries (Source: https://www.oecd.org/pisa/pisafaq/ [17.07.2022]).

6.4.2. Organization and preparation of the PISA test in India

A blogpost by prayatna (see the original text within the appendix) had been one of the earliest written sources on the process of India joining PISA that had been available in the public domain. The author starts the blogpost by mentioning that the Indian government has been reluctant of participating in PISA until 2008. This can be read in a parliament question, dated on March 10th, 2008. There is no clear indication in it, whether India is taking part or not, but the government of India refers to the development of its own national achievement tests. However, taking the annual report of NCERT for 2008-09 (NCERT 2009) into account, the author assumes that there must have been a shift in the GoI's stance on India's participation in PISA. It is stated that Prof. Avtar Singh – who had been the National Project Manager for PISA in India – joined the meeting of National Project Managers in Germany in February 2009. The author mentions that there are no further governmental documents on India's participation in PISA, as far as they are accessible. Prayatna then gives an overview on India's participation in PISA based on the ACER report by Walker (2011) and by ACER India (Dhamija 2011, draft). He mentions that there has been "continuous deliberation among the leading educational policy making institutes like MHRD, NCERT, NUEPA, CBSE and development partners like World Bank" (Dhamija 2011: 01, draft as cited by prayatna). This resulted in the signing of a Memorandum of Understanding (MoU) by OECD and MHRD, that declares India's participation in PISA 2009 plus. The author mentions thus the government and government-related bodies – MHRD, NCERT, NUEPA, and CBSE –, and the international agencies - World Bank and OECD - as key organisations within the PISA Plus project. Furthermore, he mentions that there has been a Memorandum of Understanding (MoU) between the OECD and the MHRD (see chapter 6.1.). The author further states that in the beginning four states were meant to take part, but this had been reduced to two states, Himachal Pradesh, and Tamil Nadu. The conduct of the study took place with a delay. Lastly, he gives an overview on the test-administration, based on the report by Dhamija (2011, draft). In this report it is stated that "World Bank contracted Australian Council for Educational Research (India) to support NCERT in conducting PISA 2009 plus in India" (Dhamija 2011: 01, draft).[291]

Most of the sources prayatna uses, could be identified during the research. Hence, it was possible to critically read this blogpost, to identify inconsistencies in the citing practice, and lastly to develop an own independent reading of the process of India joining PISA. A review of questions in plenary sessions, for instance, showed that there were continuously questions on

[291] Dhamija's report gives more detailed information on the test administration and will be examined shortly afterwards.

whether India will re-join PISA. These answers referred quite often to the National Achievement Survey (NAS) of NCERT. Sometimes, they mentioned international organisations, like the World Bank and the OECD. In one exemplary documented parliament question from December 10th 2014 (see the text within the appendix), it is mentioned that India's states Himachal Pradesh and Tamil Nadu took part in the PISA 2009 Plus project. India got placed at the 73rd rank of the league table. Further, the document gives an explanation for the bad results. These must be seen in the unacquaintance of Indian students with the PISA test items and with the lack of context-specific (Western) knowledge. Since the PISA cycle of 2009, India had not joined PISA. Instead, it had invested in the further enhancement of the national assessment tool, called National Achievement Survey (NAS). The conceptualization and conduct of this tool had been changed and aligned to PISA standards (see also Vollmer 2019b).

Further, the annual report of NCERT 2008-2009 (NCERT 2009) indicates that an intensive preparation has been there prior to the administration of the test. Prof. Avtar Singh, National Project Manager for PISA in India, participated at the meeting of National Project Managers in Frankfurt (Germany) in February 2009. In the framework of an DFID funded capacity building project, he undertook study visits to Great Britain twice in February and March of the same year. In March 2009, he participated at international conferences, e.g., the DFID Education Advisors Retreat in Chennai (India). Furthermore, he went to Princeton (USA) in April of the same year for a training programme provided by the organisation ETS. The document reads as follows:

> „Prof. Singh participated in the National Project Managers Meeting of PISA 2009 cycles at Frankfurt from 9 to 13 February 2009. He also undertook a study tour to UK from 22 February to 1 March 2009 to workout training programme of NCERT faculty under Technical Cooperation Fund (TCF). He contributed three papers in National and International Conferences, the last one was organised by DFID Education Advisors Retreat at Chennai from 9 to 12 March 2009. He attended a three-week training programme at Educational Testing Service - Princeton (USA) from 25 March 2009 to 10 April 2009 in modern testing techniques." (NCERT 2009: 117f)[292]

Apart from that, India's participation in PISA 2009 Plus is stated by Oza/Bethel (2013), who provided a final report for the DFID-funded capacity building programme at NCERT. Here, it is mentioned that besides India's participation in the PISA 2009 Plus project in 2009, India participated only in the First International Mathematics Study (FIMS) in 1964. The statement reads as follows:

[292] NCERT Annual Report 2008-2009: „Prof. Singh participated in the National Project Managers Meeting of PISA 2009 cycles at Frankfurt from 9 to 13 February 2009.(http://www.ncert.nic.in/html/pdf/publication/annualreport/annualreport_eng_08-09/chapter-13.pdf [30.10.2017]).

> "In 1964, India took part in the First International Mathematics Study (FIMS). However, since that time it has not participated, as a nation, in any of the major international surveys. In 2010, Tamil Nadu and Himachal Pradesh took part in PISA 2009+. This was an additional round of the 2009 survey which allowed ten jurisdictions (including Tamil Nadu and Himachal Pradesh) to be measured and placed on the same scale as the original 65 participants (The outcomes of PISA 2009+ are discussed in Section 6 below)." (Oza/Bethell 2013: 12f)

Another document is the draft of a final report of the conduct of the PISA 2009 Plus project written by Ratna Dhamija in February 2011. Ratna Dhamija belonged to the organisation ACER India. The title of the report reads: "Final Report On Main Survey for OECD's Programme for International Student Assessment (PISA) in India – 2009+, prepared for submission to ACER".[293] This document offers detailed insights on the administration of the test.

In the first section Dhamija gives an overview on the PISA 2009 Plus project and a short description of the composition of the PISA 2009 group. The PISA 2009 group had been formed based on international organisations and experts. Dhamija mentions the organisations NIER, cApStAn, and Westat, together with ACER Australia as leading agency. This is followed by a description of the organisation ACER Australia. It is stated that ACER maintains an office in New Delhi. After that, an overview of the conduct of PISA Plus is described: "World Bank contracted Australian Council for Educational Research (India) to support NCERT in conducting PISA 2009 plus in India (…)" (Dhamija 2011: 01, draft). Here, it is explicitly said that World Bank had been involved in the PISA 2009 Plus project, and secondly, that ACER (India) had been engaged with the project organisation of PISA 2009 Plus in India, together with the state body NCERT.

Later in the document, Dhamija gives detailed information on the training of the test administration staff. These trainings had been conducted by ACER, as well as by the National PISA centre and the State PISA Centres. These took place at the State PISA centres. PISA requests the appointment of two different persons as School Coordinator (SC) and Test Administrator (TA). It was planned that each school had its own School Coordinator, whereas the Test Administrator had to care for a net of schools, given the conditions of the local contexts of the selected schools (e.g., proximity of schools in remote areas). The SC had been appointed by the school principal, and the TA had been selected by the State PISA Centres. She further mentions the National Project Manager, State Project Managers for Himachal Pradesh and

[293] Unfortunately, this document had not been available or published, at the beginning of the project in 2016. This document has been posted online only on April, 08th 2018, https://vdocuments.net/pisa-ms-acer-final.html [13.03.2022]. The document appears as a draft as there are notes by an unknown editor in it. The final document could not have been located during the research. Any names of the participating schools, of local places where training took place, and of field level functionaries given in this document are excluded or anonymised here for the purpose of good research practice.

Tamil Nadu, and an Assistant State Project Manager at least for Tamil Nadu (ibid: 06). Lastly, she elaborates on the training for the coding staff. This training had been conducted under ACER India's supervision and responsibility. She further outlines that there had been a quality monitoring process based on the requirements of PISA. In this section, she says that the data collection phase had been reduced to 15 days. It took place from October 17th until October 31st, 2010. Originally, it had been planned to happen from October 1st to October 31st, 2010. In the last section of this document, Dhamija (2011: 04-08, draft) reports how the test has been administrated. Difficulties and challenges within the process of data collection are being discussed. This section is excluded here, because the focus of analysis is set on the preparation phase of the PISA 2009 Plus project.

Dhamija's draft is taken as one story on how the PISA 2009 Plus project had been administered in India. Based on the information given in the draft, a map had been created. The background of this map, coloured in light-blue, indicates the global education sector. The map is centred around the key node of influence that is ACER India. Other nodes of influence are international organisations such as the OECD, the World Bank, and ACER Australia, further, state bodies, and human beings such as educational consultants, and government officials. Furthermore, material nodes of influence are contracts, tools and concepts, as e.g., the PISA guidelines and NPM manuals. Lastly, processual nodes of influence are events such as the PISA 2009 Plus project, the training of staff, and the test administration at the local level. (1) There is an arrow between the World Bank and ACER indicating to a subnetwork or trading zone that is characterized by a signed contract. (2) There is another trading zone between ACER and Indian state related bodies. There is another arrow between ACER (India) and the NPM. Furthermore, there is an arrow between ACER (India) and the assessment state project managers (hereafter (a)SPMs) for TN and HP, indicating a trading zone that dealt with training and quality control measurements. Then, there is another arrow between ACER (India) and the SC's and TA's, likewise indicating to a trading zone that dealt with training and quality control measurements. Then, there is an arrow between ACER (India) and coders, pointing out to yet another trading zone that dealt with training and quality control measurements. Another arrow exists between the NPM and the (a)SPMs for TN and HP, indicating to a trading zone that is characterised by directions and feedback. Another arrow exists between the (a)SPMs for TN and HP and the SC's and TA's, equally dealing with directions and feedback. Then, there is an arrow between the SC's and TA's and the coders, equally dealing with directions and feedback. (3) Another trading zone exists between the OECD and ACER. (4) Lastly, there is a fourth trading zone between Indian state bodies. It becomes visible that ACER (India) runs its

engagement cross-sectionally along the different hierarchical levels of Indian state bureaucracy. As open question remains the embeddedness of other private Indian organisations, e.g., APF or ASER, or of independent researchers.

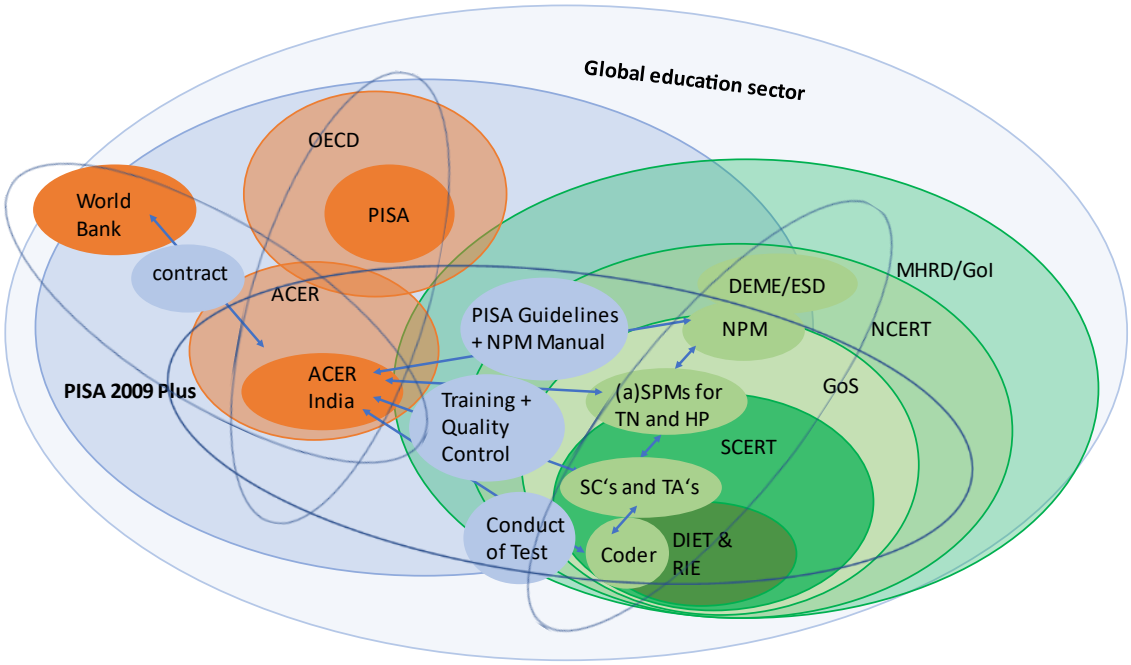


Figure 15 ACER's perspective on the PISA test administration in India

This first description of the process of India joining PISA based on documents that were available in the public domain, shall now be contrasted and enriched by depicting a wide range of single perspectives shared in interviews with experts.

6.4.3. Single perspectives on the process gathered from interview material

For systematization, the many different single perspectives shared by experts have been clustered to two types. These are the perspectives of experts that have not been involved - named as 'outsiders' - and experts that have been involved – named as 'insiders' - in the PISA 2009 Plus project. The display of these perspectives is based on the collected interview data. The differentiation of 'insider-' and 'outsider-perspectives' is an act of reduction to cluster the different perspectives. Within the data set, there is a wide range of perspectives which are often positioned in the middle of these two categories, or which change the perspectives of being 'insider' or 'outsider' with the change of (sub-)topic or question. The single perspectives on the selection of states are excluded from this section, as it will be dealt with this aspect in detail shortly afterwards. The presented maps in this section are based on the expressed knowledge of

the respective interviewed expert. As most of the nodes of influence have been described earlier, in this section linkages between these nodes shall be described in more detail.

Perspectives from outsiders

A first perspective, given by an independent researcher, holds that *PISA comes with educational consultants.* S/he mentions that international agencies have their own agendas, concepts, and instruments. In general, international agencies work through established ties with ministries and the local bureaucracy of the state in contexts of the so-called global south. Furthermore, they maintain a wide network of educational consultants. These consultants are themselves highly influential in the education sector and are often in powerful positions. Everyone that is part of the *education game*, such as educational consultants or government officials has an interest in maintaining their position and authority in the field. This general outline applies to OECD's PISA group, too. Though there is critique by one group (e.g., educationists), the PISA concept is welcomed by another group. S/he speaks of educational consultants who often function like a *gatekeeper* between international agencies and state bodies. National bureaucrats on the other side try to hold space for educational consultants, there will be *receptive voices*. S/he points out to a power imbalance*: international educational consultants cannot be ruled up* – this can relate to the concepts of footing and struggling for control by White (2008). For analysing these processes it is necessary to look at the institution and location of these educational consultants. An open question in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have?

The background of the map, coloured in light-blue, indicates the global education sector. Key nodes of influence are international organisations and educational consultants. Other nodes of influence are other international organisations, state bodies, and human beings such as educational consultants. Furthermore, as nodes of influence are mentioned things such as tools and concepts (marked as "tools and concepts"), papers (marked as "critique") and events such as PISA 2009 Plus (marked as "PISA 2009"). (1) There is an arrow between OECD's PISA and the global academic community (marked as "educationists worldwide") indicating to a subnetwork or trading zone, as the latter is critiquing the OECD and PISA. (2) Another arrow exists between OECD's PISA and the Indian education ministry, MHRD/GoI, as well as between OECD's PISA and the NCERT as these nodes were part of the subnetwork or trading zone that negotiated upon India's participation in PISA 2009 Plus. (3) Then, there are arrows between international organisations and educational consultants and Indian state bodies such as NCERT and state governments. Here, another subnetwork or trading zone exists that negotiated

upon the offering of tools and concepts. The arrows are symbolic for the many interactions and linkages between the different nodes. The trading zones are marked by ellipses. It becomes visible that they overlap to a certain extend.

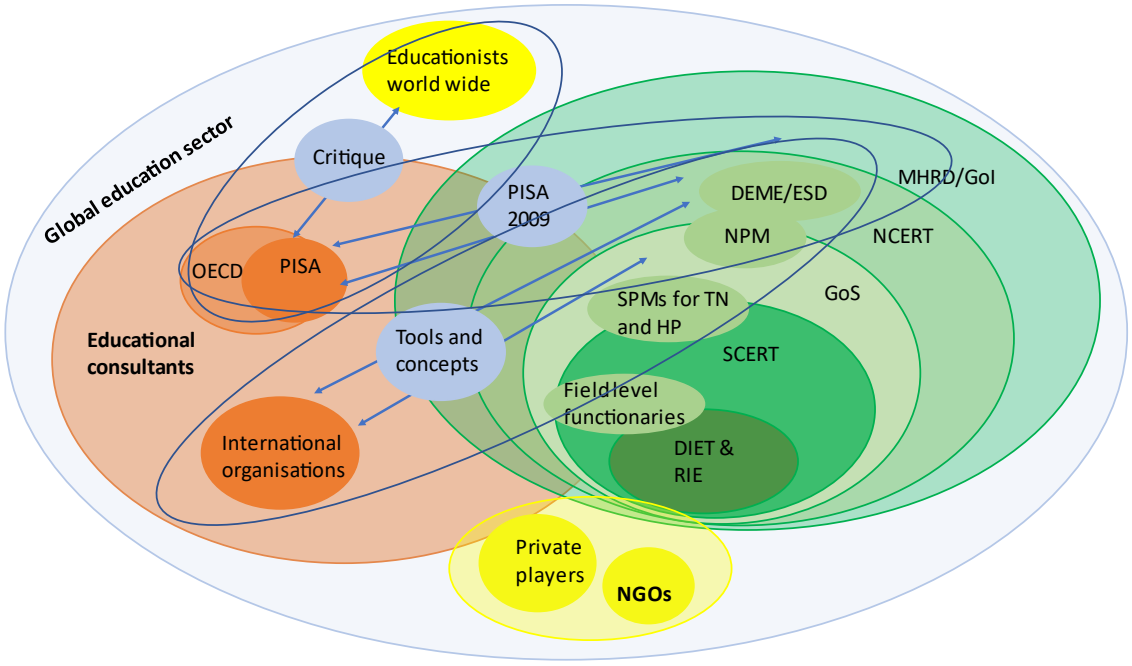


Figure 16 Perspective of outsider 1

Another expert, likewise, the perspective of an independent researcher, points out that international organisations are *not equivalent to each other*. Each body has its own mission statement, organizational structure, code of conduct and so on. For each of these large international organisations, it would be interesting to analyse the way, how they are working and how they are influencing other bodies. For their engagement in contexts of the global south, the interviewee asked the following questions: *How do these global actors look at questions of education in contexts of the global south? What is their assessment of the situation? What are their recommendations? What kind of challenges do they face? Do they differentiate between for example African contexts and Indian contexts?* For instance, India's relationship with the World Bank is *rather characterised by negotiation than of invasion*. Indian bureaucrats had their own interests and were negotiating for them. For some *they found resonance in World Bank*, for others *they renegotiated the terms of agreements with World Bank to suit their own understanding*. They were countering *some of the pressures* and showed resistance and opposition towards World Bank officials. The interviewee suggests that this (organizational) knowledge may reflect in policy documents, reports, and other publications. For instance, it is mentioned, that Basu (2006) wrote a paper on India's negotiation with World Bank, analysing

the written correspondence between the Indian government and World Bank. The interviewee further holds that there is *no single transparent communication mode, where something originates in World Bank and OECD is transferred here and then is implemented on the ground* and refers to a paper by Mukhopadhyay/ Sriprakash (2011) (see chapter 3). Furthermore, s/he speaks about market liberalization, globalisation and aspiration of Indian middle class and inequalities due to colonialism in terms of the positioning of Indian academic scholars in the global scientific community.

The background of this map, coloured in light-blue, indicates equally to the global education sector. This expert outlines a possible reading of the process of India joining PISA in view of the events of market liberalization, the aspiration of the Indian middle class to be visible at the global level, and the post-colonial context. Key nodes of influence are international organisations and educational consultants. Other nodes of influence are state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, written critique (papers), e.g., Basu (2006). No event is mentioned but possibly PISA 2009 can be understood as event here, or the liberalization of markets and the connected global aspiration of the Indian middle class. (1) There are arrows between OECD's PISA and the Indian education ministry, MHRD/GoI, and OECD's PISA and the NCERT indicating a subnetwork or trading zone that dealt with the negotiation upon India's participation in PISA 2009 Plus – concept of translation of ideas. The interviewed expert asks: *Can it be that PISA as instrument had been rejected, but what PISA represents- the idea of educational measurement - had been accepted?* (2) There are also arrows between international organisations, e.g., the World Bank, and Indian state bodies as e.g., the Indian government, state governments or the NCERT, indicating to negotiation upon the offering of tools and concepts. These negotiations may reflect in policy documents. (3) There is a third trading zone between international organisations and the scientific community. Here, exemplarily the paper by Basu (2006) is mentioned. The trading zones are marked by ellipses. As open questions in this perspective remains: how exactly took the process of negotiation between OECD and India place? Like to the first outlined perspective, how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have?

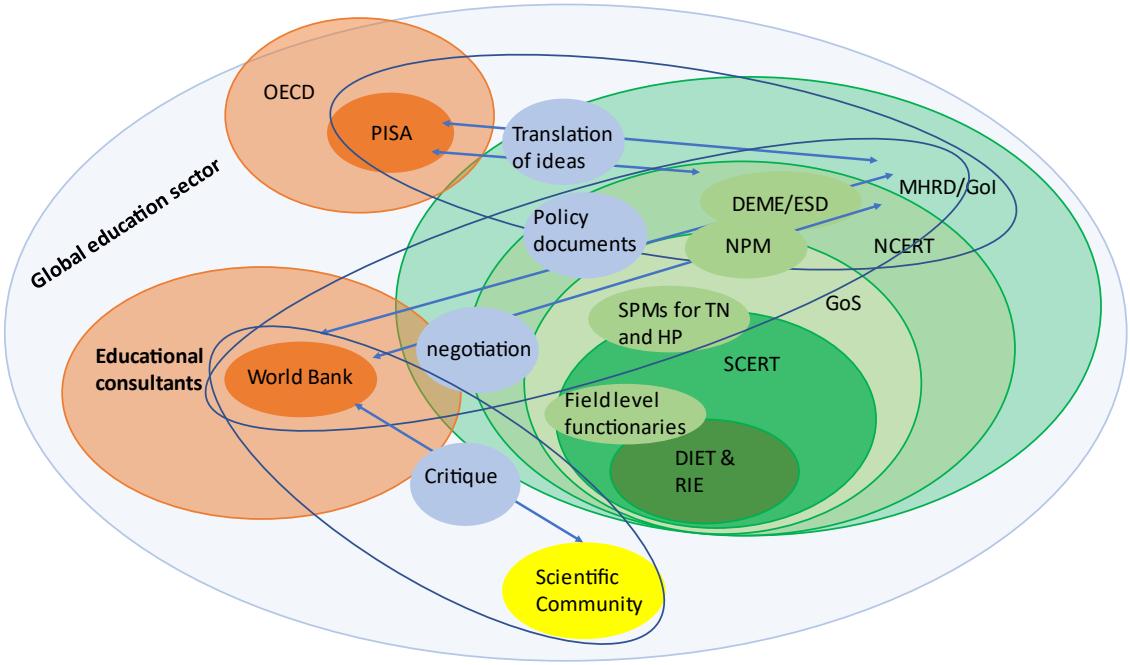


Figure 17 Perspective of outsider 2

A third perspective, again the perspective of an independent researcher, got to know about PISA at a conference in 2008. Later, s/he tried to bring other educationists, the government of India and other bureaucrats to participate in PISA. However, s/he shared also doubts about it: *PISA results would show the bad situation of the Indian education sector on a global level*. This perspective does not have knowledge on how the negotiation between OECD's PISA and the Indian government happened. S/he holds, that there is hardly anything written about the PISA study in India. There is the need to understand large-scale assessments better. There are only a few genuinely academic activities in assessment in India. In the past, *tests from the West were borrowed and implemented*.

Outlining the research landscape of the Indian scientific community, s/he shares that there is a divide between qualitative and quantitative studies in India. Quantitative studies are often funded by international agencies or by the government of India. These quantitative studies are often criticised, because of the source that is funding the study, or because they are based in neoliberal thinking and recommend the implementation of neoliberal policies. The lack of interest in PISA by the Indian scientific community, in particular by educationists, is rooted in that deep criticism on quantitative studies that focus on the macro-level. S/he shares about other academically attempts to develop own test tools in India. However, s/he summarizes that *the field has been almost left open for ASER by Pratham*. Pratham with its own large-scale assessment studies is very influential and is dominating the educational assessment landscape in India. Whenever a new Pratham report is out, there is a large coverage in the media. The

NGO Pratham is described as aiming for the privatisation of education and for the implementation of PPPs.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence is an international conference and its subsequent academic exchange. Other nodes of influence are international organisations, state bodies, and human beings such as educationists. Furthermore, nodes of influence are things such as tools and concepts, and events such as the PISA study itself, or the publication of the ASER reports. Trading zones are marked with ellipses. (1) There is an arrow between OECD's PISA and the global academic community, marked as "educationists", indicating to a subnetwork or trading zone that is characterised by dialogue at conferences or written in journals. It has been at a conference that the expert learned about the PISA study and engaged with its tools and underlying concepts. (2) Another arrow exists between the group of educationists and the Indian government, bureaucracy and administrative group in general, indicating to another subnetwork or trading zone that deals with the negotiation about PISA. An educationist (in this case the interviewed expert) recommends to the Indian administrative group resp. state bodies to take part in PISA. (3) There is another trading zone between Indian educationists and the Pratham group. Educationists study the Pratham test and observe the media coverage when the ASER report gets published. (4) Furthermore, there is a blurred trading zone between international organisations, and private Indian organisations as well as OECD's PISA and Indian state bodies, as the interviewee has no knowledge about how it came that India joined the PISA 2009 Plus project. This blurred trading zone is not marked, in White's terms it can be defined as a structural hole – the interviewee knows that it is there but has no knowledge and no connection to the people or organisations that had been in charge with the decision making and test administration process. There is no arrow between OECD's PISA and the Indian education ministry, MHRD/GoI, and OECD's PISA and NCERT, because the interviewee has no knowledge of the actual negotiation of India joining the PISA 2009 Plus project. There are also no arrows between international organisations (OECD) and Pratham. The interviewed expert has likewise no knowledge of the negotiation that happened between them. Like both of the previous outlined perspectives, the question remains, how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have?

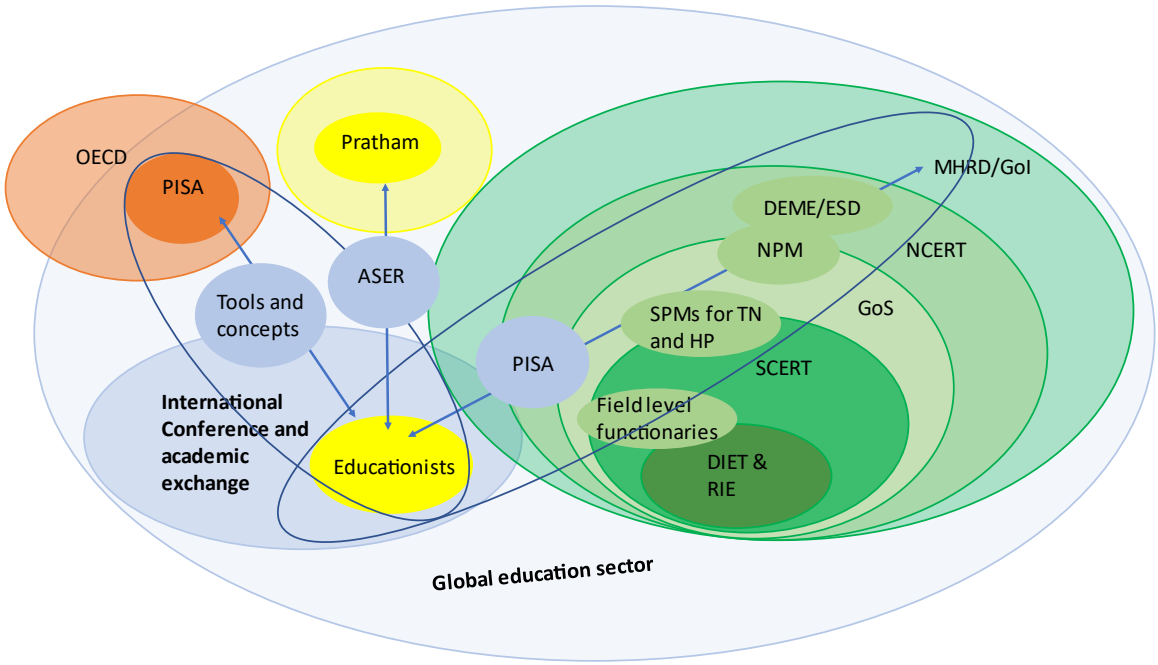


Figure 18 Perspective of outsider 3

A fourth perspective, likewise the perspective of an independent researcher, sees the background for India's participation in OECD's PISA in the aspect that there had been long-lasting political pressure to join PISA. The moment when India took part in PISA 2009 Plus was a critical point, as the RTE 2009 had just been implemented. Academicians and the education ministry at that time held that international competition does not help and would be rather *damaging*. Instead, they propagated their own endeavours to achieve quality education for all as for instance through the implementation of the NCF 2005. The Indian government was not willing to participate in international testing. They [OECD's PISA] took the World Bank group on board and then *approached the states directly and circumvented the ministry by that*. World Bank was actively part of the PISA process, was a key node of influence and *pushed for PISA*. The decision to take part in PISA came based on a *manipulative act* by World Bank of bypassing context specific administrative proceedings. Generally, as a rule, state governments and the central government decide about these proceedings in consultation. In the case of India joining PISA 2009 Plus this consultation did not happen. Later, private players such like Pratham used India's bad results in PISA to critique the endeavours of the Indian government and to manifest their voice and interests in the educational assessment landscape in India and abroad.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence is the World Bank. Other nodes of influence are the state governments of HP and TN, private organisations such like Pratham, and human beings such as educational

consultants at the World Bank. Furthermore, material nodes of influence are things such as tools and concepts, written critique (papers) and events such as the approval of the NCF 2005 and RTE 2009 by the Indian government and the administration of the PISA test 2009, as well as the media coverage at the time of the publication of the results. (1) There is an arrow between the World Bank group and the Indian states (HP and TN), indicating to a subnetwork or trading zone. Bypassing the usual hierarchical structure, where state governments deliberate with the central government about these kinds of decisions. (2) Other than the three the previous outlined perspectives, this perspective has knowledge on the embeddedness of NGOs and their role in the process of India joining PISA 2009 Plus, though the shared observations belong to the post-PISA 2009 Plus period. There is a trading zone between NGOs and the media, as private players used the event of the bad results in PISA to critique the endeavours of the Indian government and to manifest their position and voice in the Indian educational assessment landscape and abroad. According to the expert, NGOs such like Pratham could gain more influence resp. power over time. There is also an arrow pointing from NGOs to state governments as they are influencing policy making at the state level. (3) There is an arrow between educationists and the Indian state work body, as academicians are requested by the government to give advice in policy making for instance in the framework of the NCF 2005 or the RTE 2009. (4) There are no further arrows because the interviewee has no further knowledge. A question that remains open, is the one about the role and position of OECD's PISA as well as other international and national bodies in the process of India joining PISA.

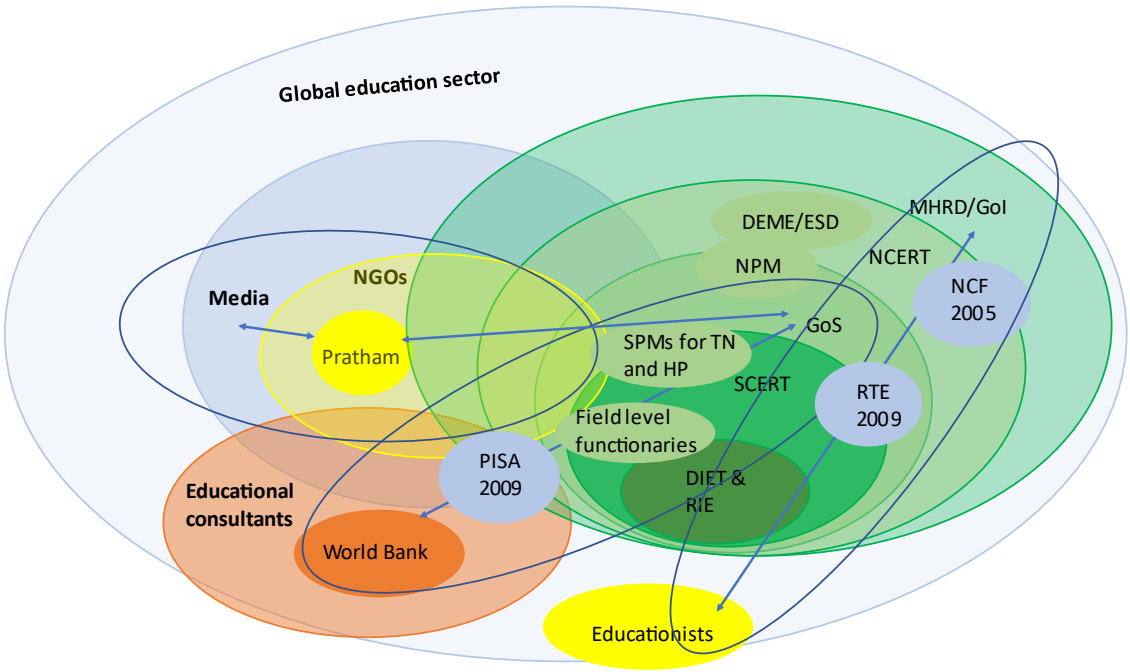


Figure 19 Perspective of outsider 4

A fifth perspective, equally the perspective of an independent researcher, has knowledge on the how of the process of India joining PISA 2009 Plus and offers a reliable description about the administration of the PISA test in India. This perspective speaks as an outsider, as the expert had been involved in the PISA process only after the results were published.

There has been pressure on India to participate in PISA. The OECD approached the Indian government oftentimes. The implementation of the RTE has been a critical point. Before that India denied the participation in PISA. After India agreed to participate, the phase of the implementation of the test begun, materials were given to Indian bureaucratic officials by PISA experts. Indian bureaucrats oversaw the translation and contextualization of the tools. However, they took only small changes because of the PISA guidelines and its claim of universal test tools at that time. This perspective stresses that no negotiation happened. India did not ask for neither changes in the assessment, nor on the given time, nor the preparation of students or other aspects.

Government officials but also educationists were merely informed about the PISA test. Educationists were hardly involved before. Few voices were in discussion with the government of India before. The discussion between government and educationists got intensified after the results came out. The hierarchical organization of the administration of the PISA test and the therewith connected and limited flows of knowledge and information can be imagined as a *cascade*. At the first level, there is a small group of PISA experts, that have profound knowledge in the conduct of large-scale assessments. They oversee the organization and administration of the test. At the second level, there are experts that have been trained by PISA experts from the first level. Then at the third level, there are experts that have been trained by people from the second level. At the fourth level are people that are field level administrators that conduct the test and that have been trained by experts from the third level. Field level administrators may have limited understanding of the PISA test tools. Possibly they have also received limited academic training. But to conduct the test an understanding of the PISA test tools is necessary. Problems have been there at all levels of the *cascade*. The administration of the PISA test was not ‘instructive enough’, so that the people involved in the process actually understood what they were doing. It was not sustainable.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence are the PISA test tools. Other nodes of influence are the Memorandum of Understanding, hereafter: MoU, between OECD and the government of India, setting the foundation for the administration of the PISA 2009 test in India and the actual administration of the test in the two principal steps of translating the test tools and the conduct of the test. Other

nodes of influence are international organisations like OECD's PISA, the Indian education ministry, MHRD/GoI, other state bodies, private organisations, and human beings such as educational consultants, bureaucrats and educationists. Trading zones are marked by ellipses. (1) There is an arrow between OECD's PISA and the Indian education ministry, MHRD/GoI, indicating a subnetwork or trading zone that dealt with the negotiation upon PISA 2009 Plus. There is another arrow between OECD and Indian state bodies (NCERT) indicating to subnetwork within this trading zone that dealt with the negotiation upon the test administration, the contextualisation and translation of tools. (2) Then, there is a trading zone between Pratham and educationists. (3) Another subnetwork or trading zone exists between the government of India and its belonging governmental bodies. The expert uses the image of a *cascade* to illustrate the channelling and limitation of knowledge flows within the apparatus of the PISA test administration. This constellation is power laden and hierarchical. (4) There exists a trading zone between educationists and the Indian government. This came into existence only after India's participation in PISA 2009 Plus. However, there is no arrow from educationists to OECD because there had not been any exchange before PISA 2009 Plus. An open question in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have?

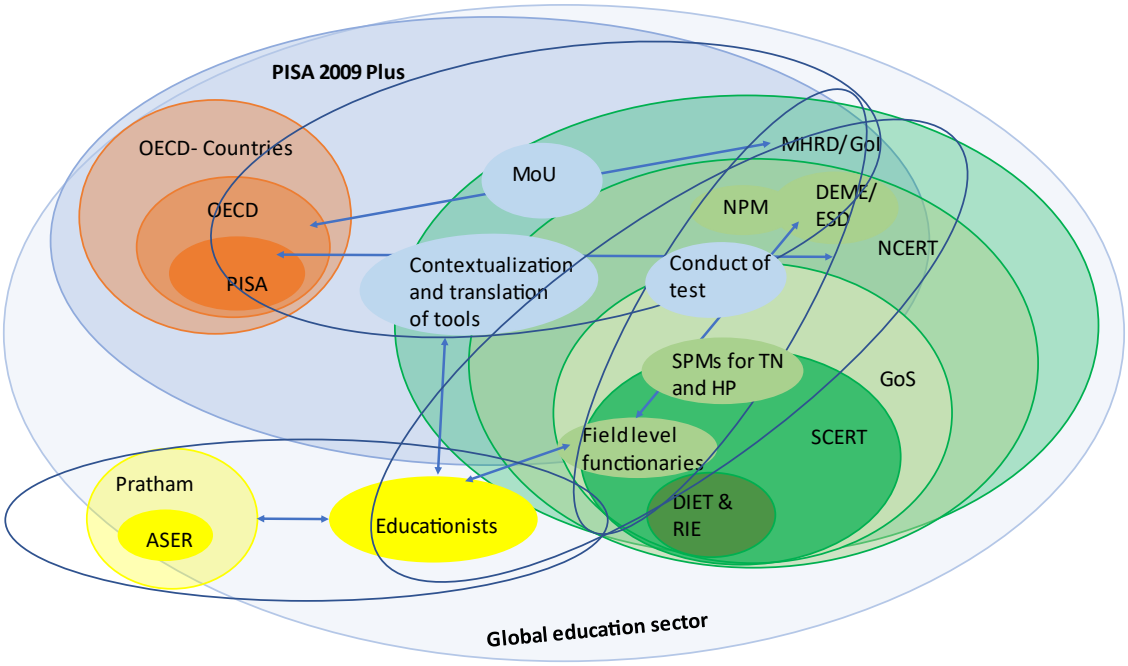


Figure 20 Perspective of outsider 5

A sixth perspective, likewise the perspective of an independent researcher, shares a description of the OECD as an organization that knows how to persuade others. The interviewed expert had not been directly involved in the process of India joining the PISA 2009 Plus project and speaks thus from an outsiders' perspective. S/he gives insights on how it came that the OECD participated in an international conference on teacher education in Udaipur in India in February 2009. Accordingly, the OECD came into the educational field in India through exactly the participation at this international conference. This conference had been organized in a framework of a series of seminars by the education ministry of the Indian government (MHRD) and educationists. The NGO Vidya Bhawan Society in Udaipur had been hosting one of the conferences and seminars. Several international organizations had been funding the conference. These are UNICEF, UNESCO, DFID and the European Commission. The conference report further quotes World Bank as funding agency (see MHRD 2009). In the perception of this expert, the OECD had been forceful: *They really twisted people's arms to get into that seminar*. In the context of Udaipur's conference, there had been one line of difference in the educational discussion. This had been, that OECD pushed for change in short notice, whereas Indian experts discussed longtermly oriented measurements and strategies. Though there had been different interests on measures to be taken up among the conference participants - especially between the OECD and Indian experts - after that conference, the OECD frequently joined seminars, that were organised by the education ministry.

The people engaged in the PISA process had been mostly bureaucrats, government officials, and some educationists. The process had not been discussed in public by the society. This expert holds that in the decision making process only bureaucrats, governmental officials and academic institutions were involved. According to the estimation of this expert, a strong motivation for a participation in OECD's PISA had been to find out India's position at PISA's league table. S/he also shares, that other people, however, were critical about a participation in PISA because India has its own achievement tests, e.g., the one of NCERT. The question is therefore: *Is there a need for an international test?* Another motivation for participation for some people might have been, *to get to know other people, to get involved in other think tanks and organisations, and also to possibly go abroad*.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence is the international conference at Udaipur in 2009. Other nodes of influence are diverse international organisations and private organisations, state bodies, and human beings such as educational consultants, government officials and educationists. Furthermore, nodes of influence are things such the invitation of OECD to the conference in

Udaipur, and events such as the test administration of PISA or the political pressure that accompanies the invitation of OECD to the conference. (1) There is an arrow between OECD's PISA and the global academic community (educationists worldwide) indicating to a trading zone that is marked by an invitation of the OECD to an international conference in Udaipur and the political pressure by the OECD to be invited to that conference. (2) There are arrows between OECD's PISA and the Indian education ministry, MHRD/GoI, indicating to a subnetwork or trading zone that dealt with the negotiation upon PISA 2009 and political pressure. There are arrows between OECD's PISA and the NCERT indicating to a subnetwork within the trading zone that dealt with the test administration. (3) There is also an arrow between MHRD and local state bodies indicating to another subnetwork or trading zone. This space is marked by political pressure and hierarchy. (4) Lastly, there are arrows between international organisations and Indian state bodies (NCERT, state governments), indicating to another subnetwork or trading zone that is characterized by political pressure. An open question remains: what happened after the international conference in Udaipur?

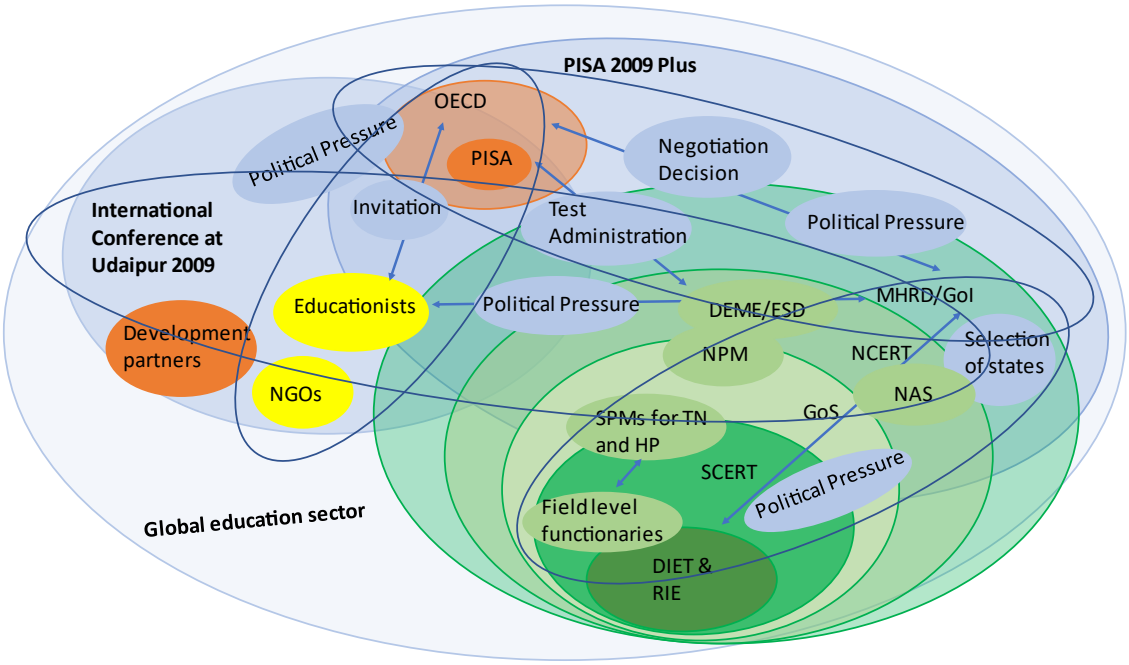


Figure 21 Perspective of outsider 6

A seventh perspective, is the perspective of an expert, who is currently active in the field of educational assessment, but who had not been in the field during the process of India joining PISA. Speaking thus from an outsiders' perspective, but with profound knowledge of the Indian education landscape, s/he holds that the process of India joining PISA 2009 Plus starts with India being more included in the international community as a consequence of participating at

the two big education conferences in Jomtien 1990 and Dakar in 2001 and the therewith propagated global education policy of education for all. Achieving the universalization of education had been at the focus of India's national education policy, too. Thus, in this regard, India's interests aligned with the interests of the global educational community. However, a consequence had been that India needed oftentimes to give feedback to international agencies on the status of education. For example, it is mentioned that Indian officials were to give information for UNESCO's Global Monitoring Report (GMR). In this process, there had been much negotiation about the content and its interpretation between the UNESCO and the Indian government. India's participation in the PISA 2009 Plus project is seen as a kind of consequence out of the growing integration of India in the global community. A participation in PISA appeared to India as needed, as many states around the globe are taking part in the PISA study. This perspective holds that PISA is suitable to compare countries on an international level.

The background of this map, coloured in light-blue, indicates likewise to the global education sector. Key node of influence is the international educational assessment community. Other nodes of influence are international organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, IRT, money, the GMR and events such as the negotiation about PISA 2009 Plus and the test administration. (1) There is an arrow between OECD's PISA and the Indian education ministry, MHRD/GoI, indicating to a subnetwork or trading zone that dealt with the negotiation upon PISA 2009, money, and agreement. (2) There are arrows between international organisations and Indian state bodies (NCERT, state governments) indicating to a different subnetwork that dealt with the negotiation or offering of tools and concepts, test administration, money, training, IRT. (3) There are trading zones between OECD's PISA and government officials, and between international organisations and consultants in general and Indian state bodies. There is a trading zone for a capacity building project between DFID, ACER and NCERT. There is another trading zone between UNESCO and India for the purpose of drafting the GEM Report. This epistemic space is power laden. (4) There is another subnetwork trading zone between governmental institutions. That is marked by a hierarchical structure. An open question in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have?

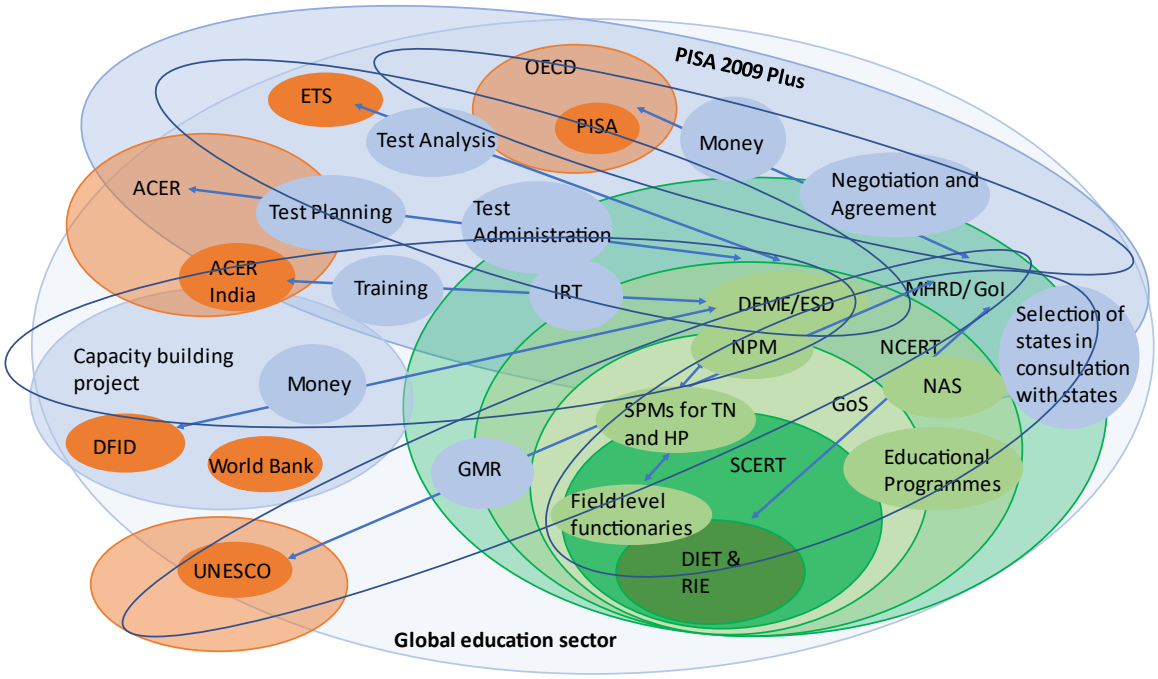


Figure 22 Perspective of outsider 7

The eight and last perspective, categorised as an outsider to the PISA 2009 Plus project in India, is the perspective of a bureaucrat who is engaged in education at the state level and who belongs to one of the local SCERT bodies. This person came to know about PISA only recently, through a workshop conducted by UNICEF and NCERT. The person does not have detailed knowledge on the planning and administration of the PISA 2009 Plus project in India. The person operates at the state level and has no insight in processes at the central level. This perspective holds, that policy matters, as for instance the selection of the states for the test, are discussed and decided at the national level. The scope of action at the state level or district level does not include the decision upon policy matters. Further, the perspective provides elaborations on the funding mechanisms for SCERTs and regional institutes by the government of India and by NCERT.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence is a workshop at the state level. Other nodes of influence are international organisations such like UNICEF, and state bodies such like NCERT, as well as human beings such as educational consultants and bureaucrats. Furthermore, nodes of influence are things such as the PISA test items. (1) There is an arrow between OECD's PISA and the local academic community - educationists at the local level - indicating to a subnetwork or trading zone that dealt with a critique upon tools and their fit for Indian contexts. (2) There are arrows between OECD's PISA and the education ministry of the government of India, MHRD/GoI, as well as between OECD's PISA and NCERT, which dealt with the negotiation upon PISA 2009. The interviewed expert has no specific knowledge on this process, thus no more details about money

that got spent etc. (3) There is a third trading zone between the different government bodies and government-related bodies which is characterized by a hierarchical structure. An open question in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have?

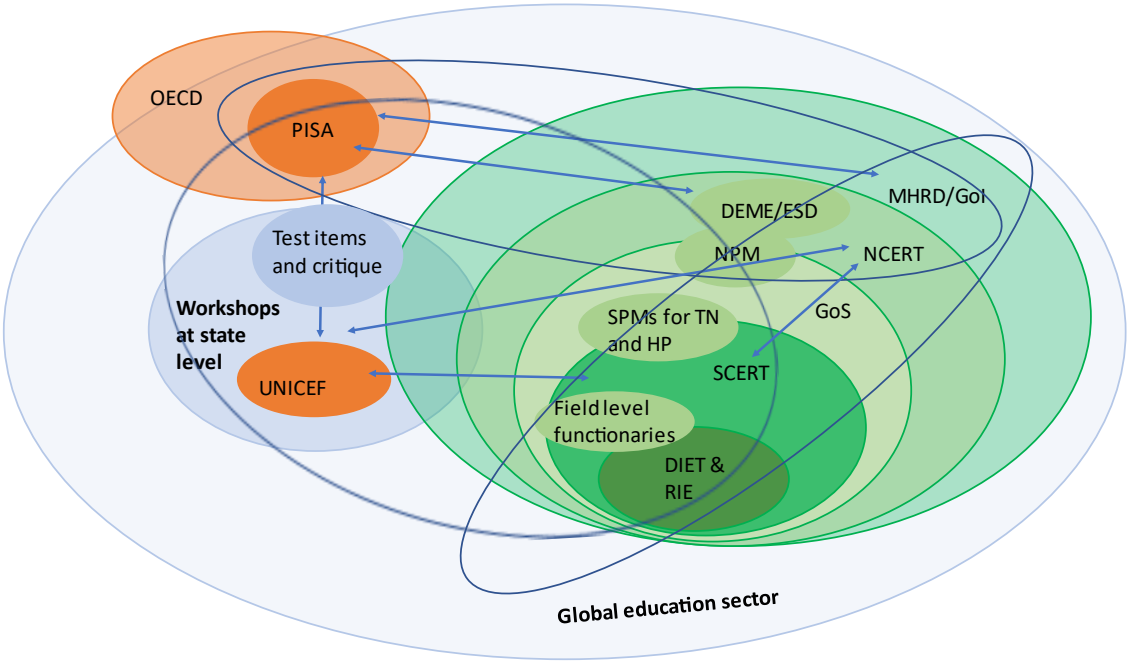


Figure 23 Perspective of outsider 8

Knowledge gained out of 'outsider's perspectives' had been mainly shared by independent researchers. This group appeared partly as observers during the process of India joining PISA and mainly as commentors, and analysers after the results were out. Their influence on how it came that India joined PISA is almost zero. However, earlier, one independent researcher tried to influence bureaucrats to take part in PISA but was not successful. In contrary, the group of educational consultants are described by independent researchers as influential, difficult to be regulated and forceful in their behaviour. The event of the international conference at Udaipur in 2009 is marked as entry of OECD in the Indian education sector by one interviewee. The image of the information flow as a *cascade* by another expert had been interesting, as it illustrates how information flows or not flows amongst hierarchic structures. Material nodes of influence had been written critiques showing that there has been negotiation between India and international organisations, e.g., in the case of India's negotiation with World Bank. One interview mentions that private organisations somehow took over the field of doing assessment in India, whereas independent researchers stepped in the back. An open question had been the role of NGOs in the process of India joining PISA 2009 Plus. While one interviewee speaks openly about the role of NGOs, others barely mention them. Some perspectives of 'outsiders'

only provided basic knowledge; others openly shared that they don't have any knowledge on the process of India joining the PISA 2009 Plus project. Whereas others already had detailed knowledge in certain aspects. These perspectives shall be enriched by the perspectives of 'insiders' in the following section.

Perspectives from insiders

The first perspective of an insider is the perspective of a former NCERT member. The process of India joining PISA starts with the motivation of the OECD to get India to participate in PISA. OECD came many times to India and discussed this matter. At first, India had been reluctant in participating in PISA. A reason for this is that a participation in PISA costs a lot of money. A key question had been to decide, if money is to be spend on an international agency for conducting large-scale assessments, or if this money is to be better spend on the enhancement of national tests. Finally, the motivation had been to give India a chance and be open-minded about the first trial. Eventually, the Indian government accepted the proposal as a participation in PISA as a pilot project. It has been the Government of India that took the decision. The expert has no knowledge on how much money has been spent, and likewise does not know any further details of the contract. However, s/he has knowledge on the background of India's relationship with international testing. S/he mentions that the international organisation IEA had approached India before the OECD started courting the Indian government. However, back then the Indian government denied a participation. The focus had been more on building a common school system (see also chapter 2).

In the 2009 PISA cycle, the OECD still had been collaborating with ACER, that conducted the PISA study for the OECD. ACER did the PISA test analysis and published the results. At the Indian national level, the organization NCERT had been the partnering organization for ACER resp. OECD. NCERT has had expertise in conducting achievement tests before joining PISA. In the PISA 2009 Plus project, the task of NCERT had been to ensure the conduct and administration of the test. This perspective shares, that NCERT officials were actively part of the planning and organisation team. However, the international team members basically crafted the test and took the lead in making final decisions. Likewise, the analysis has not been done by NCERT people, but by the international group. This perspective holds that Indian team members had no access to the raw data. Finally, when the report came out, they had access to the summary tables. Here, a trading zone or epistemic space becomes visible, that is power laden and marked by unequal positions. In fact, according to this expert, the new techniques in

testing did not come with the participation of India in OECD's PISA 2009 Plus project, but through a DFID funded project that took place shortly before the PISA 2009 Plus project.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence is the DFID funded project on the capacity building of NCERT's educational assessment community. Other nodes of influence are international organisations such like the IEA, OECD, or ACER, state bodies such like the NCERT, and human beings such as educational consultants, NCERT and government officials. Furthermore, nodes of influence are things such as tools and concepts and money, and events such as PISA 2009 in general, and the test administration and analysis in particular. (1) There is an arrow between OECD's PISA and the Indian education ministry, MHRD/GoI, indicating to a subnetwork or trading zone that dealt with the negotiation upon PISA 2009, money, and agreement. (2) Another arrow exists between ACER and NCERT indicating to another subnetwork or trading zone that dealt with the negotiation upon the PISA 2009 Plus test administration. The positioning of both nodes has not been equal. ACER took the leading position. (3) Then, there is an arrow between international organisations, educational consultants and Indian state bodies (NCERT) indicating to a subnetwork or trading zone that dealt with the negotiation upon or offering of tools and concepts, training, money in the framework of the DFID capacity building project. (4) Lastly, there is an arrow between the Indian education ministry, MHRD/GoI, and local bodies indicating to another subnetwork or trading zone that is characterised by a hierarchical structure. Open questions in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have? What kind of role do educationists have in the process?

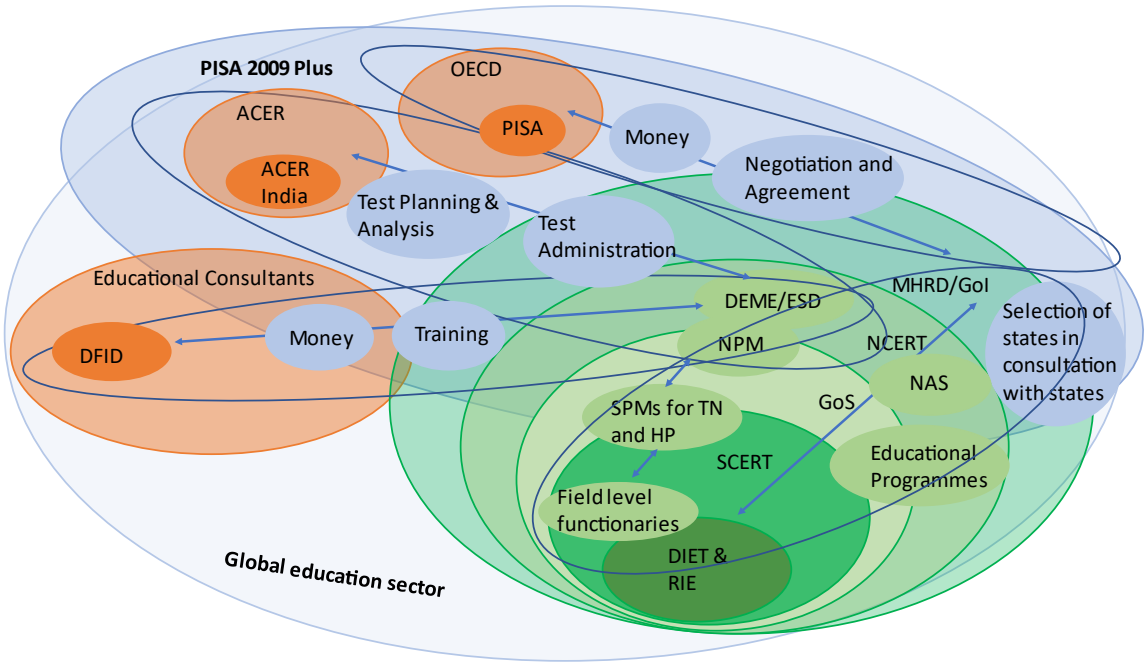


Figure 24 Perspective of insider 1

The second perspective is the perspective of a NCERT member that has detailed knowledge in assessment. This perspective gives a very precise and reliable description of how the PISA test got administrated in India. This person has detailed knowledge of the test administration at the central level. This person operates generally on the national level but has few insights in processes at state and regional level due to internal exchange processes of the organization NCERT and its related organisations RIE and SCERTs.

Five different trading zones (or layers of trading zones) become visible: (1) The onboarding process and project planning between OECD, ACER and MHRD. Here, negotiation around the participation in general, about money, and about the selection of states took place. Taking part in PISA has been a consideration for many years. MHRD takes the decision to take part on an experimental basis. Apart from that the project planning has been done in a rush, without enough time for preparation. MHRD onboards NCERT at an early stage. Meetings do happen. NCERT is involved in the decision-making process. The Indian education ministry, MHRD onboards World Bank for funding and expertise. There has been a partnership between NCERT and international organizations. But this expert says, that NCERT cannot ask for partnership directly. Certain negotiation processes must happen between (inter-)national organization (OECD) and MHRD first. Furthermore, development partners need to be onboarded to the project. Considering the socio-cultural context (informal laws) of national and international bureaucracy, this procedure seems like a *dance of negotiation*. This can be well connected to Whites concept of struggling for control (White 2008). (2) The project planning between World

Bank and NCERT can be considered as another trading zone. Here, negotiation happened around the issues of money, expertise, and manpower. The consultant of World Bank (name remained inconnu) sat for some time in the building of NCERT for the purpose of translation of the test items and for the piloting and administration of the PISA test. For the duration of the processes of translation and piloting, the World Bank consultant has been around in the NCERT building. The consultant also called other experts. The NCERT took part in the translation process. This perspective holds, that the NCERT was the key organization in the PISA 2009 Plus project. (3) Another trading zone had been the training of NCERT staff. The head of the NCERT department in charge, Prof. Avtar Singh, went to Germany and other places for training in the conduct of large-scale assessment. He was actively involved in the item making and sampling process. Furthermore, in taking policy decisions. (4) Another trading zone had been the test administration at the local level. Here, the SCERT director of state has been the state coordinator for PISA. In the test administration other SCERT officials with expertise in education had been involved. PISA guidelines were followed. The selection of schools and students had been done by NCERT. NCERT did sent the frame to OECD. The school selection had been done jointly by NCERT officials and experts from the PISA board. NCERT did sent the collection of schools and OECD experts selected schools from the frame. Here, again unequal positions become visible. (5) Lastly, another trading zone can be found in the conduct of the test at the local level. As far as this person knows, due to the PISA sampling guidelines, many of the selected schools were in fact rural schools, in often very remote areas.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence had been the government related body NCERT. Other nodes of influence had been international organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, money, political pressure, and events such as the PISA 2009 test administration at the different levels of bureaucracy. (1) There is an arrow between OECD's PISA and the Indian education ministry, MHRD/GoI, indicating to a subnetwork or trading zone that dealt with the negotiation upon PISA 2009. Another arrow exists between ACER India and MHRD indicating to a trading zone that dealt with the negotiation upon PISA 2009. (2) Then there is an arrow between World Bank and the Indian education ministry, MHRD/GoI, pointing out to a subnetwork or trading zone that dealt with funding. There is another arrow between an educational consultant of the World Bank and the NCERT indicating to another subnetwork or trading zone that dealt with the negotiation upon or offering of tools and concepts. In that case the translation of the PISA test items. (3) Another arrow exists between other international organisations and the National

Project Manager (NPM), pointing out to another subnetwork or trading zone or epistemic space in which he received training in educational assessment. (4) Another arrow exists between the State Project Managers (SPMs) and field level functionaries indicating to yet another subnetwork or trading zone where the training and supervision of the conduct of test happened. Then there is an arrow between the translation of tools and test booklets indicating to the process of the adjustment of the PISA test. This arrow kind of goes intersectional across the levels as here nodes that are situated in different levels were linked up. (5) Then there is the network of field level functionaries who conducted the test. (6) Lastly, there is an arrow between the government of India and local state bodies indicating to another subnetwork or trading zone, that is a strong network, exchange of expertise. This network is characterized by a hierarchical structure. Open questions in this perspective remain: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have? What role do educationists play?

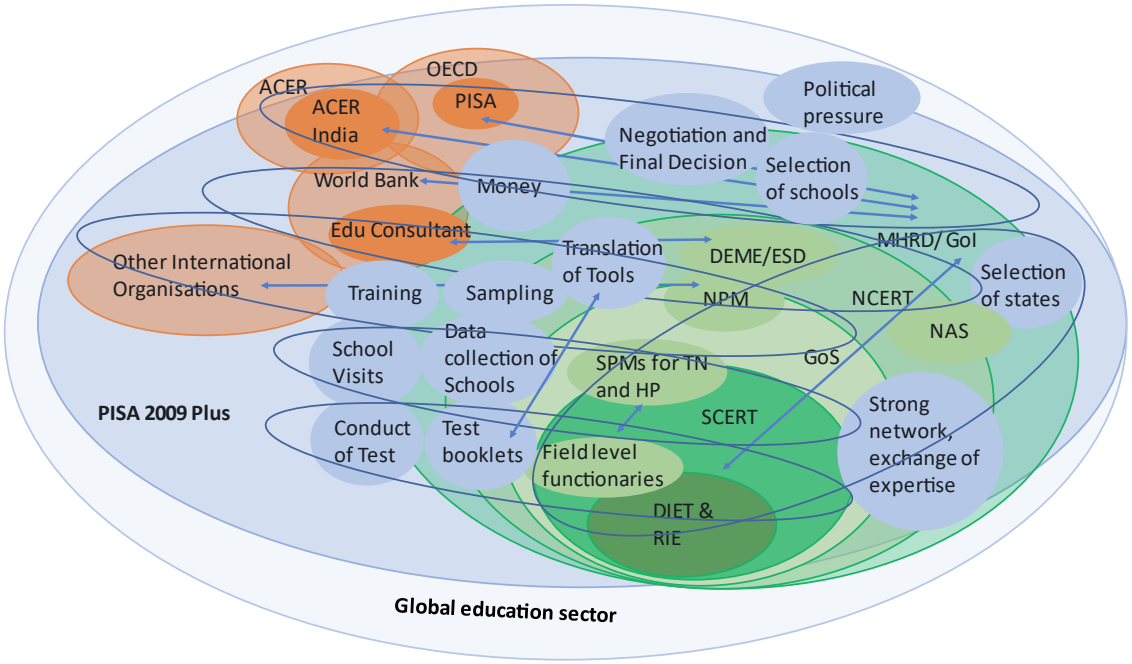


Figure 25 Perspective of insider 2

The third perspective is the perspective of one of the former state project managers, SPMs, for PISA. This person had been part of the local organization and has been in charge of examining the correct administration of the test. The interview is largely about the experience and reflection of the conduct of the PISA test at the local ground and about what happened afterwards. This interview shows the perspective of a government bureaucrat engaged in education at the state level, like the previous SCERT-member (within the section perspectives of outsiders). The former state project manager for PISA has detailed knowledge of the test

administration at the local level. This person operates at the state level and has no insight in processes at the central level.

This perspective holds, that the government of India took the decision to participate in PISA. This person came to know about India's participation in PISA, when it was in the public domain. S/he was involved in the administration of the PISA test at the local level in one of the participating states. This interviewed expert has conducted the test as state project manager for PISA. S/he kept a bunch of PISA test booklets and uses them as teaching material for educational workshops. S/he did not participate in the planning phase of the test, methodology and selection of samples, but claims to possess profound field experience. This interviewed expert went to almost all participating schools in Tamil Nadu and holds that the test administration has been very well and professional, both in terms of sampling and in the item construction. Here, there is a rupture with the report by Dhamija (2011, draft). This person sought the help of field level functionaries for the conduct of the test. These were teacher educators, that were coming from SCERT, from the SSA programme, or who were otherwise 'in the pool'. Teacher educators from the SSA programme could come in because their realm was primary education and thus were not biased against secondary schools.

Among the school sample there were mostly government schools and some KV's. The expert shares that s/he has not been involved in the school selection for the sample. However, s/he provided a data collection of possible schools in his state. This person shares that the school selection had been done by 'them', 'them' means PISA resp. ACER. S/he refers to the person in charge Ms. Ratna Damija. The interviewed person said that s/he had no access to the OECD.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence had been the PISA 2009 Plus test booklets. Other nodes of influence are international organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, money, and events such as PISA 2009 in general, or the decision for taking part in PISA and the test administration in particular. (1) There are arrows between OECD's PISA and the Indian education ministry, MHRD/GoI, and OECD's PISA and the NCERT indicating to a subnetwork or trading zone that dealt with the negotiation upon PISA 2009, money, and decision. The interviewed person has knowledge that these kinds of processes are discussed at the national level. He does not have any further knowledge. (2) There is an arrow between international organisations (ACER, ACER India) and Indian state bodies (state governments) indicating to another subnetwork or trading zone that dealt with the negotiation upon or offering of tools and concepts, the school sample and test booklets. The position of the interviewed expert is limited as he had no access

to the OECD or to the Indian education ministry or NCERT. As open questions in this perspective remain: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have? What kind of role do educationists play?

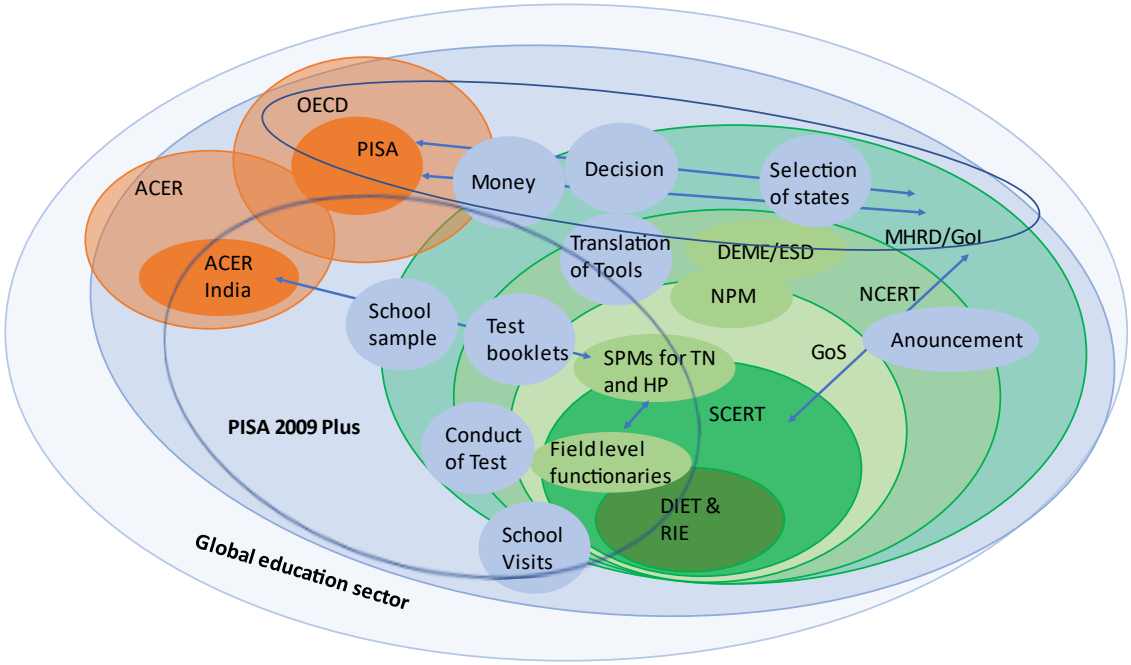


Figure 26 Perspective of insider 3

The fourth perspective is again the perspective of a member of NCERT. This perspective holds, that the decision for joining the PISA 2009 Plus project had been taken in a hurry and in short notice. The idea behind the decision for a participation has been to enhance knowledge amongst Indian assessment experts on doing large-scale assessments (capacity building). It has not been a motivation to compare India with other countries on an international level. There was the interest to know more about international testing as well as to know more about the achievement of students at the age of fifteen in India. India's participation had been in the so-called „Plus 9" group that is within the framework of PISA 2009 Plus. In India, the study had been conducted one year later, in October 2010. The conduct of the study as a pilot study had been funded by DFID and World Bank. The test has been translated and conducted in the local languages, Tamil and Hindi. The test administration has been in the hands of a National Program Manager that had been from NCERT. And it has been his department that conducted the test. There was no training of students before taking the PISA test. The results were released in 2011. There is no documentation of the administration of the PISA test in India. In Indian state institutions there is a huge fluctuation. People that were engaged in the process are no longer in the same

positions. This applies also to field level functionaries that oversaw the administration and conduct of the test.

The background of this map, coloured in light-blue, indicates to the global education sector. Key node of influence is the capacity building project by DFID. Other nodes of influence are international organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts, written critique (papers) and events such as PISA 2009. (1) There is an arrow between OECD's PISA and the Indian education ministry, MHRD/GoI, indicating to a subnetwork or trading zone that dealt with the negotiation upon PISA 2009, and the decision. (2) Another arrow exists between international organisations, educational consultants, and Indian state bodies (MHRD, NCERT, state governments) indicating to a subnetwork or trading zone that dealt with the negotiation upon or offering of tools and concepts, training, money, and IRT. (3) There is an arrow between SPM and field level functionaries indicating to yet another subnetwork or trading zone that dealt with the conduct of the test. (4) Another arrow exists between the government of India, GoI, and local state bodies indicating to another subnetwork or trading zone that is characterized by a hierarchical structure, four letters of invitation. Open question in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have? What kind of role do educationists play?

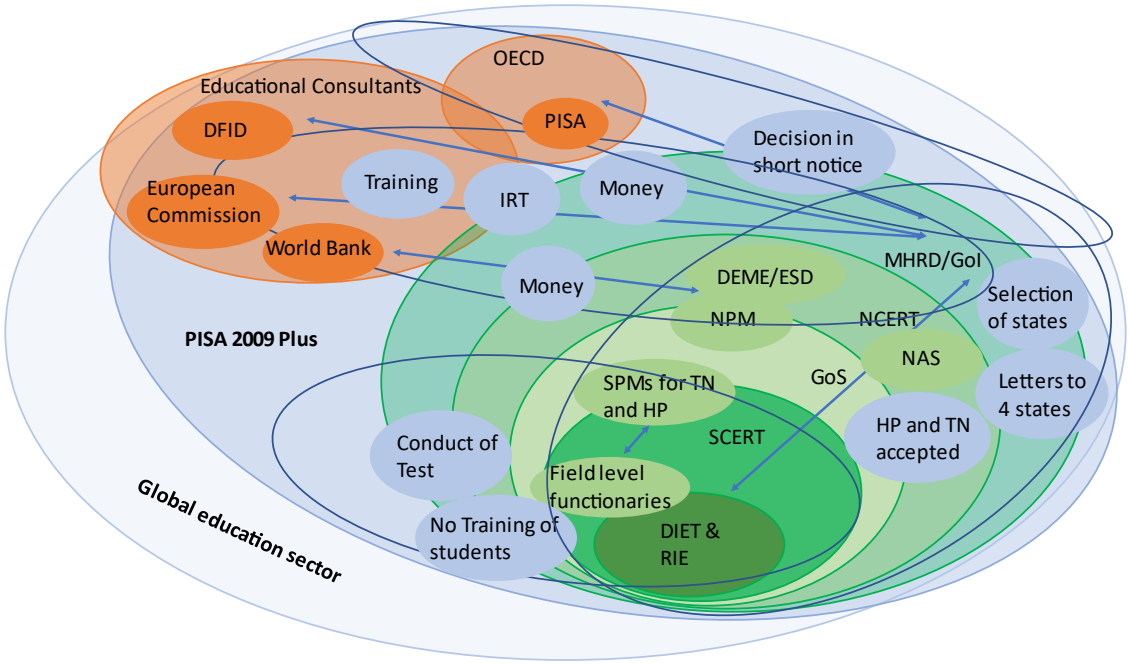


Figure 27 Perspective of insider 4

The fifth and last perspective is likewise the perspective of a NCERT member. The first step in the implementation process of a new education programme, like SSA, RMSA or PISA, is not approaching bodies at the local level and declare the immediate start of a programme. Rather, the starting point is the Ministry of education at the national level. National educational programmes such like SSA or RMSA are funding mechanisms, that provide state governments with money, expertise, and teaching material.

In the process of India joining PISA, this perspective holds that the *PISA-people, or PISA-organizations* approached the education minister and the education secretary for informal meetings. Part of the negotiation process had been a possibility to participate in PISA. There has been a proposal. India agreed to conducting PISA on a small scale and on an experimental basis to find out, whether it is ready for joining the test. This perspective stresses, that PISA in India had been an *on-off experiment,* that was not sustainable. Until now India is not an OECD country and has not participated in further PISA cycles. Reflecting on the PISA 2009 experience, this person concludes that India is not ready for it and hence did not join any further PISA cycle.

The test administration had been jointly done by the PISA-group and the Department of Measurement and Evaluation of NCERT. At that time, Prof. Avtar Singh has been the head of that department. He took part in the whole negotiation process with the PISA-team. The interest of the PISA-team had been to evaluate whether PISA could be introduced in the Indian context. However, as stated above, the interest of the Indian government had been to take part based on a pilot project. This perspective holds that the administration of the PISA test in India had not been a big process, since it has been done on such a small scale. However, since India's participation in PISA, there have been ongoing meetings and negotiations on the question of India re-joining PISA in future cycles.

Prior to India's participation in the PISA test, there had been a project supported by European funding for the further development of the National Achievement Survey. This project had been headed by Dr. Jayshree Oza. The purpose of the project had been to impart knowledge and techniques on the conduct of large-scale surveys, the item-response-theory in particular, and knowledge on doing research and analysis in this realm in general. Dr. Jayshree Oza has been part of the PISA debate too. She is a private editor. The interviewed expert holds that by chance *PISA came at a point when a lot of things had started happening already.* Further, s/he demarcates a difference by saying that *India is not an OECD country*. Therefore, the kind of negotiation processes that had happened back then had been in the manner of two different sides or companies – with a lot of distance. S/he mentions the fact that a Memorandum of

Understanding, MoU, had been signed. But s/he questions the meaning and implications of this written agreement. Is it like that, *after the contract had been signed, the leading position outlines the plan of action?*

The background of this map, coloured in light-blue, indicates to the global education sector. Key nodes of influence had been the capacity building project by DFID and the Memorandum of Understanding. Other nodes of influence had been international organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as tools and concepts; IRT, money and events such as PISA 2009 test administration. (1) Arrows exist between OECD's PISA and the education ministry of the government of India, MHRD/GoI, as well as OECD's PISA and NCERT indicating to a subnetwork or trading zone, that dealt with the negotiation upon PISA 2009, proposal, and decision. (2) There are arrows between international organisations and Indian state bodies (NCERT, GoI) indicating to another trading zone that dealt with the negotiation upon or offering of tools and concepts, money, and IRT in the framework of the capacity building project at NCERT. (3) There is an arrow between SPMs and field level functionaries indicating to yet another subnetwork or trading zone that dealt with the conduct of the test. (4) Another arrow exists between the government of India (GoI) and local state bodies indicating to yet another subnetwork or trading zone that deals with the implementation of educational programmes, distribution of money and funding, and the implementation of RTE 2009. This subnetwork is characterized by a hierarchical structure. Open question in this perspective remains: how are private national players, e.g., NGOs embedded? What influence in the process of India joining PISA 2009 Plus do they have? What role do educationists play?

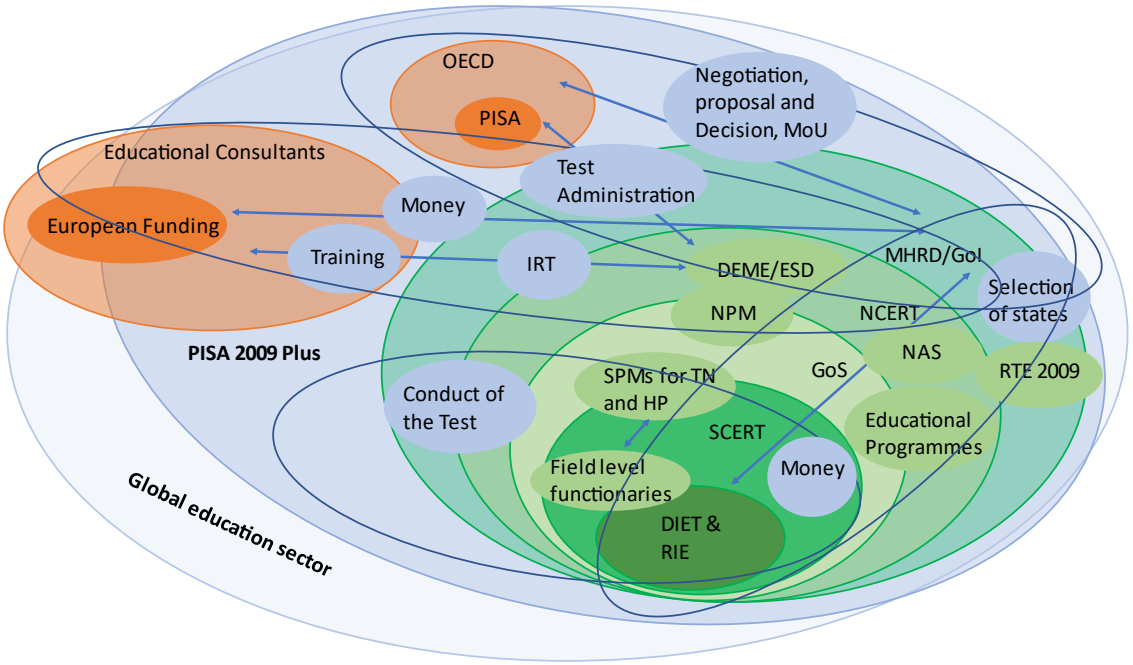


Figure 28 Perspective of insider 5

The knowledge 'insiders' shared is depending on their positioning, e.g., whether they work at the national level or local level, or whether they belong to a government-related body or not. In the process of India joining the PISA 2009 Plus project, the DFID funded project had been mentioned often as crucial event. Furthermore, money has been an important node of influence. Whereas the official documents on the conduct of the PISA test administration cautioned that India did not meet the sampling standards, an expert at the local level shared that the sample standards were met. One expert shared that India denied a participation in international large-scale assessments for a long time. It has been only recently, that there has been a shift in the government approach to international large-scale assessment.

The situatedness of the different trading zones is interesting. These were often lying according to the hierarchical structure, but sometimes they stretched across different hierarchical levels. In almost all cases, trading zones were overlapping with other trading zones. In the descriptions of the interviewed experts, inequality between nodes of influence were mentioned. An open question had been the role of NGOs in the process of India joining PISA 2009 Plus. While one interviewee speaks openly about the role of NGOs, others barely mention them. Moreover, what kind of role did educationists play? The single perspectives showed the limited views and situated knowledge individuals have. The many different perspectives shall be combined now to shared stories about the administration of the PISA 2009 Plus Project in India.

6.5. Shared stories on the administration of PISA 2009 Plus in India

Stories on how India joined the PISA 2009 Plus project vary amongst the collected data. Sometimes they even stand opposite to each other. In the following, the standard story shall be presented and contrasted with an alternative story. Afterwards, rationales for the participation of India in PISA 2009 Plus and critical concerns against it are discussed, as well as rationales for the selection of the participating states. This is followed by the discussion of the process of India joining PISA from a bird's-eye view to build a synopsis, as far as this is possible.

6.5.1. Standard story: OECD approached India

Prior to the OECD, the organization IEA wanted India to participate in PISA. But back then, in the 1980s, the Indian government (GoI) denied a participation. The focus had been on providing a working education system first. Earlier in the late 1980s, when IEA approached India, the focus had been on building up the education system. Experts pointed out to negotiations of India with international large organisations, for instance, the World Bank and UNESCO. They were countering the idea, that these large organisations had fully the say and unlimited power in the Indian context. Experts mentioned cases when Indian officials were opposing the agendas of international organisations and referred to published texts (e.g., Basu 2006; UNESCO's GMR reports). Furthermore, experts pointed out to the fact, that Indian officials have their own interests. Being part and being involved means having the chance to get to know other people, and to expand one's own network. The OECD had been invited to an international conference at Udaipur in 2009, because some Indian officials shared the knowledge that OECD expects to be part of it. OECD approached India many times, and, in the perception of one expert, had been forceful: *They really twisted people's arms to get into that seminar*, as stated by this expert. In the context of Udaipur's conference, there had been one line of difference in the educational discussion. This had been, that OECD pushed for change in short notice, whereas Indian experts discussed longtermly oriented measurements and strategies. Though there had been different interests on measures to be taken up amongst the conference participants – especially between the OECD and Indian experts – after that conference, the OECD frequently joined seminars, that were organised by the Indian education ministry.

India denied a participation in PISA many times. In fact, it agreed only after the enactment of the RTE 2009, and it agreed without being sufficiently informed about the details of the PISA test, e.g., what does PISA mean in all its different dimensions – from planning to conducting and analysing and reporting the test – as shared by another expert.

In the end it had been a top-down decision of the Indian government. The participation in PISA 2009 came in short notice, in an additional programme PISA Plus 2009. There has been negotiation about money, about which Indian states, and how many Indian states should take part in the PISA test. The administration and conduct of the test had been jointly done in a collaboration between OECD, ACER and NCERT. This means ACER as the international implementing organisation, and NCERT as the national implementing organisation. Experts speak of a partnership, but nevertheless point out to inequalities in the constellation of the collaboration. One expert shares that inequality results from the fact that India has not been member of the OECD back then (and still is not). This means that whenever a negotiation between OECD and India is happening, this negotiation takes part between two different parties. The act of signing a memorandum of understanding (MoU) does not necessarily mean, that the collaboration is rolled out in partnership. Rather it might be the case that one party is taking the lead and is setting standards in the conduct of the collaboration.

For many, the starting point of the negotiations has been the OECD approaching the MHRD. Then, the national project manager for PISA undertook educational trips to Germany and other places to learn about assessment concepts and tools. India took the decision to join PISA in a hurry. India participates with only two states. These are Himachal Pradesh in the North, and Tamil Nadu in the South. The decision is as well based on a pilot project, as often shared by experts.

The standard story of India joining PISA might be read as an unequal partnership between OECD's PISA group, ACER, the World Bank and the Indian government and the quasi-government body NCERT, where every member of the group handed in their expertise, resource, and engagement. However, the Indian officials had limited say in crucial decision-making processes, and limited access to the raw data.

6.5.2. Alternative story: Private organisations lobbied to participate in PISA

A shared view among many experts has been that the implementation of the programme Education for All, and therewith correlated participation in other international groups, lead to immense political pressure. Many experts were pointing out to political pressure on the Indian education ministry and upon the two participating states. This pressure to join PISA came from India's participation in global educational programmes such as Education for All and in international conferences, as well as from a worldwide arising culture of global competitiveness. These tensions continue even today. For some people, the pressure stems out of some of India's neighbouring Asian countries that are successful in the PISA test.

One expert shared that in the process of getting India to take part in PISA, the Indian education ministry had been bypassed by funding agencies approaching the two Indian states directly. Bringing India to join PISA has been a manipulative act by private players that came at a critical point when the Right to Education Act had just been implemented. As the education ministry had been against a participation of India in PISA, private players approached the funding agency World Bank which directly started negotiations with Himachal Pradesh and Tamil Nadu and circumvented the Indian education ministry by that.

However, this is the only expert who puts it openly. Others only give hints or do mention that the World Bank had been an important player, as it helped with funding the participation fees for India. It is often stated that there has been political pressure for both options - participating in and opposing the PISA test - coming from different groups. Persuasion of the Indian government to come into PISA or to deny it, had been done directly and indirectly by private players. For example, India's negotiations with the World Bank show that Indian officials were supporting or opposing international agendas to maintain their own interests. Getting India into PISA might be thus being read as a story of successful lobbying of private players in educational policy making.

6.5.3. Rationales for the participation of India in PISA 2009 Plus

Regardless of the growing expansion of large-scale assessments, India denied a participation in these for a long time, as other low-income countries did likewise (Das/Zajonc 2008: 04). From the perspective of World Bank but as well as for policy makers, this is an unfavourable situation that needs to be changed. Das/Zajonc (2008: 04) criticize that the existing local assessments, conducted by state organisations (like NCERT) and private organisations (like Pratham), can't stand the standards of large-scale assessment prominently promoted by OECD's PISA study. Hence, there is a lack of knowledge on the status of education in India. Secondly, one cannot draw any international comparison. However, for Das/Zajonc, evidence-based knowledge is needed to provide quality education. Other texts take note of India's participation in the PISA cycle of 2009 only in the passing. Hill/Chalaux (2011) for instance expect, that Himachal Pradesh and Tamil Nadu will get feedback on their status of education and in doing so, a crucial desideratum will be closed. India shall think of expanding its activities in student assessment through buying into international assessments.[294] Juliette Mendelovits, who belongs to ACER Australia, publishes a piece in APF's Learning Curve in 2009. Here, she criticizes the current state of education in India:

[294] "commitments to additional testing using international frameworks should be considered" (ibid: 14).

„’We are good at churning out people who can learn and memorise but not those who are creative or capable of original thought.’ Sam Pitroda, Head of the National Knowledge Commission. Dr. Pitroda's comment (cited in Dhillon, 2009) implies that there is something fundamentally lacking in India's approach to education. While acknowledging the necessary strengths afforded to a society by its capacity to learn and memorise, his remark suggests that going beyond these capacities, to think critically, to reflect and create are essential for full and continuing economic and social development in the 21st century.” (Mendelovits 2009: 73)

Mendelovits mentions in a footnote that India did not take part in PISA yet. She believes, that PISA’s “approach to reading may nevertheless serve as a useful model for guiding the teaching of reading in Indian classrooms” (ibid.). She outlines possible learnings for India through a participation in PISA. Firstly, she highlights that PISA “implies an approach to reading, and to learning in general, that encompasses every level of education, from the earliest years to adult life” (ibid: 76). Reading is a core competency; children should acquire for their future. Furthermore, the competency of reading facilitates and enables the learning of other subjects. Secondly, she brings in that there are two kinds of acquiring the capability of reading: one way that is ‘more passive and receptive’ (ibid: 76), and the other “a way that extends and challenges thinking” (ibid.). PISA draws on the active way and helps “Indian students to become more capable of creativity and original thought” (ibid.), given that (Indian) teachers take notice of PISA’s assessment framework. Works that highlight Indian argumentation traditions speak contrary to this. Furthermore, any statement that denies others genuine human capabilities should be taken with caution, especially when one attempts to decolonize science and the world (see Sen 2005; Raina 2016).

One year later, Ross Turner, who also belongs to ACER Australia publishes a piece in the same publication format. He takes reference to the piece written by Mendelovits, by saying: “Regular Learning Curve readers will have seen the article by Juliette Mendelovits in a previous issue (Issue XIII, October 2009) focusing on aspects of the PISA Reading domain.” (Ross 2010: 84). Like Mendelovits, he recommends that large-scale assessments help students to acquire work-related competencies (ibid: 85). He informs the readership of APF that India is going to take part in PISA 2009 with Himachal Pradesh and Tamil Nadu and that the study will be conducted in 2010. He assumes the publication of the results to happen in late 2011 (ibid: 87). For Oza/Bethell (2013: 46), seeing India joining PISA is an achievement. Taking part in PISA is good because it enables an inclusion in the international community and a comparison with countries within the international community:

„Beyond national achievement surveys, DFID, together with the World Bank, partnered with GoI to support India’s engagement with PISA. This was an important and timely recommendation because an increasing number of countries and economies are [utilizing]

> PISA results to judge their standing against their neighbours and economic competitors. Thus the inclusion of two Indian states in this prestigious international programme was a significant achievement." (Oza/Bethell 2013: 46).

One expectation had been indeed to get access to the international educational assessment community through the process of taking part in PISA, as experts further shared. Participating in the international community is important for India's self-image. By getting acknowledged for good (outstanding) results by other countries, India wanted to strip off its image as a former colonised nation. Addey/Gorur (2021: 72) hold, that "India's confidence was high" and that there "was an expectation that India would perform well" in PISA. Addey/Gorur point out to the motivation of some Indians to advance in their careers and to adopt positions of high rank in the global job market. But there were many other expectations, as the analysis of the collected data material shows. A basic expectation for taking part in PISA had been to learn more about India, and to get feedback on the status of education in India through the assessment of the PISA test, as experts shared. Furthermore, by choosing the two best states, India expected to receive better results. Of course, there has been the hope to get a productive international and external feedback that can be owned and that can be used to start making changes in the Indian educational system. Since the 1990s and 2000s, India got more and more integrated in the global community and connected with international agencies such as UNESCO and UNICEF. This integration had been also the merit of India. But this integration did come with obligations. There has been the pressure of giving feedback to the money flows of international donors, meaning being accountable to the received foreign aid, as experts shared.

For the organisation Educational Initiatives (EI), large-scale assessments are "a goldmine of insights" (Agnihotri 2009: 29).[295] They envision that there will be a prosperous future for large-scale assessment, if there is enough investment in the development of assessment tools. Assessment helps to track the progress in education, it offers the potential to take focused measures and to contribute to productive discussions amongst the different participants in the education sector. However, they caution to not "blindly [accept] assessment data without understanding the context" (ibid.) and to not act without deliberation. They assume that defensiveness is a genuine response to obtaining bad results in large-scale assessments,

> "especially when 'official' statistics show a much rosier picture. For a system to accept the 'true metric', and face the reality of the current situation, can be scary, but there is no choice if we truly want to improve learning." (ibid.)

[295] The organisation Educational Initiatives (EI) published a small piece in the APF's Learning Curve. Educational Initiatives' perspective is pro assessment.

> "However, they are completely inadequate for the skills needed in today's world. We need to create critical thinkers who are able to address the challenges of a rapidly changing world. Real learning, i.e., conceptual understanding and the ability to apply and analyse information drives innovation – a crucial need in our society. There is, thus, a disconnect between what is needed in the world today, and what our system of education is geared towards producing." (Kumar et al. 2013: 04)

Experts that are engaged in assessment - state bodies and private players alike – shared the view that taking part in PISA will contribute to the achievement of capacity building in conducting educational assessment. Taking part in PISA allows acquiring knowledge and expertise in conducting large-scale assessments and getting acquainted with international testing such like PISA. For some, the main rationale has been therefore to build capacity, and not to compare the results of India internationally. This is also stated in the recent literature by Addey/Gorur 2021:

> „This was a disappointing outcome for the UK's Department for International Development (DFID), which had worked with the World Bank and the EU to put together a technical assistance package worth GBP1.5 million to build capacity for assessment in India. Participation in PISA was part of this package. It had taken 'three years of negotiation and painful step-by-step' to get the two states in India to participate in PISA (OECD, Interview extract). The main goal, that of building technical capacity, was (to some extent) accomplished." (Addey/Gorur 2021: 72)

Other experts expressed, that Indian officials had been generally interested in learning where India's position is at the global level. This motivation of being competitive on the international level is still alive, as it can be read in parliament questions, too. Oza/Bethell (2013: 13) hold that large-scale assessments help nations to compare themselves with other nations, as well as to compete with them and secondly, to track their achievement over the course of the cycles. Additionally, there is the need to develop evidence based, nation-related assessment tools that allow rendering the assessment more context-sensitive. The idea behind national assessment is not only to get a 'health check' of the system, but also to trace and monitor the investment of money. Oza/Bethell (2013) refer to DFID's guidelines:

> "*Collecting and publishing statistics on quantifiable inputs to the education system—e.g., physical facilities, student enrolments and teacher-pupil ratios—does not tell us if students have benefitted from the inputs as reflected in their learning. Rigorous and periodic assessments of student learning are necessary to provide evidence of the extent to which the considerable amount of money that is spent on education does, in fact, result in student learning*." (DFID, 2011 as cited in Oza/Bethell 2013: 13; T.V.: Italic letters in original print)

Experts engaged in assessment were reflecting on their own assessment tools during the interviews. According to them, large-scale assessments were considered as being useful for contexts with poor learning levels. One needs to know, where to improve learning, they said.

In the OECD's education podcast[296], Jaime Saavedra, currently Director for Education at the World Bank, uses the metaphor flying an aircraft for demonstrating how difficult education monitoring is. He says, you can't afford flying without sight:

> „J: (…) if you were flying an airplane, you would want to know that you are in fact flying, how well are you flying, and where are you flying, right? Or your flight? The same goes when running an educational system: You cannot fly blind. You need to know that you are making progress or not, and the characteristics of this progress. And education systems are very complex; you must deliver a human interaction in terms of service day after day. (…) 00:15:46,500" (Transcript of the OCED Podcast TopClass, episode 13, paragraph 31)

He then speaks about the difficulty to provide quality education for a diverse learnership and refers to his own country Peru as an example. To further illustrate how difficult educational planning is, he mentions that geographically Peru fits only one small part of India:

> „J: (…) For instance, in a middle-sized country like my own, like Peru, which is the size of a relatively small state in India, you're talking about a machinery that delivers a service to eight million students spread across the whole country, a service that has to be provided by about half a million teachers in more than fifty thousand schools and involving millions of parents, all with their own expectations and needs. And the service to be provided is a very difficult service. The job is to make these students learn and to make learning an enjoyable experience. Knowing in addition that every child is different. You need to make sure that each and every one learns. This is a very tough job. Sometimes, when my friends, who don't work in the field of education, ask me about it, I tell them: „Look, if you cannot handle your two kids, try to handle a classroom of thirty or even an entire school." 00:15:46,500" (Transcript of the OCED Podcast TopClass, episode 13, paragraph 31)

Experts that are conducting large-scale assessments in India said, that India needs a sustainable approach in capacity building. Rao (2013) suggests that India should learn from other countries as for example Finland, and that it should take policy decisions that lead to educational reforms. India should thus invest in the amelioration of teacher education. Furthermore, it should alter the notion of education and learning from rote learning to acquiring competencies. Lastly, it should invest in the infrastructure of schools and should take an holistic approach in evaluating schools. A holistic approach on assessment helps in valuing the quality of education. Assessment should provide meaning; it should not be merely a tool of regulation (see ibid: 10). Establishing a culture of holding education providers accountable, leads to quality education, as Rao (2013) writes in APF's Learning Curve :

> „Consequently, poor performing students, poor performing classes, poor performing schools and poor performing nations could all be evaluated simultaneously. Therefore, teachers could be made accountable for poor performing classes, principals and school boards could be made accountable for poor performing schools, district boards/education departments could be made accountable for poor performing districts and states and finally national

[296] OECD TopClass Podcast, Episode 13: What can low- and middle-income countries learn from PISA?, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/episode-13-what-can-low-and-middle-income-countries-learn-from-pisa [31.05.2022].

> educational bodies could be made accountable for poor performing nations. The appeal of the standardization and control strategies were clear and logical. With such pressures for accountability, quality education would emerge." (Rao 2013: 09)"

This idea of detecting poor performance through educational testing and holding decision makers and practitioners in education accountable is a castle in the air. Experts expressed several critical concerns about OECD's PISA in the interviews. These as well as statements from literature research are displayed in the following section.

6.5.4. Critical concerns about OECD's PISA

To begin with, receiving external feedback that repeats the findings of the own national testing is discouraging, as one expert shared. Moreover, getting bad results and being placed at the bottom of an international league table had been extremely discouraging as another expert expresses. This leads to the question whether there is the need for an international test in India, and what would be the reasons for that, as put by another expert. Many experts hold that PISA is not of help for India. India did not profit from the participation in the PISA 2009 Plus project. These experts also refer to case studies and literature showing that even industrialised countries do not necessarily profit from taking part in PISA. Furthermore, a critical concern has been that a participation costs money (as shown in this chapter earlier).

Some experts did express their concerns about cheating practices in India. They were pointing out to firstly bureaucrats that do not take their position in examinations seriously, and secondly to the pressure for researchers to provide socially and politically acceptable data even though the results might be bad, to avoid being punished by the government. Cheating in PISA had also been a concern. Experts referred to the fact that China did carefully select the parts of the country to take part in PISA. These were often urban areas that received a lot of investment, and not rural areas. Experts questioned the modus operandi of selecting a region, testing it and then derive policy recommendations for the whole country from it.[297] Apart from that, experts pointed out to the diverse learning contexts in India, that cannot be considered sufficiently in standardized testing tools. Selecting the two states Himachal Pradesh and Tamil Nadu does not give justice to India's diverse learning contexts. These two states cannot represent the whole nation. Experts expressed their concern that the PISA items are difficult for children in Indian learning contexts. In the cycles before and while India participated in PISA, the OECD had been strict with the test and did not allow any contextualization. This caused other countries to

[297] Interestingly, this model had been suggested, discussed, and decided upon for a new participation of India in PISA. Here, Chandigarh should have been the area for PISA (see chapter 7).

opt out of PISA, too. Lastly, experts raised concerns about the unreadiness of the two Indian states to participate in PISA. The decision to take part came in a hurry. Likewise, Oza/Bethell (2013: 23) state in a footnote, that India might not be ready for PISA yet:

> "The NAS Review and Strategic Planning Committee's report to JRM suggests that the time may not yet be right for India to fully engage in the PISA programme."

Reflecting on the conduct of the PISA 2009 Plus project, Oza/Bethell (2013) state that there had been issues in the sampling process. Private schools were not included in the PISA sample and the underlying database was not sufficient.[298]

For Dhankar (2011), education should be about in-depth understanding and about character formation, and not merely about being able to compete in the job market. Dhankar (2011: 04) cautions that the

> "comparison of national education systems on the basis of average scores of students would further aggravate the already very high competition in education fuelled by examination results and media hype around them, particularly in countries like India".

The focus on competition brings in the danger of extinction of the very idea of free and holistic education. The high rates of student suicides due to exam stress is a warning sign of the ill-functioning of the current education system. Dhankar further warns:

> "Thus accepting this idea of quality in education in essence entails acceptance of an entire world view: primacy of economic aspect over sensitive social and moral life; subject knowledge as the most important intellectual resource required for living better life; curricula and pedagogy narrowly focused on the needed subject knowledge; paper-pencil tests as reliable ways of assessment and so on." (Dhankar 2011: 04)

The notion and interpretation of quality in the realm of education remains a contested field. According to Dhankar (2011:04), there are rather many, and oftentimes opposing definitions. Dhankar (2011:13) argues to embed the discussion on quality of education in the broader educational discourse. It is important to recognise, that the quality of education is just one aspect amongst many relevant aspects for providing sustainable education. Hence, the notion of quality should not be any longer limited to narrowed interpretations and economic-related goals of policy makers, but should be widened, and used to empower the youth to create inclusive, self-reliant futures. The discussion about what quality of education is, for what purposes it serves, and what kind of (unwanted) consequences are coming with it, needs to be continued.

[298] The statement reads as follows: "Sample-based surveys require reliable sample frames if they are to produce aggregated data of sufficient precision. Experience gained during the conduct of NAS and PISA 2009+ demonstrates that current enrolment databases (e.g. DISE) are problematic. This issue is exacerbated by the need to include private school enrolment data so that future surveys can be extended to cover all educational provision. MHRD and SSAJRM have recognised the need to address this issue and to ensure that the data provided from the lowest levels of the system are both complete and accurate." (Oza/Bethell 2013: 06).

One expert uses the metaphor of *having bread, but neither butter and nor jam* to illustrate the status of providing quality education in India. This perspective critically assesses that India made progress in providing basic education. However, it still needs to work on enhancing the quality of learning and teaching. Quality is not only to be seen in providing infrastructure to schools, as the Right to Education Act prescribes, but to ensure, that schools are functioning daily. Furthermore, that the focus of teaching and learning can be widened to the fine arts and need not just be reduced to enhancing basic literacy and arithmetic competencies amongst the students. Only, if the latter is to be achieved, a new participation in an international large-scale assessment like PISA becomes a possibility to think of.

6.5.5. Selection of the participating states: Expectations on Himachal Pradesh and Tamil Nadu

In the standard story the government of India takes the decision to choose Himachal Pradesh and Tamil Nadu in a top-down manner. The government has been in consultation with four states, but only Himachal Pradesh and Tamil Nadu accepted. One state that denied the participation has been Kerala. In the following expectations on Himachal Pradesh and Tamil Nadu and assessments on Kerala's stance are clustered based on the analysis of the collected interview and literature data.

Firstly, a shared view amongst many experts is that the decision for Himachal Pradesh and Tamil Nadu has been made to show the socio-cultural diversity of India by taking one state from Northern India and one state from Southern India. Experts point out to the differences amongst Indian states. Taking two states will give a more diverse image of India, they said. Indeed, Drèze/Sen (2014) show, that the level of development of the many Indian states varies from state to state. This leads the authors to the assumption that „if some states were separated out from the rest of India, we would see a very different picture from the average for the country taken together" (Drèze/Sen 2014: 72). Moreover, when comparing the results of Indian states with results from African contexts, „some of these states are not very different from the poorer countries of Africa in the intensity of human deprivation." (ibid: 73). Thus, for India there is not only the need to learn from international comparisons, but also from comparisons within India as a large and diverse nation as Drèze/Sen (2014: 72) postulate. States that aren't doing well, should learn from the experience of successful states. Secondly, Himachal Pradesh and Tamil Nadu were considered as being likely to accept the proposal. Experts pointed out to the political pressure upon states, to say yes to a government proposal. Although many states would not voluntarily accept, only few would dare to deny the government proposal. One state that

did so has been Kerala, a state that is often highlighted in literature as a role model Indian state. However, one expert says that the results for Kerala would have been similar to the two states, because of similar teaching and learning practices amongst Indian states. Referring to other Indian states that are doing well, one expert raised the question, whether a good performance is sufficient as reason for deciding to participate in international testing. Tamil Nadu for instance, expected to benefit from the participation. Experts also pointed out to the aspect, that exposing oneself in an international large-scale assessment requires courage. Lastly, a shared view from many interviews is that one expected Himachal Pradesh and Tamil Nadu to do well, as the results of the national testing highlighted these two as the best states. Apart from that both were considered as being strong in education. Some experts referred to the idea to take Himachal Pradesh and Tamil Nadu as role models for other Indian states to join a participation in future PISA-cycles. This is also documented in literature, as e.g., for Himachal Pradesh:

> „Being a relatively small and a compact state with a population of only 62 lakh people, Himachal Pradesh has a strong potential of becoming a Sarva Shiksha Abhiyan success. Punjab and Jammu & Kashmir which did not have DPEP programmes and even Haryana could learn many a lesson or two from the Himachal Pradesh's DPEP programme. The educational administrators of these states need not go to Kerala to witness the schooling revolution. Himachal Pradesh could provide useful learning experiences." (Sood/Shukla 2006: 359).

Even earlier, the PROBE report of 1999 emphasized the positive developments in providing elementary education in Himachal Pradesh. Himachal's growth had been seen as a "'schooling revolution'", as cited in the second PROBE report (De et al. 2011: 112).[299] Here, it is stated that in 2006, Himachal Pradesh „was still doing very well" (De et al. 2011: 112), with high enrolment rates in primary schools touching nearly 100 per cent. Moreover, children were attending schools as the data collectors could witness: „92 per cent of enrolled children were present on the day of the unannounced visit, as against 66 per cent in the other states" (ibid.). The authors state that this positive development must be seen in the socio-cultural context of Himachal's past and especially in a future-oriented management of school education. However, not all districts of Himachal Pradesh were doing well. But in comparison to the performance of other Indian states, these cases were seldom. Samson/Sondhi (2017) highlight that „there have been enormous improvements in reduction of gender disparities in literacy rates in [Himachal Pradesh]" (ibid.: 199). This is interesting as PISA identified a gender gap between the performances (see Walker 2011 and chapter 6.1.2). Samson/Sondhi (2017: 199) acknowledge

[299] The data collection for the first PROBE report had been done in 1996 and the report had been published in 1999. The data collection for the second PROBE report had been done ten years later in 2006 and the report had been published in 2011.

Himachal Pradesh's success in achieving universal elementary education. However, to value the quality of school education, enrolment rates at primary level are not enough. Enrolment rates at upper primary level as well as repetition rates must be considered as well. Furthermore, the number of teachers that are teaching in school and the teacher-student-ratio, the performance of students in annual examinations and the proportion of public and private schools are criteria for evaluating the quality of school education. The paper states that whereas there has been progress in enrolment of children at primary level, still too many pupils have difficulties in transition from primary to upper primary levels and are dropping out of schools. Annual examinations show that sometimes children stay in schools, however are not able to read and write:

> „[Himachal Pradesh] is ahead of most other states in the north of India in providing for the schooling of its young people and is rapidly moving towards universal secondary education. The transition rate between upper primary and secondary levels is high." (Ibid.: 208).

The authors identify the improvement of quality in government schools as one of the key challenges for Himachal Pradesh (ibid.: 213). Himachal's objective is to „'develop a holistic and comprehensive model for improving quality which integrates different programme components and places the learner at the centre of active classroom practices'" (ibid.: 213). They further state the need to meet the context and the socio-cultural conditions in Himachal Pradesh, as for instance „multigrade teaching being an essential part of the schooling scenario in [HP]" (ibid.: 213). Improvements in infrastructure are needed, e.g. girl's toilets, as well as in the realms of teacher education, teaching quality and teaching attendance.

Like Himachal Pradesh, Tamil Nadu is considered to be successful in providing good public education. Vidyasagar et al. (2017) are referring to the Indian education report of 2002 when they are saying: „The story of Tamil Nadu's success in universalizing elementary education is long and has been documented before." (ibid.: 228).[300] Although the overall picture for Tamil Nadu is very good, disparities are still there when it comes to the divide between rural-urban areas, districts, communities, and the gender gap. Key challenges are the dropping out from schoolgirls and -boys. Approximately 70 per cent of students drop out before completing the final standard (see ibid.: 239). Vidyasagar et al. (2017) postulate: „[Tamil Nadu] is certainly one of the top states which can guide the progress of other states in their progress towards EFA goals." (ibid.: 242).

[300] Vidyasagar et al. (2017) refer to Govinda's "India Education Report" of 2002. This report states that Tamil Nadu is doing well (cf.: Govinda, R. (2002): India Education Report. A Profile of Basic Education, New Delhi: Oxford University Press). Additionally, Tamil Nadu is considered as a „High-Achiever State" (Tilak/Gounden 2006: 285), see also Gopalan (2013) and Visvanathan (2014).

Govinda et al. (2017: 15) welcome the method of activity-based learning, (hereafter ABL method), as being helpful in multigrade teaching contexts. ABL is a concept of child centred learning, a form of individual encouragement that enhances self-learning. It has been developed in different parts of India, as for instance in Tamil Nadu and Andra Pradesh. Eventually it got transferred to other Indian states, and as well to other international contexts such as some areas in Germany (see e.g., Mahapatra 2009; Niesz et al. 2012; Girg/ Müller 2010; Lichtinger et al. 2012; Lichtinger 2018).

Drèze/Sen (2014: 78f) outline some features why Kerala, Tamil Nadu and Himachal Pradesh are generally doing better than other Indian states. The authors see communalities in the recent development of the successful Indian states. These are (1) a focus on social policies including education, (2) a holistic and inclusive approach in providing basic public services, (3) a well-working bureaucracy, (4) addressing discrimination and social inequality, (5) being open to social movements and encouraging people's democratic engagement, and (6) promoting rapid economic growth. Taking the development trajectories of Himachal Pradesh and Tamil Nadu into account, Drèze/Sen (2014) state, that the thesis of Kerala as exception amongst the other Indian states and as a role model for them is no longer tenable. The authors conclude that "[o]ther states have good reason to learn from these positive experiences, even as India also learns from the successes and failures in the rest of the world." (Drèze/Sen 2014: 80).

6.5.6. From a bird's-eye view: Through organized meetings

Experts often referred to informal meetings with officials from international large organisations, as well as with educational consultants and assessment experts, either in the context of international conferences – as for example the conference at Udaipur in 2009 –, or in their offices. They mentioned a series of meetings between government officials and other groups, where deliberation about a possible participation in PISA happened. However, the discussion within these meetings has not been sufficient to take a knowledgeable decision whether to go or not to go into PISA, as one expert stated. NCERT-staff reported informal meetings with Andreas Schleicher before and after India's participation in PISA 2009 Plus. There had been for instance a meeting between the organisations OECD, ACER, NCERT and MHRD in New Delhi prior to India's participation in PISA 2009 Plus.

Experts from quasi-governmental and private bodies shared that the knowledge about PISA came in not through the OECD directly, but through a capacity building programme for the development of NCERT's National Achievement Survey. This project had been funded by DFID. The head of the project had been Dr. Jayshree Oza. ACER had been the partnering

organisation amongst others. Knowledge about techniques, the Item-Response Theory (IRT) in particular, and ways of proceeding in general in international large-scale assessment came in through ACER's expertise and training (see Vollmer 2019b).

ACER had been (and still is) a place to go to for the purpose of getting expertise in large-scale assessments. Many experts from quasi-governmental and private bodies alike shared, that their organizations learned about PISA through the organisation ACER. This might be obvious since ACER had been developing, conducting, and analysing PISA for OECD since the beginning of the conduct of the study until 2015. Noteworthy is the fact that also experts at the state and regional level came (and still come) into contact with ACER through its subdivision ACER India. The organisation APF for instance learned about PISA through a formal collaboration with ACER. It has been APF, who reached out for ACER to provide a training for their organisation in 2007, as shared by an expert. Hence, one might say that ACER as an influential international organisation played an important role in the process of India joining PISA.

From a bird's-eye view, it is not sufficient to say that India joined PISA either only because of the forceful persuasion by OECD, or only because of the successful lobbying by private players, e.g., World Bank, or the recommendation by knowledgeable assessment experts, as e.g., ACER (see Mendelovits 2009, Turner 2010). Rather, there have been happening multiple simultaneous processes, where different organisations, people, things, and events came together for exchanging ideas, discussing upon strategies, and finalizing proceedings. An example for these alternative processes is the FICCI task force on assessment that brought together different organisations and experts in educational assessment. Further, the analysis showed that OECD's PISA-people gained footing in India by drawing on existing connections and networks between local and international organisations, such as Indian government and quasi-government bodies, ACER, and the World Bank. These connections and networks had been quite heterogenous in nature and were overlapping with other subnetworks, as experts in assessment, as well as assessment concepts and tools were transferred from one institution or organisation to another. This is stressed by one interviewee: *There is no single transparent communication mode, where something originates in World Bank and OECD is transferred here and then is implemented on the ground*. PISA came in through several organized and informal meetings. Several workshops, round tables, and informal meetings etc. have been held. Different organizations, and human beings have been involved, by providing funding, technical expertise, know-how, capacity building workshops, and other things and events more.

To sum up, people that have been involved in the PISA 2009 Plus project in India often mentioned the DFID funded project on capacity building as starting point. The standard story goes as follows: OECD approached India, the government of India decided to take part, it onboarded NCERT as body of administration, and the World Bank as funding agency. When OECD approached India to take part in PISA, initially India denied the participation. There has been negotiation with other international organizations before (e.g., the World Bank and UNESCO). OECD had been new to the ground. Some share the knowledge that India has been bypassed by funding agencies (e.g., World Bank). ACER had been an important player, as well as UNICEF. This means ACER in providing knowledge in assessment, and UNICEF in providing funding (for instance for the international conference at Udaipur). OECD, ACER, the World Bank, MHRD and NCERT were directly participating and involved in the planning, financing, and the administration of the PISA 2009 Plus test in India. The quasi-government bodies NCERT, NUEPA/ NIEPA and the OECD were involved in processes of exploration, and decision making. A shared knowledge amongst experts had been that India took part in PISA 2009 Plus on the basis of a pilot project, and to find out its own position amongst other states and economies at the global level.

The different perspectives are summarized in one map below. It is important to be critical about the postulated synopsis map. This map shows my perspective on it, which is one reading of the process of India joining PISA 2009 Plus. It is of temporary validity. Other readings of the processes are possible. Nevertheless, the synopsis helps getting an overview over the processes. It helps systematizing the perspectives, and to find communalities and differences between them. Further, being attentive for ruptures and contrary statements is necessary. Being critical about the collected stories. I did come across some, though others remain unseen.

The background of this map, coloured in light-blue, indicates to the global education sector. Key nodes of influence are international organisations such as the OECD, World Bank and ACER, government and quasi-government bodies such the Indian education ministry or the NCERT, and human beings such as educational consultants and government officials (not displayed in the map). Furthermore, nodes of influence are things such as the MoU, money, or the test booklets, and events such as the test administration of PISA 2009 Plus. (1) There exists an arrow between the OECD's PISA and the Indian education ministry (MHRD/GoI), both are linked up through the MoU. OECD's PISA and the Indian education ministry established a trading zone that dealt with negotiation upon India's participation in PISA 2009 Plus. (2) Then, there are arrows between the international organisations OECD PISA, ACER (India) and Indian governmental and quasi-governmental bodies (state governments, NCERT) indicating to a

trading zone upon the negotiation on the test planning and administration, as well as the offering and acceptance of tools and concepts. (3) Lastly, two more arrows link up the OECD and the World Bank with the two Indian participating states indicating to a trading zone that has been characterised by processes of lobbying.

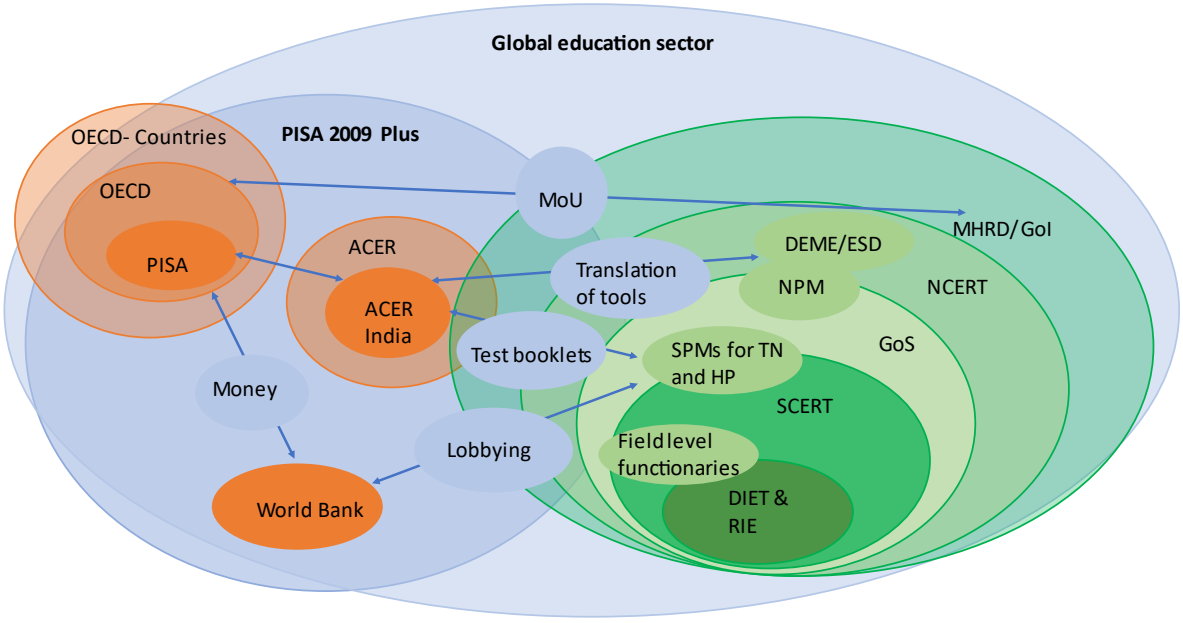


Figure 29 A tentative synopsis map of the circulation routes of knowledge

The international bodies, the Indian education ministry (MHRD/GoI), and the quasi-governmental body NCERT have been nodes of influence when it came to making decisions. Educationists and private Indian organisations played a minor role. Educationists came into the picture only after the results were published. Private Indian organisations were not connected to the process of India joining PISA. However, they studied the PISA test, either before India's participation in PISA 2009 Plus, or after.

The description of one interviewed expert of the appearance of the OECD before and during the international conference in Udaipur in 2009 sheds light on how events influence the direction of processes. In the thinking of Callon and Latour, this conference can be considered as OPP[301], as it was afterwards that the OECD had been frequently present at other events of the Indian government. In the thinking of Harrison White, however, the behaviour of the OECD can be read with the concepts of struggling for control and footing. It would be interesting to investigate further, who of the participating individuals – educational consultants, government

[301] OPP stands for the concept of obligatory passage points, see the approach of translation, discussed in chapter 4.

officials or even educationists – acted in favour or against the OECD PISA people and if there had been positions of mediators (Godart/White 2010: 572).

An example for the role of things in the process of India joining PISA 2009 Plus is the MoU between the OECD and the Indian government. The MoU did set the foundation for India's participation in PISA 2009 Plus. The document tied the OECD and the Indian government together, as well as subsequent all the other organisations, human beings and things – for instance, money, manuals, and test booklets – that were involved in the test planning and administration process. The statement of one interviewed expert indicates to the fact that the MoU had different meaning for the partners it tied together. The MoU brought positions of different influence (inequality) without taking up measurements to deal with this inequality.

The comparing of different descriptions and self-descriptions of nodes did shed light on their underlying relationality and reciprocity, as well as on transformation and change over time. The dynamic of the process and change of positioning of nodes of influence can be illustrated best by the example of the educational specialist Sahoo, who has been part of different national (NCERT), private and international organisations (ACER India, UNICEF India) over the course of time. While working for these different organisations, he acquired knowledge, as he also provided knowledge to these organisations. Further, he enhanced his ties to various other subnetworks and switched successfully between the subnetworks of the named organisations. Finally, he has not only expertise on the national or international level but also on the local and regional level, as he worked as independent researcher for the governments in Tamil Nadu and Himachal Pradesh.

In an outlook selected post-PISA 2009 developments are discussed. This allows us to make statements about the changes of positioning and connections of some of the big and crucial nodes of influence, namely OECD, ACER (India), UNICEF (India), and the Item-Response Theory (IRT), as representative for the complex PISA assessment concept.

6.5.7. Outlook: Selected post-PISA 2009 developments

Looking at the post-PISA 2009 developments, quite many experts mentioned round tables on international large-scale assessment as channels of communication and as possible way how international large-scale assessment made its way to India. One of these subgroups has been the Learning Metrics Task Force, often informally mentioned as 'Brookings Group'. The Learning Metrics Task Force had been an international forum for the conduct of large-scale assessment and for discussing the sustainable development goals. It existed from 2013 until 2018 and had

been initiated by Brookings Institute of Statistics and by UNESCO (UIS).[302] For some time, Rukmini Banerji from Pratham's ASER co-chaired the group.[303] Some of the experts had been part in this group and shared that it gave them exposure to international testing. Experts recalled that APF and ACER had been part of the Brookings group, but OECD did not. Other experts knew about the existence of this group and knew some private players that engaged themselves in this forum after India's participation in PISA: *They have taken their voice there*, as one expert mentions. This shows that networks are ever changing, new formations emerge, influential positions are shifting, and likewise centres of knowledge. For instance, ACER could manifest its position in India by founding the subdivision ACER India, and by establishing an office in New Delhi. Since 2007 there is an intensification of collaboration in various subnetworks. Similarly, UNICEF could strengthen its position too.[304] Since India's participation in PISA, UNICEF could intensify its collaboration in various subnetworks. In 2021, ACER and UNICEF announced its partnership in strengthening assessment in Eastern and Southern Africa and South Asia.

Looking at the positioning of OECD things seem to be different. After India's withdrawal from re-joining PISA as a consequence of the bad experience of PISA 2009 Plus, Andreas Schleicher (OECD PISA) kept courting the Indian government officials. Between PISA 2009 Plus and 2019, several informal meetings took place. Finally, it was declared publicly in 2019, that India is about to re-join PISA. In contrast to ACER and UNICEF, OECD holds no subdivision and no office in New Delhi until now. Interestingly, the Gates Foundation faces similar problems in making their footing in India (see Mahajan 2017). With people, things are on the move, too. After the NAS transformation project, the Item-Response-Theory (IRT) got domesticated in India (see Vollmer 2019b).

The background of this map, coloured in light-blue, indicates to the global education sector. Special focus is set on the planning of the next PISA round and India's participation in it. Nodes of influence are international organisations, state bodies, and human beings such as educational consultants. Furthermore, nodes of influence are things such as a new MoU, tools and concepts, and events such as the training and coaching of students. (1) There are arrows between OECD's PISA and the Indian education ministry (MHRD/GoI), and between OECD's PISA and the NCERT indicating to a trading zone that deals with the negotiation upon the next PISA round.

[302] See also: https://www.brookings.edu/product/learning-metrics-task-force/ [27.01.2022], published document: 2013 as well as blog posts.
[303] Source: https://www.theigc.org/person/rukmini-banerji/ [27.01.2022]).
[304] See e.g. UNICEF India's position paper that outlines UNICEF'S education strategy for the next decade (Sahoo/ UNICEF India 2019).

(2) Then, there are arrows between international organisations and Indian state and state-related bodies (state governments, NCERT) indicating to a trading zone that deals with the negotiation upon or the offering of tools and concepts.

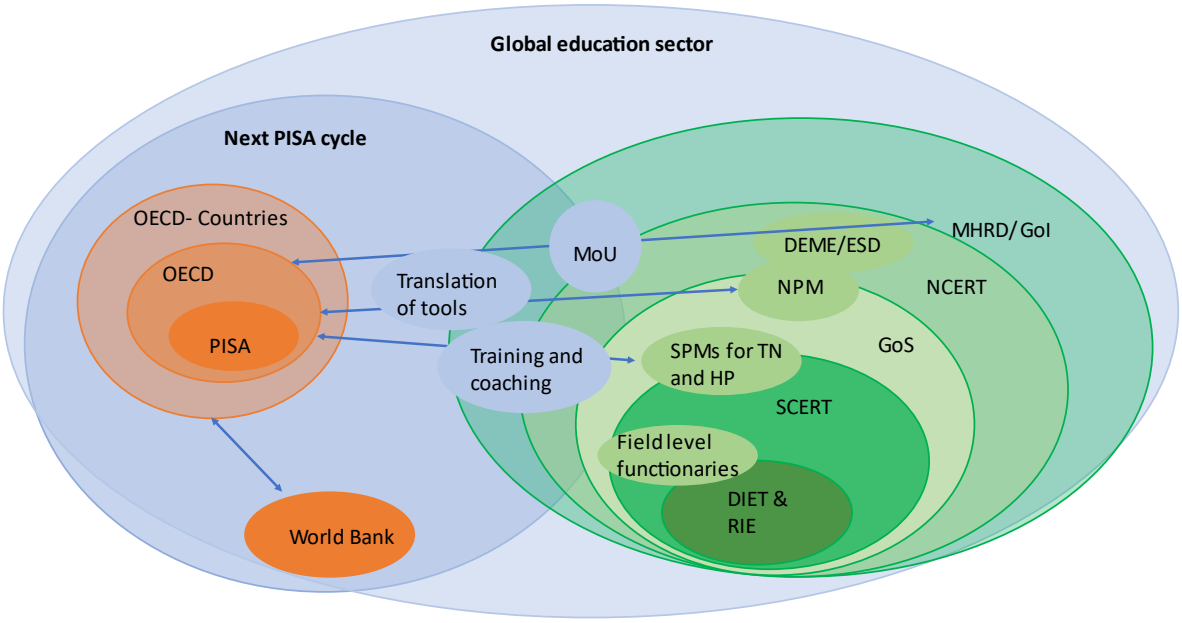


Figure 30 A prospective map of the organisation of the next PISA round

Differently, to India's first participation in PISA, there will not only be emphasis on the translation and quality control measurements within the test administration but there will be training of students to get them familiar with the questions asked in the PISA test. Finally, the involvement of UNICEF India, ACER India and the World Bank stays as open question. Given the current challenges of the global pandemic experiences (COVID-19), and the therewith related expanding costs for education and health, it is most likely that the World Bank still provides funding for the new participation. Further, as open question remains the embedding of private national players, e.g., NGOs., as well as the role of educationists.

7. Discussion

In this section the results of the analysis are discussed and integrated in the recent academic discussion in reference to the international research on global educational policy and international large-scale assessment, (hereafter ILSA), and the state of art in network theory and analysis. Therefore, this section contains three parts. Firstly, the discussion of India's participation in PISA 2009 Plus. Secondly, the discussion of the notion of development in view of the rise of global education policy and the spread of ILSA's. Thirdly, the discussion of theoretical concepts and methodology used in this study.

On India's participation in PISA 2009 Plus

This section draws on the different subnetworks and positionings. It gives a summary of the circulations routes of the knowledge flows. And it summarizes aspects of the domestication and reconfiguration of the PISA test for the Indian environment. Lastly, it integrates the findings in the recent academic discussion.

On the different subnetworks and positionings

In the complex socio-material reality, there is an indefinite number of subnetworks. It is important to note, that these networks are not existing juxtaposed to another, rather they are intertwined and linked up with other subnetworks in manifold ways. In the complex socio-material reality, networks exist between three or more different relata. For instance, when governmental bodies, quasi-governmental bodies, private national organisations and educationists come together for round table meetings at the national or at the state level. Here, material objects and events play an important role, as these meetings are scheduled on specific dates, and proceedings of the meetings are documented in reports.

Exemplarily with the organisation APF (discussed already earlier in chapter 2), the role of things, buildings and events could be demonstrated. The Learning Guarantee Programme, (hereafter LGP), is considered as an event, as it introduced competency-based assessment in some of the Indian states even before India participated in OECD's PISA. Likewise, APF's *Learning Curve*, the periodically published journal that compiles and disseminates knowledge on assessment within the (inter-)national assessment community is considered as an event. Educationists and experts that belong to private national organisations or to international organisations are publishing here. Further, this example shows that buildings, schools, universities, offices in general are of importance, as they provide space as meeting places. Both,

APF-staff and SCERT-staff mentioned that they meet regularly together with government officials to discuss education policy matters.

The subnetwork of the PISA 2009 Plus project that is in focus here is a mixture of the different types of networks described in chapter 6. Dependent to the perspective of the storyteller (that can be an expert or a document), the set of nodes and edges varies, as has been illustrated. Further, the process of India joining PISA did not start with the OECD courting the Indian government. Rather there have been different starting points: capacity building projects conducted by ACER at APF, ASER and NCERT, the event of the RTE, the conference at Udaipur, and an educationist who tried to influence government officials.

The comparing of different descriptions and self-descriptions of nodes did shed light on their underlying relationality and reciprocity, as well as on transformation and change over time. The dynamic of the process and change of positioning of nodes of influence can be illustrated best by the example of the educational specialist Sahoo, who has been part of different national (NCERT), private and international organisations (ACER India, UNICEF India) over the course of time. While working for these different organisations, he acquired knowledge, as he also provided knowledge to these organisations. Further, he enhanced his ties to various other subnetworks and *switched* successfully between the subnetworks of the named organisations. Finally, he has not only expertise on the national or international level but also on the local and regional level, as he worked as independent researcher for the governments in Tamil Nadu and Himachal Pradesh.

By being involved in many national and international processes, and by giving funding and trainings to local state and private players in India, UNICEF India is setting standards and is a key influential node within the many different subnetworks. Furthermore, by being part of many different subnetworks and trading zones over the last decade, UNICEF could gain, maintain and expand its influence. Like UNICEF, by being involved in many national and international processes, and by giving trainings to local players in India, ACER India is setting standards and is a key influential node within the many different subnetworks. ACER is being perceived by the interviewed experts as a big player in the assessment landscape (or even: industry), and as a knowledgeable organisation. The government-related body NCERT is the only node of influence that has been talked about in every interview. Thus, NCERT is considered as a key node of influence.

To sum up, the positioning of state and state-related bodies appears as hierarchic and static in its structure. Secondly, the development and spread of private national and international organisations over time such as Pratham's ASER, APF, ACER and ACER India, UNICEF and

UNICEF India within the Indian educational assessment landscape is impressive. Thirdly, by contrast, OECD appears as *latecomer* and if at all *loosely connected* with national bodies or private organisations, especially at the local (as read: state or regional) level. Before India joined the PISA 2009 Plus project, the OECD took part in an international conference at Udaipur. This had been an influential and gate keeping event. This conference is linked with the process of India joining PISA as it was here that the OECD made its entry in the Indian education sector or at least the educational academic and policy discussion. What exactly happened, and which kind of steps of action were taken after the conference in Udaipur remained an open question. Based on the knowledge of one expert and backed by Dhankar (2011), there have been more meetings and seminars held between the OECD and Indian state and state-related bodies.

A summary of the circulation routes of the knowledge flows

Experts often expressed no knowledge on how it came that India joined the PISA 2009 Plus project. Likewise, in the beginning of the project there existed only few documents that were available in the public domain.

One expert used the image of a *cascade of flows of knowledge and influence* to illustrate the hierarchical structure of the networks between governmental and quasi-governmental bodies. With this image s/he pointed out to the channelling and limitation of knowledge flows within the apparatus of the PISA test administration. This constellation has been power laden and hierarchical. The image of the information flow as a cascade had been interesting, as it illustrates how information flows or not flows amongst hierarchic structures.

Another expert shared that in the process of getting India to take part in PISA, the Indian education ministry had been *bypassed by funding agencies* approaching the two Indian states directly. Bringing India to join PISA has been a manipulative act by private players that came at a critical point when the Right to Education Act had just been implemented. As the education ministry had been against a participation of India in PISA, private players approached the funding agency World Bank which directly started negotiations with Himachal Pradesh and Tamil Nadu and circumvented the Indian education ministry by that.

Experts often referred to *informal meetings* with officials from international large organisations, as well as with educational consultants and assessment experts, either in the context of international conferences – as for example the conference at Udaipur in 2009 –, or in their offices.

From a bird's-eye view, it is not sufficient to say that India joined PISA either only because of the *forceful persuasion by OECD*, or only because of the *successful lobbying by private*

players, e.g., World Bank, or the *recommendation by knowledgeable assessment experts*, as e.g., ACER (see Mendelovits 2009, Turner 2010). Rather, there have been happening *multiple simultaneous processes*, where different organisations, people, things, and events came together for exchanging ideas, discussing upon strategies, and finalizing proceedings.

Further, the analysis showed that OECD's PISA-people gained *footing in India* by drawing on existing connections and networks between local and international organisations, such as Indian government and quasi-government bodies, ACER, and the World Bank. These connections and networks had been quite heterogenous in nature and were overlapping with other subnetworks, as experts in assessment, as well as assessment concepts and tools were transferred from one institution or organisation to another. *PISA came in through several organized and informal meetings*. Several workshops, round tables, and informal meetings etc. have been held. Different organizations, and human beings have been involved, by providing funding, technical expertise, know-how, capacity building workshops, and other things and events more.

Domestication and reconfiguration of the PISA test for the Indian environment

As stated in the official documents, the ACER group ran its engagement during the processes of test planning and -administration *cross-sectionally along the different hierarchical levels of national state bureaucracy* of the participating countries. There are measurements described for every level from top to bottom. Experts shared that there was *no change or adjustment of the test-items in the PISA 2009 Plus project*, even „the same technical and quality standards" (Walker 2011: i) of the main PISA test were applied. However, some items were related to the Indian context. An example for this is the item "Hot Air Ballon" (as published in Walker 2011: 27). Differently, to India's first participation in PISA, in the process of preparation for a participation in the next PISA round, there will not only be emphasis on the translation and quality control measurements within the test administration but there will be *training of students* to get them familiar with the questions asked in the PISA test.

Integrating the results in the recent academic discussion

As many others Drèze/Sen (2014: 121) share the idea, that "Indian authorities have resisted the country's inclusion in international comparisons of pupil achievements" for a long time. Drèze/Sen (2014: 124) argue against the critique that large-scale assessments "are culture-related, and reflect 'Western' biases". The authors point out to the fact that the basic competencies to be measured and tested in PISA are not at all "uniquely Western abilities"

(ibid.) and that other Asian countries such as China, South Korea, and Singapore are amongst the five top performers. The problem would be rather that India had failed "to benefit from the insight about the role of quality education that has informed the development experiences of much of Asia, Europe and America" (ibid: 124). Internationalization and globalization – operationalized in comparative assessment tests – shed light on problems and deficiencies in the Indian education system (ibid: 127). They lead to "economic growth and participation" (ibid: 126). Drèze/Sen (2014) point out to Hanushek and Woessmann (2008) who state:

> „Indeed, learning achievements seem to have far more explanatory power than just 'years of schooling' as drivers of growth and development." (Hanushek and Woessmann, 2008: 607, as cited in Drèze/Sen 2014: 126)

Achieving quality of education is necessary because „education plays a very central role in a wide variety of fields – economic, social, political, cultural and others – and it can also play an enormously important part in reducing the force of inequalities of class, caste and gender." (ibid: 126). Drèze/Sen (2014) suggest to *find a middle way*. They don't argue for testing each and everything about education. But on the other hand, they are against the idea to not test anything in education. The idea of student assessment is „to find out what kinds of help, attention or encouragement particular children or schools need" (ibid: 138). The results of educational assessment are of interest for different target groups such as professionals in education, parents, and lastly the public in general. Drèze/Sen (2014: 139) highlight the aspect that the public can use the results of educational testing „to hold the system accountable".

Taking part in PISA 2009 Plus is a *learning experience for assessment specialists, policy makers and government people*. The expected benefit has been that „it will allow India to schedule its entry into such international surveys so that benefits are maximised" (Oza/Bethell 2013: 46):

> "Much has been made of the poor outcomes for Tamil Nadu and Himachal Pradesh in the study. However, many newly industrialised countries, including Brazil and Indonesia, experienced similarly disappointing results on first joining PISA. However, these countries have viewed these results as a first step in a long journey of quality improvement, using successive PISA analysis to inform their education reform programmes with positive results. There are many lessons that can be taken from PISA. In particular, it allows policymakers to reflect on what international comparative studies have to offer India in the short to medium term and what the costs are likely to be. In particular, it will allow India to schedule its entry into such international surveys so that benefits are maximised." (Oza/Bethell 2013: 46).

Earlier the position of Jaime Saavedra, currently Director for Education of the World Bank, and former education minister for Peru, had been quoted. He holds, that nations cannot afford to do without educational assessment (see OCED Podcast TopClass, episode 13). The possibility of opting out of ILSA's had been part of the discussions with the interviewed experts, too. Further,

Adler-Nissen (2008, 2014) worked on the diplomacy of opting out and stigma management of nations.

Srivastava (2017: 27f) writes from a NCERT perspective, that one should not forget to value the own educational knowledge and heritage. Living under conditions of globalization forces oneself to find a way in dealing with local consequences of globalization. However, globalization is not a „one way traffic" (ibid: 28), it is rather „reciprocative" (ibid.), and it is „involving give and take" (ibid.). He is interested in examining the relationship between the local and the global, India's position at the global level, and India's aspirations at the national and the global level. Research is needed on the examination of „[globalization] of Indian education" (ibid.: 28). He holds that „India should not succumb to pressures and firmly guard against onslaughts on the soul of Indian culture, in the name of [liberalization] and [globalization]" (ibid.: 28). He suggests, „let us continue to be givers" (ibid.: 28). Being sensitive to the local, Indian culture is a valuable point, however, to a certain extent, nationalist tendencies are becoming visible here.

Recent educational policy under the extreme-right government of Prime Minister Narendra Modi focusses indeed on enhancing skill education, on vocational education amongst the youth, and on the creation of jobs. The election manifesto of BJP (2014: 22-24) formulates on skill development and education:

> „BJP believes that education is the most powerful tool for the advancement of the nation and the most potent weapon to fight poverty. Education in India needs to be revitalized and reorganized to make future generations proud of their culture, heritage and history and also for creating confidence in the vitality of India." (BJP 2014: 22)
>
> „Every effort shall be made to ensure 'equality of opportunity in access and success' to all learners; creating a harmonious, and cohesive egalitarian society that practices democratic values. This would be possible only when Education accords due emphasis on national integration, social cohesion, religious amity, national identity and patriotism." (ibid.)
>
> „India has to become a knowledge society and has to reverberate with educated skilled manpower of high standards required to meet the challenges of 21st century. This requires a bold and visionary leadership to introduce appropriate policy and structural changes." (ibid.)
>
> „Education should not only lead to employability but also job creation and entrepreneurship by introducing national multi-skills orientation program." (ibid.)
>
> „We intend to review and revise [the; T.V.] education system" (BJP 2014: 23)
>
> „Skillful hands, bright minds, discipline and perseverance makes Indian talent an asset worldwide. We have to live up to this potential, preparing the World's Largest Workforce. We have to make our youth productively employed and gainfully engaged. We also have to develop India as a Knowledge Powerhouse. We have to train and nurture our human resource. We have to use it for leap-frogging our Nation into the future." (ibid.)

The underlying rationale in this election manifesto of BJP is strengthening the workforce on the local ground in order to being able to compete globally with other nations and economies.[305] Gudavarthy (2019: 34) states that "there was a realization of the need to stand up to global standards". Gudavarthy (2019: 43) further points out that the understanding of education by the extreme right ideology "is marked by discipline, standardization, information without questioning, and technical education". The author sees diversity under threat. But diversity is an important aspect for democracy and political dialogue. Thus he makes a plea that „[d]iversity has to be acknowledged, not merely by recognizing various social identities, but the ideas that come with them" (ibid.: 29). In 2019, still under the government of Modi, India decided to take part in PISA again. The relationship between education and development had been one of the core topics within the data set and shall be discussed in the following section.

On development, global education policy, and the spread of ILSA's

The OECD conceptualises human capital "as the stock of knowledge, skills and other personal characteristics embodied in people that helps them to be productive."[306] Further on, human capital emerges out of different kinds of learning processes within the wide range of formal education, informal learning and learning at the work place (ibid.). In 2019, the OECD launched a big project on skill development, named *OECD Future of Education and Skills 2030*. This project contains a conceptual learning framework that encompasses knowledge, skills, attitudes and values. This learning framework is considered to serve as a tool for policy discussion for, within and beyond the assessment community. It is stressed that the learning framework should not be considered as a curriculum framework.[307] However, it is exactly through the writing process of such kind of papers – that often happens in a heterogenous team of private and state actors alike – that concepts circulate from one space to another and in this case that ideas of education from the economic sector are transmitted into the public sector (see Ball 2012).

Having learned from the experiences of PISA 2009 Plus and PISA for Development, the document on the learning framework resp. Learning compass 2030[308] holds, that formal schooling that takes place in educational institutions is needed globally, but informal learning in schools, at home, and in communities should be promoted and acknowledged likewise.

[305] This "job-creation objective" for the purpose of being internationally competitive is highlighted also by Andersen/Damle (2018: 66).
[306] Source: OECD Website: https://www.oecd.org/economy/human-capital/ [12.05.2022]. Other authors on human capital (Giesecke 2005; Keely 2007).
[307] See: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_concept_note.pdf [12.05.2022].
[308] See: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_concept_note.pdf [12.05.2022].

Therefore, a special emphasis is put on the type of informal learning. The OECD is here responding to an often posed critique that what PISA measures is in fact a very limited scope of the manifold knowledge forms and acquired capabilities students possess at the end of their schooling.

Hence, the OECD Learning Compass 2030 defines knowledge as "theoretical concepts and ideas as well as practical understanding based on the experience of having performed certain tasks."[309] Knowledge is characterised as both "disciplinary" and "interdisciplinary", and as "epistemic" and "procedural" (ibid.). Further on, knowledge and skills belong together and are closely entangled. Skills according to OECD "are the ability and capacity to carry out processes and be able to use one's knowledge in a responsible way to achieve a goal."[310] Skills are one of the pillars of the broader concept of competency. The OECD Learning Compass 2030 mentions "three different types of skills: cognitive and meta-cognitive skills; social and emotional skills; and physical and practical skills" (ibid.). There is not really a definition of the term competence given by the OECD. But there has been a taskforce called "Definition and Selection of Competencies (DeSeCo)" to elaborate the foundations of the concept.[311] Competence in the German context means generally expertise (Sachverstand), skills (Fähigkeiten) and responsibility (Zuständigkeit).[312] Acccording to Böhm (2005: 368; T.V.: translation), competence in the educational discussion in Germany can be thought of as both, the "foundation for educational processes", but also as a "result of learning processes" (Bildung). Furthermore, as the "ability to act self-reliantly (Mündigkeit)" (ibid.).

Dasen/Akkari (2008: 09) work with a broad definition of "education as all forms of cultural transmission". According to them, school education does not necessarily lead to economic development (ibid.:14). In fact, schooling reproduces discrimination, and it alienates youth from their communities. The authors argue not against schooling in general, but state that the transformation of the system is necessary. They speak of a "world education crisis" (ibid: 14). But this education crisis hits the nations and economic regions differently, especially in times of global pandemic experience (COVID-19), war and migration and displacement. Cultural imperialism of the West and ethnocentrism lead to a discrimination, exploitation and devaluation of knowledges of other contexts. Socio-economic and cultural pressure practiced

[309] Source: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/knowledge/Knowledge_for_2030_concept_note.pdf [12.05.2022].
[310] See: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/skills/Skills_for_2030_concept_note.pdf [12.05.2022].
[311] See: https://www.oecd.org/education/skills-beyond-school/definitionandselectionofcompetenciesdeseco.htm [12.05.2022].
[312] As stated in Duden, https://www.duden.de/rechtschreibung/Kompetenz [12.05.2022].

by colonisers caused educational needs in countries that faced colonialism. Consequences of colonialism and the introduction of the Western formal schooling system have been the damage of local knowledge in great manner (ibid.: 07f). Dasen/Akkari (2008) state that the current conceptual binary between *developed* and *developing countries* is problematic. Instead of framing it as *global north* or *global south*, they suggest to speak of *minority world* and *majority world*. With minority world they are referring to *Western contexts* and with majority world to *non-Western contexts* (ibid.: 09). This is based on the fact that population-wise the so-called global south is much bigger than the global north. Educational theories of the majority world are however located *outside of the mainstream* of educational ideas, which is mainly noted as Western formal schooling (ibid.: 09). Engaging in a cultural decentralisation is therefore necessary. It is about empowerment, participation, identification, appropriation and action. It is about local accountability for example of schools and of teachers.

Clemens/Biswas (2019) hold that rethinking education is necessary because of the dysfunctionality of educational systems worldwide. But thinking differently on education is not easy. Two recent strategies for this have been the call for *expansion of education*, and the call for the *betterment of the quality of education* (ibid.: 241). Clemens/Biswas share a critical view on the concept of universalisation of education and its equivalent global education programme, called *Education for all*. Education is not equal to schooling. The nexus education and economic growth and development appears as constructed. The authors make a plea for *diversity* at all levels of thinking. UNESCO (2015:10) warns that the growing internationalisation of education must not destroy diversity, rather stakeholders in the field of education – and especially in the field of educational testing – must come up with diversity-sensitive answers. Criticizing the by the OECD prominently propagated notion of education as acquiring application-oriented competencies as narrowed-down, UNESCO (2015: 10) holds, that the purpose and meaning of education needs to be refigured, as well as the organization of teaching and learning processes.

With Clemens/Biswas (2019) it is important to question the notion of *development* and to ask about different possibilities and future scenarios. Taking up a term by Drèze/Sen, is there only one *development trajectory*, or are there rather many „development trajectories“ (Drèze/Sen 2014: 78). Although Himachal Pradesh and Tamil Nadu are statistically in an interstate comparison of India amongst the ones who are doing well, they got awfully bad results in PISA. Recalling the diversity and contrast of level of education throughout the Indian states, one can assume what this means for states that are not so doing well (Drèze/Sen 2014: 124).

Münch (2009), Ball (2008, 2012, 2016), Au/Lubienski (2016) and others have done work on transformation processes at the local ground due to the spread of ILSA. They come to the

conclusion, that educational decisions are no longer made democratically by elected state actors – representing the interests of the society – but rather by private actors and their interests. These private actors – corporates, international organisations, NGOs, and philanthropists – gain influence in policy making decisions and are actively involved in transformation processes of education systems worldwide.

In examining the case of Pearson, Hogan et al. (2016) state that in terms of research and policy consultancy, private actors are more influential than academic actors. The author's caution about the growing "democratic deficit in these developments" (ibid.: 120). Furthermore, there is a "professional deficit" (ibid.:121), caused by e.g., the exclusion of teachers from the table of policy discussion, displacing them as enactors of educational policy (ibid.). For instance, a Times of India (TOI) article reads: „Pearson brings virtual international education to India".[313] One might ask, *if virtual western, American education is suitable for learning in India?*

Menashy/Shields (2017) are examining aid in international relations via network analysis (see Vollmer 2019b). In addition, critical feedback from an informal Indo-German discussion pointed out to the following aspects: the conditions for international cooperation are not equal for participants from the so-called global north or the so-called global south. There is the dimension of inequality, processes of giving and taking are not in balance between the participants. Further, there is the dimension of cultural discrimination: *how does the other person see me, what is he seeing? How is communicative addressing happening?* Then there is the dimension of international economic intervention and policy transfer. International organisations largely define the agenda for educational practice in contexts of the so-called global south. There are power laden relationships between international organisations and national organisations, manifesting social inequality.

On educational assessment

Gingras (2016) examines the growing trend of ranking and evaluation in the realm of higher education, its conceptualisations and consequences. Based on the economical idea of New Public Management, "teachers, professors, researchers, training programmes, and universities" (ibid.: vii) are examined by quantitative approaches. There is a manifold set of „indicators of *excellence* and *quality*" [ibid.; T.V.: Accentuation in Italic letters as in original]. The problem is that these „terms [are; T.V.] often used with little concern for their exact meaning and

[313] http://timesofindia.indiatimes.com/home/education/news/pearson-brings-virtual-international-education-to-india/articleshow/60732817.cms?from=mdr [03.10.2017].

validity" (ibid.). Gingras points out to the problem of objectivity when he says: „indicators that are considered an 'objective' measure of the value of research results" (ibid) and that shall „replace the more 'subjective' evaluations" (ibid). The author points out to „shortcomings" (ibid.) and „perverse effects (…) on the dynamics of scientific research" (ibid.).

However, Gingras (2016) sees advantages in the fact that they are (1) enabling insights „beyond local and anecdotal perceptions" (ibid: 90), and (2) that they „map comprehensively the state of research" (ibid.), and lastly (3) that they „identify trends at different levels (regional, national, and global)" (ibid.). The author states that measurement and ranking have become globally widespread ideas that are used as a basis for decision making in educational practice, organizations, e.g. universities and schools. The decision for and the practice of assessment tools are influenced „by political and strategic reasons" (ibid.: 89). The outbreak of a "bibliometric fever" (Gingras 2016: viiii) in the late 20th century is still in full play. Interviewees spoke of a *testing disease* and raised critical concerns. In fact, worldwide there is a critical discussion on measurement and ranking (see Clemens 2009a; Gingras 2016). International Large-Scale Assessments (ILSA) have an impact on the notion of education in local contexts (Addey/Sellar 2017). They feed the ideology of testing and measurement and the idea that education is measurable and comparable (ibid.). Do we have a process of OECD-*fication* (e.g., Niemann/Martens 2018) of the world?

Radtke (2003, 2006, 2015) has a critical view on PISA and the corresponding educational reforms in Germany. For him PISA is an ideology of efficiency and effectiveness. Datta (2004: 13) questions the suitability of international comparisons of student achievements. For him, the aspect of enrolment in a school is a crucial drawback. The author asks, how meaningful and reliable the collected PISA data from contexts of the global south is in view of students, that have no access to school or that are drop outs of school. Secondly, he asks, how comparable countries of the EU are amongst themselves and amongst other nations on the global level. Lastly, he questions the possibility of integrating countries of the global south in the PISA study given that they are often failing in providing universal elementary school education on a daily basis. In this regard, recent literature and also experts in the conducted interviews state, that enrolment is reached to a certain extent, and the focus is set now on the quality of education. This applies to international and national education policy (Govinda/Sedwal 2017). However, a comparison remains to be difficult (see Steiner-Khamsi, 2015; Parreira do Amaral 2015; as discussed in chapter 4).

Münch (2009: 29) examines PISA as an example for the underlying transformation process in which national education systems get influenced and displaced by international agencies.

The author argues, that due to neoliberal forces and therewith correlated transformation processes, the traditional understanding of education, „Bildung as cultural asset and expertise" (Münch 2009: 90; T.V.: translation) has been substituted by the notion of human capital, „Bildung as competence and human capital" (ibid.). National education elites lose their status and influence, whereas „a new transnationally organized knowledge elite trained in scientific methods" (ibid.: 90; T.V.: translation) takes profit and gains power. He describes the OECD as a key node of an education policy network:

> "In particular in view of the OECD, spontaneous, loose, and fragile contacts of educationists developed into durable, close meshed and stable networks, that have much greater penetrating power and perseverance in the development, diffusion and implementation of guiding ideas. The OECD is crystallization point of these activities." (Münch 2009: 32; T.V.: translation)

Münch sees the emergence of a regime of elite of experts, and the OECD as an institutional basis:

> "In this way they function as dispositives of power of a global science regime, they illustrate the development of a monopol of the legitimate definition of education through a global research elite. The institutional basis for this is in the case of PISA the OECD." (Münch 2009: 32; T.V.: translation)

The global knowledge elite builds an alliance with the global economic elite. Based on these linkages, new transnational networks emerge, consisting of educational experts, institutions, and paradigms. They support the shift of power and they influence national education policy, for example in advising NPM:

> „This shift of the symbolic power has been pushed by the development, closer-knitted interconnection and stabilization of transnational networks of actors (educationists), institutions (OECD, EU) and paradigms. In doing so, a self-reinforcing, its own basis of existence producing process has been started, that aligns the structures of legitimation and expectation according to the new paradigm, while the practice of New Public Management ensures, that the new guiding principles are implemented in the national education systems, so that through equivalent socialization processes finally a customized client base emerges." (Münch 2009: 90f; T.V.: translation).

A consequence of these transformation processes is the emergence of hybrids, that „satisfy neither the old requirements, nor yet the new ones" (Münch 2009: 91; T.V.: translation). Münch sees a possible development in the homogenization of educational governance and practices. He states „[i]n the light of world culture, the national development trajectories lose their legitimacy *and* efficiency" (Münch 2009: 91; T.V.: translation; accentuation in Italic letters as in the original). These recent developments pave the path for a transformation of education policy and practice according to the role model of PISA. Though the hybrid state of educational institutions may continue, sooner or later, the PISA model will take over. In bringing together

the observation of transnationalization of education with network analysis, Hartong/Schwabe (2013) take the work by Münch (2009, 2012) and Münch/Bernhard (2011) further. The authors state, that network analysis is not able to do justice on dynamic processes. However, with White's (2008) cultural turn, I argue that this is possible (see chapter 4, 5).[314]

Hartong (2012) mentions, that an engagement with or a discussion of the PISA-study often happens only after to an experienced *PISA Shock*. The author names the influence of international actors, role model countries – „Vorbildländer[]" (Hartong 2012: 11) –, the alignment of national education systems to one model and the economization of education – accountability, New Public Management – as consequences of PISA. With their title „League tables in educational evidence-based policymaking: can we stop the horse race, please?", Klemenčič /Mirazchiyski (2018) point out to the pressure of PISA on national governments. Even Klieme (2018) [315], former responsible for PISA in Germany, criticises the PISA process and its influence in educational policy. Klieme suggests *using PISA in a responsible manner* with the purpose of the betterment of education quality. However, earlier he was a strong supporter of the PISA study (see Klieme 2011 and Klieme/Teltemann 2016). In the OECD Education Podcast, episode 19, Schleicher in conversation with Aaron Benavot and Yong Zhao, are critically discussing PISA and its impact on the international education landscape.[316]

Biesta (2010, 2011, 2015) raises a strong critique on evidence based educational research. Biesta searches for a different approach to quality education, as he puts it "good education" (e.g., Biesta 2010). Though Biesta's intention is noteworthy, the term *good education* is problematic. *Good education - what is it, what does it mean? Is there only one concept of good education that is applicable for each context?* Considering postcolonial theory perspectives, the assumption of one concept of good education that is globally applicable is to be denied (see Clemens/Biwas 2019). D'Agnese (2015) raises the question of power and new colonialism in the context of PISA. Adler-Nissen (2014) works for example on the phenomenon of shaming and stigma management in view of implementation processes of global norms.

[314] Further attempts to connect Field-Theory with social network analysis by Verger et al. (2016) and Wieczorek et al. (2020), see chapter 5).
[315] Source: https://www.zeit.de/2018/07/pisa-studie-oecd-politik-eckhard-klieme and https://www.zeit.de/gesellschaft/schule/2018-02/bildungspolitik-pisa-studien-daten-oecd-kritik [26.05.2022].
[316] OECD TopClass Podcast, Episode 19: What is PISA's role in global education? A conversation, now renamed as "OECD Education Podcast", https://soundcloud.com/oecdtopclasspodcast/what-is-pisas-role-in-global-education-a-conversation [31.05.2022].

On the theoretical concepts and methodology of the study

The analysis showed that OECD's PISA-people gained *footing* in India by drawing on existing connections and networks between local and international organisations, such as Indian government and quasi-government bodies, ACER, and the World Bank. These connections and networks had been quite *heterogenous* in nature and were *overlapping* with other subnetworks, as experts in assessment, as well as assessment concepts and tools were transferred from one institution or organisation to another.

The description of one interviewed expert of the appearance of the OECD before and during the international conference in Udaipur in 2009 sheds light on how *events* influence the direction of processes. In the thinking of Callon and Latour, this conference can be considered as OPP[317], as it was afterwards that the OECD had been frequently present at other events of the Indian government. In the thinking of Harrison White, however, the behaviour of the OECD can be read with the concepts of *struggling for control* and *footing*. It would be interesting to investigate further, who of the participating individuals – educational consultants, government officials or even educationists – acted in favour or against the OECD PISA people and if there had been positions of *mediators* (Godart/White 2010: 572).

Experts shared descriptions on some of the participating groups. For instance, educational consultants where seen as *gatekeeper* between international agencies and state bodies. National bureaucrats on the other side try to *hold space* for educational consultants, there will be *receptive voices*. The group of educational consultants is considered as *influential* and difficult to be regulated. The interactions between educational consultants and government officials can be related to the concepts of *footing and struggling for control* by White (2008).

Another expert pointed out to the fact that development partners needed to be *onboarded* to the project. Considering the socio-cultural context (informal laws) of national and international bureaucracy, this procedure seemed like a *dance of negotiation*. This can be again well connected to the concept of *struggling for control* (White 2008).

While analysing the many different perspectives shared by the interviewed experts, differences became visible. Their knowledge depended on their positioning at a specific level – international, national or local – and their belonging to specific groups or organisations. (Former) Government officials that worked at the state level shared that *they do not have any insights on processes that happen at the national level*. As policy matters are discussed and decided at the national level, they claimed to have no knowledge on the process of India joining

[317] OPP stands for the concept of obligatory passage points, see the approach of translation, discussed in chapter 4.

PISA. Educationists at times had *no access* to the knowledge of national state, private or international organisations, and hence had *no detailed knowledge* about the processes that led to India's participation in PISA 2009 Plus. Between them and the organisations in charge of PISA, *there had not been any connection*. In White's terms we could speak of *structural holes* that existed between them and the assessment organisations. Stories on how India joined the PISA 2009 Plus project vary amongst the collected data. Sometimes they even stand opposite to each other.

According to Clemens (2015: 367ff), being able to access a variety of different networks and to connect with others is a competence that is becoming more and more important in the current conditions of globalisation and heterogeneity. Finding *footing* in new networks – being able to include oneself – and navigating (*switching*) through different kinds of networks enlarges the scope of action for an individual or for collectives. *Connectivity* to all kind of resources – people, knowledge, material things – and *embeddedness* in manifold relationships is key for being successful or surviving. The leading question of this study – how did it come that India joined PISA – can be seen as *a process of finding access to new networks and embeddedness in the international educational assessment community*.

An example for the role of things in the process of India joining PISA 2009 Plus is the MoU between the OECD and the Indian government. The MoU did set the foundation for India's participation in PISA 2009 Plus. The document tied the OECD and the Indian government together, as well as subsequent all the other organisations, human beings and things – for instance, money, manuals, and test booklets – that were involved in the test planning and administration process. The statement of one interviewed expert indicates to the fact that the MoU had different meaning for the partners it tied together. The MoU brought positions of different influence (inequality) without taking up measurements to deal with this inequality. The example of the MoU can be connected to the approach of *relational materialism* (Haraway 1988).

The concept of *trading zones* had been fruitful. For future research processes it is interesting to investigate the economic and political dimension of the concept more. And furthermore, the notion of action and agency that is implied in Galison's concept. Another question is, *can the concept of trading zones be easily transferred to the discipline of educational studies? Which kind of implications are connected to these transmission processes?* This study makes reference to the work of Raina (2016). Raina (2016) argues against the understanding that ideas diffuse from one point A to another point B. Instead, he holds that innovations occur independently at different time points and places. Both ideas are based on the idea that innovation occurs context-

dependent. The perspective by Galison and Raina differs from the perspective of scholars of neo-institutionalism (see e.g., Czarniawska/ Sevón 2005), and links up with the critique of Krücken (2005). Instead of focusing only on sender and receiver, the study aimed to integrate in the analysis as much different nodes of influence as possible. The concept of trading zones in combination with the approach of Harrison White is important as it lays the focus on the relations between the different nodes, on processes and spaces, and on processes of negotiation that are happening in these epistemic spaces.

In order to overcome the rigidness of building categories within the method of qualitative content analysis, I added the perspective of educational relational ethnography. Three aspects were here of importance. Firstly, the practice of free association – *thinking outside of the box* – looking for images and patterns and lastly being sensitive for postcolonial theory perspectives. This brought me closer to the goal of looking for multiple stories and perspectives, as introduced earlier by referring to the two examples of contemporary literature.

Another methodological idea had been to bring the different perspectives and single network maps together in one synopsis map, and by doing so gain a kind of birds-eye-view on what had happened in the process of India taking part in PISA. This had been a challenge, but it brought clarity to the process. I tried to depict two different circulation routes together in one map (see Figure 29). This map shows the standard story of OECD approaching India, and ACER conducting the study together with the body of NCERT. But it also depicts an alternative story, that was shared by one interviewee. Here, it has been the World Bank that circumvented the education ministry and lobbied at state level to get the two states Himachal Pradesh and Tamil Nadu into PISA. As mentioned earlier in my thesis, it is important to be critical about the postulated synopsis map. The map merges different stories conveyed in the data material. It shows my perspective, which is one reading of the process of India joining PISA 2009 Plus. It is of temporary validity. Other readings of the processes are possible. Further, being attentive for ruptures and contrary statements within the data material is necessary, as well as being critical about the collected stories: I did come across some, though others remain unseen. Nevertheless, the synopsis helped getting an overview over the processes, systematizing different perspectives, and finding communalities and differences between them.

The presentation of the findings by using network maps is contestable. However, I argue that this proceeding had helped me gaining a deeper understanding of the assessment landscape in India and the processes that led to the decision of taking part in OECD's PISA. It points out to think about network research anew. For instance, by using network visualisation as a tool for the analysis. A credited issue is that the reader gets lost in understanding the presentation of the

findings. Firstly, because there are so many different nodes. Secondly, quite often they changed their names or formations. Further, a summary, systematization, and comparison of the single cases, and therefore elaborations on underlying social structures and patterns are missing. One may acknowledge however, that the maps are hardly comparable because both, the nodes of influence as well as their positioning are changing from case-to-case resp. from network map to network map. But in the various documents I read and in the various encounters with experts that I had, many different stories were told, bringing different nodes of influence, processes, and aspects to the forefront of consideration. The conscious choice of mine to work and present the data in a data-driven manner has the charm, that the diversity of the different perspectives and their situatedness can be seen and that by doing so, it showed that in fact multiple processes lead to India's participation in PISA 2009 Plus. Secondly, what is considered as being in the centre or at the periphery of the story varied with the perspective of the storyteller. While pondering over the interviews and documents, and looking at the corresponding network maps, I saw the nodes of influence in motion. I identified cluster of different nodes of influence and traced their dynamic changes to other cluster or (sub-)networks. The function of the visualization had been to map out the various nodes of influences and linkages, to get an idea of who or what is in the field and how they are linked together. Secondly, to become aware of the level and positioning from which the storyteller is rolling out his perspective on the research question. A person that works at the state level, has a different viewpoint and differing connections to other nodes of influence than as a person that works at the central level. That the networks of government bodies and government-related bodies – such as the Government of India, the education ministry, or the NCERT – are highly hierarchical in their bureaucratic organisation, and that the organisation ACER run its engagement in India cross-sectionally along the different hierarchical levels of Indian state bureaucracy, are insights, that I would not have gained without the network visualisation. Drawing free hand network maps has been an important step in the analysis. It helped to consider statements and perspectives conveyed in documents and interviews in juxtaposition and as equal, and to cross-check statements. Another gain has been to move away from the focus on interpreting transcripts of interviews with behalf of content analysis, and instead move towards structuring and illustrating topics and cases. Furthermore, to realise the step of not looking only on individuals and their perspectives, but to bring different perspectives together and to highlight their underlying relationality. Thus, network maps offer the possibilities to structure and illustrate the data material, to reduce and to condense statements to a thesis. I aimed at comparing the stories told in documents and interviews and visualized in network maps – however, couldn't achieve this goal to the reader's

satisfaction. I raise two critical points in the following. Firstly, most of the network maps depict one point in time. The network map on UNICEF's embeddedness, however, combines multiple points in times (see Figure 11). This had been an experiment to visualize different points in times in one map (which is unusual in network visualization) and by doing so shedding light on the close-meshed and historically developed embeddedness of UNICEF's engagement in India. Secondly, looking at the network maps with distance and with the idea to find communalities and differences, I feel that in the (inter-)national private sector (on the left side of the maps) a lot is going on – there is movement amongst the nodes of influence, and there is the emergence of new network formations – whereas the network of government and government-related bodies (on the right side of the maps) appears to be static in nature, with less – visible – change. Of course, in the complex socio-material reality, as I point out elsewhere, there is an indefinite number of subnetworks. These networks are not existing juxtaposed to another, rather they are intertwined and linked up with other subnetworks in manifold ways. As the private sector is changing, so is the constellation of the public sector. Furthermore, as my and recent research showed, both are intertwined (see for instance the work of Stephen Ball). Whereas in my visualisation the OECD and the MHRD are positioned far away from each other, current pictures in the realm of social media show the opposite. Here, for instance, a meeting between the OECD, the World Bank, the Indian education minister as well as officials from the education ministry is publicly shared in social media, announcing that India will take part in PISA again.[318] Further, in the data material it was mentioned that for the purpose of project planning and administration of PISA, a World Bank official literally *sat in the building* of NCERT.

A problem that I see is, that the network maps convey my perspective of the processes conveyed in documents or interviews. Due to time constraints, it was not possible to cross-check the network visualisation with the corresponding interviewees or publishers of documents. This, however, would have enhanced my understanding and would have helped to further reach the goal of doing postcolonial-sensitive research.

From the development of the analytical framework for this study and based on my reading on postcolonial theory perspectives (Bhambra 2014; Castro Varela / Dhawan 2020; Clemens 2020, 2021; Kerner 2017; Woldegiorgis 2020; Woldegiorgis et al. 2021; Raina 2016), I gained four insights. Firstly, it is possible to combine network theory and qualitative content analysis. Secondly, methods that have been developed in one context cannot be transferred to another

[318] Vollmer, Theresa (2020): Screenshots of MHRD's facebook presence: MHRD announces meetings with Andreas Schleicher and India's new participation in OECD's PISA, retreived from: Facebook.com [10.02.2020].

context without any modification. Thirdly, the decolonisation of knowledge and research encompasses theory, research design, methods of data collection, tools of analysis and the presentation of findings. Fourthly, it is helpful and necessary to build heterogenous interpreting groups in order to discuss the data material.

8. Conclusion

Educational assessment and testing are common practices and have a history in the Indian context. Even before the Indian education ministry resp. the Indian government decided to take part in the PISA 2009 Plus project, it had developed its own national testing tool with the National Achievement Survey by the quasi-governmental body NCERT. Besides governmental nationwide- and state-conducted tests, there are more and more private organisations engaged in educational testing, as for instance Pratham's ASER or the organisation APF. In the story of how it came that India took part in the PISA 2009 Plus project, not only the two partners the OECD and the Indian education ministry resp. the Indian government played a role as sender and respectively receiver. Rather many different Indian and international bodies were involved with their own interests. Many experts shared their stories and perspectives. There is a standard story about the how of this transmission process but there are also stories that are differing from this standard story. Thus, pointing out to different ways of knowledge flows, be they hierarchical, or cross-sectional to hierarchical structures. Key nodes of influence and their various socio-material linkages have been analysed and highlighted in l network maps via the method approach of network theory and visual network theory.

Chapter 2 looked into relevant policy documents, assessment tools and assessment agencies. The description of the educational assessment landscape in India in chapter 2 showed, how international educational policy – in particular UNESCO's programme *Education for All* and the focus on providing quality in education in SDG4 – influences the conceptualisation of educational policies and programmes on local grounds. Chapter 2 also showed that international financial aid for educational programmes and the assessment of the success and effectiveness of these educational programmes are linked together. It became visible that quality and educational assessment are intertwined in the idea of enhancing quality of education through (large-scale) assessment.

The literature review in chapter 3 gave firstly an overview on the discussion of the concept of quality amongst the Indian educational scientific community. Secondly, it gave an outline on research groups currently working on the spread of the OECD PISA study and rationales on a participation in the PISA study. These were mostly scholars from the so-called global north. Lastly, the literature review gave an overview on selected approaches to study the flows of knowledge. Here, researchers were cited from different contexts, including contexts from the so-called global south. Chapter 4 outlined the theoretical framework, discussing different approaches on knowledge flows in detail and bringing in network theory according to White (2008) as alternative approach. In chapter 5 the methodological framework had been displayed.

By *combining network theory, with qualitative social research and with educational relational ethnography*, as well as *with insights of new materialism (STS)*, and with *postcolonial theory perspectives* this study aims to contribute to the development of network theory and network methodology.

Chapter 6 presented the steps of analysis of the different materials, small preliminary findings on the embeddedness of nodes in the educational assessment landscape in India as well as core findings on India's participation in PISA 2009 Plus Project. From a bird's-eye view, it is not sufficient to say that India joined PISA either only because of the *forceful persuasion by OECD*, or only because of the *successful lobbying by private players*, e.g., World Bank, or the *recommendation by knowledgeable assessment experts*, as e.g., ACER (see Mendelovits 2009, Turner 2010). Rather, there have been happening *multiple simultaneous processes*, where different organisations, people, things, and events came together for exchanging ideas, discussing upon strategies, and finalizing proceedings. Further, the analysis showed that OECD's PISA-people gained *footing in India* by drawing on existing connections and networks between local and international organisations, such as Indian government and quasi-government bodies, ACER, and the World Bank. These connections and networks had been quite heterogenous in nature and were overlapping with other subnetworks, as experts in assessment, as well as assessment concepts and tools were transferred from one institution or organisation to another. *PISA came in through several organized and informal meetings*. Several workshops, round tables, and informal meetings etc. have been held. Different organizations, and human beings have been involved, by providing funding, technical expertise, know-how, capacity building workshops, and other things and events more.

The results were finally discussed in chapter 7. Here, an additional reading of the process of India joining PISA has been mentioned. This process can be seen as *a process of finding access to new networks and embeddedness in the international educational assessment community* (as based on Clemens 2015: 367ff).

The study is complex in its research design. The design had been developed to look at the process of India joining PISA differently, and to make a contribution to the theory and methodological development of network theory, and lastly, to integrate postcolonial theory perspectives at every layer of research. It points out to think about network research anew, for instance, by using network visualisation as a tool for the analysis. The study also thought to re-think the relation between human beings and things. But this stays for ongoing research processes. For instance, in future research processes, the question on how things influence other things is of interest. But this question could not be considered here, because of time constraints.

A limitation had been that the collection and analysis of regional newspapers and small magazines, e.g., The Hindu for Tamil Nadu could not be included in the research data due time and other resource constraints. Likewise, the realm of social media data, e.g. tweets on twitter could not be included for the same reasons. For ongoing research it would be interesting to examine communication flows between different nodes of influence – big international organisations, independent researchers and practitioners in the field of educational assessment – within social media channels, such as twitter, facebook, Instagram and blog posts.

Another interesting field of research is the question about transformations in local context due to globalisation processes. *What kind of transformations are becoming visible in the Indian educational sector that can be related to the participation in OECD's PISA? Which role do networks play in the area of organisational change, or in view of educational policy making processes?* More knowledge is needed on the role of the OECD in India. More knowledge is needed on the linkages between OECD and charity actors such as foundations or corporates.

Apart from that a comparison of different local quasi-governmental, private and international assessment-tools is interesting. This is however difficult and challenging (see Oza/Bethell 2013: 19). Criteria of comparison might be according to Oza/Bethell (2013) the production of PR materials, the media coverage, the staff, and the financial support (e.g., by Government or private agencies), and the availability of other resources.

More studies are needed on other PISA 2009 Plus participants: *How did they deal with PISA 2009 Plus? What kind of similarities or differences are there? What kind of development for each participant? Who for instance did become an OECD member over the course of the last years?* In further research projects, it would be interesting to look at other countries and economies that participated in PISA 2009 Plus and investigate how the process of agreeing to the test and the administration of the test had been rolled out there. Furthermore, a study that looks into the connections of India's PISA experience and the planning and implementation of the subsequent side project of OECD PISA for Development would be interesting (see Addey/Gorur 2020, 2021).

The starting point of this project had been the spread of the OECD PISA study to contexts of the so-called global south. During the research process this tenet of a one way flow of educational ideas had been argued against. The strength of the study lies in the idea to not take the OECD as centre – as the group around Camilla Addey does (see Addey/Gorur 2021) – but the relations among the different nodes of influence, human beings, organisations, and non-human beings alike. From the analysis of India's participation in PISA, one learns something about *how PISA is seen and discussed in other contexts*.

The transmission of local test concepts from India to other contexts in the global south, as prominently Pratham's ASER, but also the transfer of the MGML-method to other contexts, even to contexts in Germany (see Girg/Müller 2010; Lichtinger et al. 2012; Lichtinger 2018), are all interesting phenomena that should be researched on in ongoing research processes.

Lastly, to look at the bigger picture, the suggested approach helps in problematising capacity building endeavours as well as financial aid in contexts of the so-called global south by big international organisations. This means being critical about standard stories of collaboration on an equal footing and instead look closely at unequal flows of knowledge.

References

ACER (2011): *International Developments,* 1.

ACER (2012): *International Developments,* 2.

ACER (2013): *International Developments,* 3.

ACER (2014): *International Developments,* 4.

ACER (2015): *International Developments,* 5.

ACER (2016): *International Developments,* 6.

ACER (2017): *International Developments,* 7.

ACER (2018): *International Developments,* 8.

ACER (2021): *International Developments,* 10.

Acharya, A. (2004): How Ideas Spread: Whose Norms Matter? Norm Localization and Institutional Change in Asian Regionalism. In: *International Organization*, 58, 2, 239-275.

Acharya, A. (2016): 'Idea-shift': how ideas from the rest are reshaping global order. In: *Third World Quarterly*, 37, 7, 1156-1170.

Adams, J./ Santos, T. /Williams V. (2020): Strategies for collecting social network data. Overview, assessment, and Ethics. In: Light, R. / Moody, J. (Eds.): The Oxford Handbook of Social Networks, New York: Oxford University Press, 119-136.

Adamson, B. / Forestier, K. / Morris, P. / Han, Ch. (2017): PISA, policymaking and political pantomime: education policy referencing between England and Hong Kong. In: *Comparative Education*, 53, 2, 192-208.

Addey, C. (2017): Golden Relics & Historical Standards: How the OECD is expanding global education governance through PISA for Development. In: *Critical Studies in Education*, 58, 3, 311-325.

Addey, C. (2018a): The Assessment Culture of International Organizations: „From Philosophical Doubt to Statistical Certainty" through the Appearance and Growth of International Large-scale Assessments. In: Alarcón, C. / Lawn, M. (Eds): Assessment Cultures. Historical Perspectives, Berlin: Peter Lang, 379-408.

Addey, C. (2018b): Assembling Literacy as Global: the Danger of a single Story. In: Milana, M. / Webb, S. / Holford, J. / Waller, R. / Jarvis, P. (Eds.): The Palgrave International Handbook on Adult and Lifelong Education and Learning, London: Palgrave Macmillan, 315-335.

Addey, C. (2019): Researching inside the international testing machine: PISA parties, midnight emails and red shoes. In: Maddox, B. (Ed.): International Large-Scale Assessment in Education. Insider Research Perspectives, London: Bloomsbury Academic, 13-29.

Addey, C. /Sellar, S. (2017): A framework for analyzing the multiple rationales for participating in international large-scale assessments. In: Addey, C./Sellar, S./Steiner-Khamsi, G./Lingard, B./Verger, A. (2017): The rise of international large-scale assessments and rationales for participation. In: *Compare*, 47, 3, 434-443.

Addey, C. / Sellar, S. (2018): Why Do Countries Participate in PISA? Understanding the Role of International Large-Scale Assessments in Global Education Policy. In: Verger, A. / Altinyelken, H. K., Novelli, M. (Eds.): *Global Education Policy and International Development: New Agendas, Issues and Policies*, 97, London: Bloomsbury Adacdemic, 2nd ed, 97-117.

Addey, C. /Sellar, S. (2019): Is it worth it? Rationales for (Non)participation in international large-scale learning assessments. Education Research and Foresight Working Papers Series, No. 24. Paris, UNESCO.

Addey, C. /Gorur, R. (2020): Translating PISA, translating the world. In: *Comparative Education*, 1-18.

Addey, C. /Gorur, R. (2021): Capacity building as the 'Third Translation': The story of PISA-D in Cambodia. In: Grek, S./ Maroy, C. / Verger, A. (Eds): World Yearbook of Education 2021. Accountability and Datafication in the Governance of Education, Abingdon; New York: Routledge, 94-109.

Adler-Nissen, R. (2008): The Diplomacy of Opting Out: A Bourdieudian Approach to National Integration Strategies. In: *Journal of Common Market Studies (JCMS)*, 46, 3, 663–684.

Adler-Nissen, R. (2014): Stigma Management in International Relations: Transgressive identities, norms, and Order in international society, In: *International Organization*, 68, winter, 143-76.

Agnihotri, V./ Shukla, N./ Bhandari, A. (2009): The Potential of Assessment in Science. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 12, 27-30.

Agrawal, M. et al. (2006): Changing the Typology of Questions in Examinations. In: *Journal of Indian Education*, 31, 4, 40-52.

Ahuja, A./Arora, R. (2006): An Interview with Prof. Yash Pal, Chairperson, National Steering Committee for NCF-2005. In: *Journal of Indian Education*, 31,4, 7-13.

Albrecht, S. (2010): Knoten im Netzwerk. In: Stegbauer, C./Häußling, R. (Hg.): Handbuch Netzwerkforschung, (Netzwerkforschung, 4), Wiesbaden: VS Verl. für Sozialwiss.,125-134.

Alkaher, I. & Gan, D. (2020): The role of school partnerships in promoting education for sustainability and social capital. In: *The Journal of Environmental Education*, 51, 6, 416-433.

Allan, J./ Artiles, A. J. (Eds.) (2017): World Yearbook of Education. Assessment Inequalities, (World Yearbook of Education Series), London; New York: Routledge.

Amit, V. (2004): Constructing the Field. Ethnographic Fieldwork in the Contemporary World, London; New York: Routledge.

Amos, S. K. (2015): Theorien der Vergleichenden Erziehungswissenschaft. In: Parreira do Amaral, M./Amos, S.K. (Eds).: Internationale und Vergleichende Erziehungswissenschaft. Geschichte, Theorie, Methode und Forschungsfelder, (New frontiers in comparative education, 2), Münster: Waxmann, 59-77.

Andersen, W.K. / Damle, S.D. (2018): 'Indianizing Education'. In: Andersen, W.K. / Damle, S.D.: The RSS. A View to the Inside. New Delhi: Penguin Viking, 63-76.

Anitha, B.K. (2005): Quality and the Social Context of Rural Schools. In: *Contemporary Education Dialogue*, 3,1, 28-60.

Appadurai, A. (1986): The Social Life of Things. Commodities in cultural perspective. London et al.: Cambridge University Press.

Appadurai, A. (1996): Modernity At Large: Cultural Dimensions of Globalization, (Public Worlds, V. 1), Minneapolis; London: University of Minnesota Press.

ASER centre (2017): Annual Status of Education Report (rural) 2016, New Delhi: ASER centre, http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%202016/aser_2016.pdf , [26.05.2022].

Asim, S. / Chase, R.S./ Dar, A. / Schmillen, A. (2015): Improving education outcomes in South Asia: findings from a decade of impact evaluations, (Policy Research working paper, WPS 7362, Impact Evaluation series), Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/254411468188375892/Improving-education-outcomes-in-South-Asia-findings-from-a-decade-of-impact-evaluations [03.08.2018].

Au, W./Lubienski, Ch. (2016): The Role of the Gates Foundation and the Philanthropic Sector in Shaping the Emerging Education Market. Lessons from the US on Privatization of Schools and Education Governance. In: Verger, A./Lubienski, C./Steiner-Khamsi, G.: World Yearbook of Education 2016. The Global Education Industry, Abingdon; New York: Routledge, 27-43.

Auernheimer, G. (2015): Indien – Global Player in der IT-Branche. In: Ders.: Dimensionen der Globalisierung. Eine Einführung, Schwalbach/Ts.: Wochenschau Verlag, 186-198.

Bal, M: (2002): Travelling Concepts in the Humanities: A rough Guide, Toronto; Buffalo; London: University of Toronto Press.

Ball, S.J. (2008): New Philanthropy, New Networks and New Governance in Education. In: *Political Studies*, 56, 747–765.

Ball, S. J. (2012): Policy as profit. Selling and exporting policy. In: Ball, S. J.: Global Education Inc. New Policy Networks and the Neoliberal Imaginary, Abingdon; New York: Routledge, 93-115.

Ball, S.J. (2016): Following policy: networks, network ethnography and education policy mobilities, in: *Journal of Education Policy*, 31, 5, 549-566.

Ball, S.J. /Junemann, C. (2012): Networks, New Governance and Education, Bristol: Policy Press.

Ball, S. J. / Avelar, M. / Nikita, D.P. (2018): Education Policy Networks and Spaces of 'Meetingsness': A Network Ethnography of a Brazilian Seminar. In: Verger, A. / Novelli, M. / Altinyelken, H. K. (Eds.): Global Education Policy and International Development. New Agendas, Issues and Policies, 2nd ed., London et al.: Bloomsbury, 55-74.

Banerjee, A. V./ Duflo, E. (2011): Top of the Class, In: Dies.: Poor economics. A radical rethinking of the way to fight global poverty, 1. ed., New York, NY: PublicAffairs, 71-101.

Barad, K. (2007): Meeting the Universe Halfway. Quantum Physics and the Entanglement of Matter and Meaning, Durham; London: Duke University Press.

Batra, P. (2006): Building on the National Curriculum Framework to Enable the Agency of Teachers. In: *Contemporary Education Dialogue*, 4, 1, 88-118.

Basu, M. (2006): Negotiation Aid: World Bank and Primary Education in India, In: *Contemporary Education Dialogue*, 3, 2, 133-154.

Bauer, S. / Heinemann, T. / Lemke, T. (2020): Einleitung. In: Dies. (Hrsg.): Science and Technology Studies. Klassische Positionen und aktuelle Perspektiven, Frankfurt a.M.: Suhrkamp, 2. Aufl., 7-40.

Beck, U. (2000): What is Globalization? (Translation by Patrick Camiller), Cambridge (UK); Malden (USA): Polity Press.

Behrends, A./ Park, S.-J./Rottenburg, R. (Eds) (2014): Travelling Models in African Conflict Management. Translating technologies of social ordering. Leiden and Boston: Brill.

Beichel, J. / Fees, K. (Hrsg.) (2007): Bildung oder outcome? Leitideen der standardisierten Schule im Diskurs, München: Centaurus Verlag & Media UG.

Bejarano, C.A. / Juarez, L.L. / Mijangos Garcia, M.A. / Goldstein, D.M. (2019): Decolonizing Ethnopgraphy. Undocumented Immmigrants and New Directions in Social Science, Durham; London: Duke University Press.

Beisenherz, H.G. (2000): Kinderarmut global und lokal: Armut als Exklusionsrisiko, in: Butterwegge, C. (2000) (Hrsg.): Kinderarmut in Deutschland. Ursachen, Erscheinungsformen und Gegenmaßnahmen, Frankfurt/New York: Campus Verlag, 78-95.

Bernhard, S. (2008): Netzwerkanalyse und Feldtheorie – Grundriss einer Integration im Rahmen von Bourdieus Sozialtheorie. In: Stegbauer, Ch.: Netzwerkanalyse und Netzwerktheorie. Ein neues Paradigma in den Sozialwissenschaften, (Netzwerkforschung Band 1), Wiesbaden: VS- Verlag, 121-130.

Bernhard, S./ Münch, R. (2011): Die Hegemonie des Neoliberalismus. Ein gesellschaftstheoretischer Erklärungsansatz. In: *Sociologia Internationalis*, 49, 2, 165-197, https://ejournals.duncker-humblot.de/doi/abs/10.3790/sint.49.2.165 [Zugriff: 22.06.2018].

Bernhard, S. (2012): Forschungspragmatische Überlegungen zu einer feldtheoretischen Netzwerkanalyse. In: Hennig, M. /Stegbauer, Ch. (Hrsg.): Die Integration von Theorie und Methode in der Netzwerkforschung, Wiesbaden: Springer VS, 117-132.

Bernhard, S. (2014): Identitätskonstruktionen in narrativen Interviews. Ein Operationalisierungsvorschlag im Anschluss an die relationale Netzwerktheorie. In: *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 15, 3, 1-17.

Bernhard, S. (2018): Analyzing Meaning-Making in Network Ties – A Qualitative Approach. In: *International Journal of Qualitative Methods*, 17, 1-11.

Berkemeyer, N. / Bos, W. (2010): Netzwerke als Gegenstand erziehunsgwissenschaftlicher Forschung, In: Stegbauer, Ch. /Häußling, R.: Handbuch Netzwerkforschung, (Netzwerkforschung Band 4), Wiesbaden: VS Verlag, 755-770.

Beteille, T. / Deolalikar, A. B. / Dundar, H. / Riboud, M. (2014): Student learning in South Asia: challenges, opportunities, and policy priorities, Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/554381468294334286/Student-learning-in-South-Asia-challenges-opportunities-and-policy-priorities [03.08.2018]

Bhambra, G. K. (2014): Postcolonial and decolonial dialogues. In: Postcolonial Studies, 17, 2, 115-121.

Bieber, T./Martens, K. (2011): The OECD PISA Study as a Soft Power in Education? Lessons from Switzerland and the US. In: *European Journal of Education*, 46, 1, 1, 101-106.

Biesta, G. (2010): Good Education in an Age of Measurement, London: Paradigm Publishers.

Biesta, G. (2011): Warum „What works" nicht funktioniert: Evidenzbasierte pädagogische Praxis und das Demokratiedefizit der Bildungsforschung, in: Bellmann, J./Müller, T. (Hrsg.): Wissen was wirkt. Kritik evidenzbasierter Pädagogik, Wiesbaden: VS-Verlag, 95-121.

Biesta, G. (2015): Resisting the seduction of the global education measurement industry: notes on the social psychology of PISA, in: Ethics and Education, 10,3, 348-360.

BJP (2014): BJP Election Manifesto 2014, https://issuu.com/sukanyaray5/docs/bjp_2014_manifesto [20.12.2019]

Bloem, S. (2013): PISA in Low and Middle Income Countries, OECD Education Working Papers, No. 93, OECD Publishing, Paris, http://dx.doi.org/10.1787/5k41tm2gx2vd-en [24.05.2022].

Bloem, S. (2015): The OECD Directorate for Education as an Independent Knowledge Producer through PISA. In: Kotthoff, H.-G./ Klerides, E.: Governing Educational Spaces. Knowledge, Teaching, and Learning in Transition, Rotterdam; Boston; Taipei: Sense, 169–185.

Bloem, S. (2016): Die PISA-Strategie der OECD. Zur Bildungspolitik eines globalen Akteurs, Weinheim, Bergstr.: Beltz Juventa.

Bloem, S. (2018): Die Ausweitung globaler Bildungsbeobachtung auf lokale Bildungspraxis: Die „PISA for Schools"-Studie der OECD. In: Bormann, I. /Hartong, S./Höhne, T. (Hrsg.):

Bildung unter Beobachtung. Kritische Perspektiven auf Bildungsberichterstattung, Weinheim; Basel: Beltz Juventa, 175-193.

Böhm, W. (2005): Wörterbuch der Pädagogik, Stuttgart: Alfred Körner Verlag, 16., vollst. überarb. Aufl.

Bohnsack, R. (2010): Rekonstruktive Sozialforschung. Einführung in qualitative Methoden, Opladen & Farmington Hills: Verlag Barbara Budrich, 8. Aufl.

Bollig, S. /Honig, M.-S./Neumann, S. /Seele, C. (Eds.): MultiPluriTrans in Educational Ethnography. Approaching the Multimodality, Plurality and Translocality of Educational Realities, Bielefeld: transcript Verlag.

Borgatti, S.P./Molina, J.L. (2003): Ethical and Strategic Issues in Organizational Social Network Analysis. In: *The Journal of Applied Behavioral Science*, 39, 5, 337-349.

Bourdieu, P. (1969): Intellectual Field and creative project. In: *Social Science Information*, 8, 2, 89-119.

Brock-Utne, B. (2007): Worldbankification of Norwegian development assistance to education. In: *Comparative Education*, 43, 3, 433-449.

Buchanan, I. / Varghese, K. G./ N.Y., M. (Eds.) (2022): Deleuze, Guattari and India. Exploring a Post-Postcolonial Multiplicity, London; New York: Routledge.

Budde, J. (2017): Heterogenität: Entstehung, Begriff, Abgrenzung. In: Bohl, Th. /Budde, J. (Hrsg.): Umgang mit Heterogenität in Schule und Unterricht. Bad Heilbrunn: Klinkhardt, 13-27.

Castro Varela, M. /Dhawan, N. (2020): Postkoloniale Theorie. Eine kritische Einführung, Bielefeld: transcript Verlag 3. Aufl.

Callon, M. (1986): Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In: *The Sociological Review*, 32, 1, 196-233.

Callon, M./Lascoumes, P./ Barthe, Y. (2009): Acting in an uncertain world. An Essay on Technical Democracy, translation by Graham Burchell, Cambridge; London: MIT Press.

Carroll, P./Kellow, A. (2011): The OECD: A Study of Organisational Adaptation, Cheltenham et al.: Edward Elgar Publishing.

Chakraborti, A./Raina, D.; Sharma, K. (2016). Can an interdisciplinary field contribute to one of the parent disciplines from which it emerged? In Eur. Phys. J. Spec. Top. 225 (17-18), pp. 3127–3135.

Chakraborty, S. / Molstad, C.E. / Feng, J. / Pettersson, D. (2019): The reception of large-scale assessments in China and India. In: Molstad, C.E. / Pettersson, D. (Eds.): New Practices of Comparison, Quantification and Expertise in Education, Abingdon; New York: Routledge, 159-174.

Carr-Hill, R. (2015): PISA for development technical strand c: Incorporating out-of-school 15-year-olds in the assessment, OECD Education Working Papers, No. 120, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/pisa-for-development-technical-strand-c_5js0bsln9mg2-en [24.05.2022].

Clemens, I. / Srivastava A. K. (2007): Bildungsprogramme versus Bildungsrealitäten. Einblicke in das indische Schulsystem. In: *Tertium Comparationis. Journal für International und Interkulturell Vergleichende Erziehungswissenschaft*, 13, 1, 116-134.

Clemens, I. (2007): Bildung-Semantik-Kultur. Zum Wandel der Bedeutung von Bildung und Erziehung in Indien, (Frankfurter Beiträge zur Erziehungswissenschaft, Reihe Monographien 7), Frankfurt/Main: Johann Wolfgang-Goethe-Universität.

Clemens, I. (2009a): Globale Lösungen im Bildungssystem der Weltgesellschaft? Eine kulturtheoretische Analyse des Best-Practice Konzepts in der Erziehungswissenschaft. In: *Tertium Comparationis. Journal für International und Interkulturell Vergleichende Erziehungswissenschaft*, 15, 2, 108-121.

Clemens, I. (2009b): Die Herausforderung Indigener Theorien. Die Frage nach der Relevanz kulturtheoretischer Perspektiven in der Erziehungswissenschaft am Beispiel der Emergenz Indigener Theorien, *Zeitschrift für Pädagogik* 55, 1, 113-129.

Clemens, I. (2009c): Wertschätzung als pädagogische Kommunikationsform im Spannungsfeld von actio und passio. Über die Paradoxianfälligkeit von Unterricht. *Paragrana* 18, 2, 102-111.

Clemens, I. (2015): Erziehungswissenschaft als Kulturwissenschaft. Die Potentiale der Netzwerktheorie für eine kulturwissenschaftliche und kulturtheoretische Ausrichtung der Erziehungswissenschaft, Weinheim und Basel: Beltz Juventa.

Clemens, I. (2020): Decolonizing Knowledge. Starting Points, Consequences and Challenges. In: *Foro de Educación*, 18, 1, 11-25.

Clemens, I. (unpublished, earlier draft of Clemens 2021): Trading Zones of Knowledge. A Network Theory Perspective on travelling knowledge in the educational field.

Clemens, I. (2021): The relationality of knowledge and postcolonial endeavours – analysing the definition, emergence, and trading of knowledge(s) from a network theory perspective. In: Woldegiorgis, E. T. / Turner, I. / Brahima, A. (Eds.): Decolonisation of Higher Education in Africa. Perspectives from Hybrid Knowledge Production, Abingdon; New York: Routledge, 100-117.

Clemens, I./Wulf, Ch. (2011): Globalisierung. In: Holzbrecher, A. (Hrsg.): Interkulturelle Schule. Eine Entwicklungsaufgabe, Reihe Politik und Bildung, Bd. 63, Schwalbach/ Ts: Wochenschau Verlag, 13-27.

Clemens, I. / Biswas, T. (2019): Rethinking education in times of globalization – but where to start the rethinking? In: Clemens, I. / Hornberg, S. / Rieckmann, M. (Eds.): Bildung und Erziehung im Kontext globaler Transformationen, Berlin: Verlag Barbara Budrich, 237-250.

Clemens, I. /Vollmer, T. (2019): Nationalisierungstendenzen im Bildungssystem am Beispiel Indiens und der Hindutva. In: *Tertium Comparationis Journal für International und Interkulturell Vergleichende Erziehungswissenschaft*, 25, 1, 28-44.

Cresswell, J. / Schwantner, U. / Waters, C. (OECD, World Bank, Eds.) (2015): A Review of International Large-Scale Assessments in Education: Assessing Component Skills and Collecting Contextual Data, PISA, Washington, D.C.: The World Bank / Paris: OECD Publishing.

Czarniawska, B./Sevón, G. (Hg.) (2005): Global ideas. How ideas, objects and practices travel in the global economy, (Advances in organization studies, 13), Malmö: Liber.

D'Agnese, V. (2015): PISA's colonialism: Success, money, and the eclipse of education. In: *Power & Education*, 7, 1, 56–72.

Dale, R. (2015): Globalisierung in der Vergleichenden Erziehungswissenschaft. In: Parreira do Amaral, M./Amos, S.K. (Eds).: Internationale und Vergleichende Erziehungswissenschaft. Geschichte, Theorie, Methode und Forschungsfelder, (New frontiers in comparative education, 2), Münster: Waxmann, 171-187.

Das, J./ Zajonc, T. (2008): India Shining and Bharat Drowning: Comparing Two Indian States to the Worldwide Distribution in Mathematics Achievement, World Bank Policy Research Working Paper No. 4644, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1149577 [03.08.2018].

Dasen, P.R. /Akkari, A. (2008): Introduction: Ethnocentrism in Education and How to Overcome it. In: Dasen, P.R. /Akkari, A. (Eds.): Educational Theories and Practices from the Majority World, New Delhi et al.: Sage, 07-22.

Datta, A. (2004): Bildungsvergleiche im Nord-Süd-Kontext. In: *Zeitschrift für internationale Bildungsforschung und Entwicklungspädagogik*, 27, 1, 13-15

De, A./Khera, R./Samson, M./Shiva Kumar, A.K. (2011): PROBE Revisited. A Report on Elementary Education in India, New Delhi: Oxford University Press.

de Haan, G. (2010): Schule, Nachhaltigkeit, Zukunft. Bildung für eine nachhaltige Entwicklung als Lernkultur. In: Worldwatch Institute (Hrsg.) /Heinrich-Böll-Stiftung/Germanwatch: Zur Lage der Welt 2010. Einfach besser leben. Nachhaltigkeit als neuer Lebensstil, aus dem Englischen übers. von Annette Bus u.a., um zwei Beiträge gekürzt und um Beiträge von de Haan u.w. erweitert, Heinrich-Böll-Stiftung; München: oekom verlag, 26-32.

Deleuze, G. /Guattari, F. (1994): What is Philosophy? (Translation by Hugh Tomlinson and Graham Burchell), New York: Columbia University Press.

Deleuze, G. /Guattari, F. (2004): A Thousand Plateaus. Capitalism and Schizophrenia, (Translation and Foreword by Brian Massumi), London; New York: Continuum International Publishing Group.

Deora, V. / Aguiar, A. / Central Square Foundation (Ed.) (2014): Guidelines for Large-Scale Learner Assessments. Practices for Design, Implementation and Use of Assessments by States, New Delhi: Central Square Foundation.

Department of Educational Measurement and Evaluation (DEME)/NCERT (n.D. [2009-2012]): Introduction of Item Response Theory in National Achievement Surveys under Sarva Shiksha Abhiyan. Concept note: Item Response Theory, New Delhi: NCERT; cited as: DEME/NCERT n.D.

Desmond, M. (2012): Eviction and the Reproduction of Urban Poverty. In: *The American Journal of Sociology*, 118, 1, 88–133.

Desmond, M. (2014): Relational Ethnography, *Theor Soc*, 43, 547–579.

Deuble, L./Konrad, L./Kölbl, C. (2014) Das Prinzip Interkulturelles Frühstück. Empirische Erkundungen im Geschichtsunterricht, in: *psychosozial*, 37, 136, 23-40.

Dewan, H. (2017): Whither Indian Education Policy. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 27, 23-27.

Dewan, H. (2018): Evolution of Education Policy in India and its Impact on Government Initiatives. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 30, 8-14.

Dhamija, R. (2011, draft of report): Final Report On Main Survey for OECD's Programme for International Student Assessment (PISA) in India – 2009+, prepared for submission to ACER, https://vdocuments.net/pisa-ms-acer-final.html [13.03.2022].

Dhankar, R. (2003): The Notion of Quality in DPEP Pedagogical Interventions. In: *Contemporary Education Dialogue*, 1, 1, 6-34.

Dhankar, R. (2010): Editorial. In: *Contemporary Education Dialogue*, 7, 1, 2-6.

Dhankar, R. (2011): The idea of quality in education, 16th March 2010 (revised on 11th December 2011), Azim Premji University, Bangalore and Digantar, Jaipur, https://azimpremjiuniversity.edu.in/SitePages/pdf/The-idea-of-quality-in-education.pdf [20.03.2019].

Dhawan, A. / Dalmia, S. / Prasad, A. B. / Central Square Foundation (Eds.) (2014): India School Education Vision 2030, New Delhi: Central Square Foundation.

Diaz-Bone, R. (2007): Gibt es eine qualitative Netzwerkanalyse? Ein Review Essay zu: Betina Hollstein & Florian Straus (Hrsg.) (2006). Qualitative Netzwerkanalyse. Konzepte, Methoden, Anwendungen. Wiesbaden: VS-Verlag. In: Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 8, 1).

Donald, D. (2012): Indigenous Métissage: a decolonizing research sensibility. In: *International Journal of Qualitative Studies in Education*, 25, 5, 533-555.

Dotson, K. (2011): Tracking Epistemic Violence, Tracking Practices of Silencing. In: *Hypatia*, 26, 2, 236-257.

Drèze, J./Sen, A. (2014): An uncertain glory. India and its contradictions. Penguin books, London: Penguin Books.

Droit, R.-P. (2005): Humanity in the Making. Overview of the intellectual history of UNESCO 1945-2005, Paris: UNESCO.

Educational Initiatives/Wipro (2011): Quality Education Study (QES), Educational Initiatives Pvt. Ltd. https://www.ei.study/wp-content/uploads/Main_Report.pdf [07.07.2022].

Emirbayer, M. (1997): Manifesto for a Relational Sociology. In: *The American Journal of Sociology*, 103, 2, 281-317.

Emirbayer, M./Goodwin, J. (1994): Network Analysis, Culture, and the Problem of Agency. In: *The American Journal of Sociology*, 99, 6, 1411-1454.

Feichtinger, J. / Heiss, J. (2020): Interactive Knowledge-Making: How and Why Nineteenth-Century Austrian Scientific Travelers in Asia and Africa Overcame Cultural Difference. In: Feichtinger, J. / Bhatti, A. / Hülmbauer, C. (Eds.): How to Write the Global History of Knowledge-Making. Interaction, Circulation and the Transgression of Cultural Difference, (Studies in History and Philosophy of Science, 53), Cham (Switzerland): Springer Nature, 45-69.

Fennel, S. (2007): Tilting at Windmills: Public-Private Partnerships in Indian Education Today, In: *Contemporary Education Dialogue*, 4, 2, 193-2016.

Fenwick, T. / Edwards, R. (Eds) (2012): Researching Education through Actor-Network Theory, Malden (Massachusetts) et al: Wiley-Blackwell.

Flick, U. (2011): Qualitative Sozialforschung. Eine Einführung, Reinbek b. Hamburg: Rowohlt Taschenbuch Verlag, 4. Aufl.

Flick, U. (2018): An Introduction to Qualitative Research, London et. al.: SAGE, 6th edition.

Fichtner, S. (2012): The NGOisation of Education. Case Studies from Benin, Köln: Rüdiger Köppe Verlag.

Fleck, L. [1935] / Trenn, T.J. / Merton, R. K. (Eds.) (1981): Genesis and Development of a Scientific Fact, (Translation by Fred Bradley and Thaddeus J. Trenn; Foreword by Thomas S. Kuhn), Chicago; London: The University of Chicago Press.

Foucault, M. ([o.D.]/1994a): Warum ich Macht untersuche: Die Frage des Subjekts. In: Dreyfus, H.L./Rabinow, P. (1994): Michel Foucault. Jenseits von Strukturalismus und Hermeneutik, Frankfurt/Main: Beltz Athenäum, 2. Aufl., 243-250

Foucault, M. ([o.D.]/1994b): Wie wird Macht ausgeübt? In: Dreyfus, H.L./Rabinow, P. (1994): Michel Foucault. Jenseits von Strukturalismus und Hermeneutik, Frankfurt/Main: Beltz Athenäum, 2. Aufl., 251-261.

Freeman, L.C. (2000): Visualizing Social Networks. In: *Journal of Social Structure*, 1, 1-15, https://www.cmu.edu/joss/content/articles/volume1/Freeman.html [24.05.2022].

Forestier, K. / Crossley, M. (2015): International education policy transfer – borrowing both ways: the Hong Kong and England experience. In: *Compare*, 45, 5, 664-685.

Forsey, M. (2008): Ethnographic interviewing: from conversation to published text. In: Walford, G. (Hrsg.): How to do educational ethnography, London: the Tufnell Press, 57-75.

Fossum, P. (2015): Das Forschungsfeld der International Vergleichenden Erziehungswissenschaft: Implikationen für die Lehrerbildung. In: Parreira do Amaral, M./ Amos, S. K. (Eds.): Internationale und Vergleichende Erziehungswissenschaft. Geschichte, Theorie, Methode und Forschungsfelder, Münster: Waxmann (New frontiers in comparative education, 2), 133-154.

Friemel, T. N. (2010): Diffusionsforschung. In: Stegbauer, C./Häußling, R. (Hg.): Handbuch Netzwerkforschung, (Netzwerkforschung, 4), Wiesbaden: VS Verl. für Sozialwiss., 825-833.

Fuhse, J.A. (2009): Lässt sich die Netzwerkforschung besser mit der Feldtheorie oder der Systemtheorie verknüpfen? In: Häußling, R. (Hrsg): Grenzen von Netzwerken, (Netzwerkforschung, Bd. 3), Wiesbaden: VS Verlag für Sozialwissenschaften, 55-80.

Fulge, T./ Bieber, T./ Martens, K. (2016): Rational Intentions and Unintended Consequences: On the Interplay Between International and National Actors in Education Policy, in: Mundy, K./ Green, A./ Lingard, B./ Verger, A. (Hg.): Global Policy and Policy-Making in Education, Handbook Of Global Policy Series, Hoboken: Wiley-Blackwell, 453 – 469.

Galison, P. (1988): History, Philosophy, and the Central Metaphor. In: Science in Context, 2,1, 197-212.

Galison, P. (1997): Image and Logic. A Material Culture of Microphysics. Chicago: Univ. of Chicago Press.

Galison, P. (2008): Ten Problems in History and Philosophy of Science. In: *ISIS*, 99, 111-124.

Galison, P. / Daston, L. (2010): Objectivity, New York: Zone Books.

Gamper, M./Schönhuth, M. (2016): Ansätze und Verfahren der Visuellen Netzwerkforschung. In: Lobinger K. (Hg.): Handbuch Visuelle Kommunikationsforschung, (Springer Reference Sozialwissenschaften), Wiesbaden: Springer Fachmedien Wiesbaden, 1–27.

Gamper, M. (2017): Macht aus der Perspektive einer relationalen Kultursoziologie. In: Löwenstein, H./ Emirbayer, M. (Eds.): Netzwerke, Kultur und Agency. Problemlösungen in relationaler Methodologie und Sozialtheorie, Weinheim; Basel: Beltz Juventa, 117-137.

Gardinier, M. (2017): Looking Back Toward the Future: Reflecting on the OECD's Global Educational Influence. In: Wiseman, A.W./Taylor, C.S. (Eds.): The Impact of the OECD on Education Worldwide, Bingley: Emerald Publishing, 247-269.

Geertz, C. (1978): The Bazaar Economy: Information and Search in Peasant Marketing. In: *The American Economic Review*, 68, 2, 28-32.

Geertz, C. (2017): The Interpretation of Cultures. Selected Essays, (Foreword by Robert Darnton), New York: Basic Books, 3rd Edition.

Giesecke, H. (2005): „Humankapital" als Bildungsziel? Grenzen ökonomischen Denkens für das pädagogische Handeln. In: *Neue Sammlung* 3, 377-389.

Gingras, Y. (2016): Bibliometrics and Research Evaluation. Uses and Abuses, Cambridge, Massachusetts; London, England: The MIT Press, [originally published 2014 in French: "Dérives de l'évaluation de la recherche"].

Girg, R. / Müller, Th. (2010): Die MultiGradeMultiLevel-Methodology und ihre Lernleitern. Ein Bericht zum deutsch-indischen Zusammenwirken des Rishi Valley Institute for Educational Resources und des Teams Forschung Integral Lehrstuhl für Schulpädagogik, Universität Regensburg, Regensburg: Roderer Verlag.

Gopalan, P. (2013): PPP Paradox: Promise and Perils of Public-Private Partnership in Education, New Delhi: Sage.

Grant, A. (2019): Doing Excellent Social Research with Documents. Practical Examples and Guidance for Qualitative Researchers, London; New York: Routledge.

Gulson, K.N./Clarke, M./Petersen, E.B. (2015): Education Policy and Contemporary Theory. Implications for research, London; New York: Routledge.

Godart, F.C./White, H.C. (2010): Switchings under uncertainty: The coming and becoming of meanings. In: *Poetics* 38, 567–586.

Gorur, R. (2012): ANT on the PISA Trail: Following the statistical pursuit of certainty, in: Fenwick, T./ Edwards, R. (Eds.): Researching Education through Actor-Network Theory, Oxford; Chichester: Wiley Blackwell, 60-77.

Gorur, R. (2016): Seeing like PISA: A cautionary tale about the performativity of international assessments.In: *European Educational Research Journal*, 15, 5, 598- 616.

Gorur, R. / Steiner-Khamsi, G. (2019): Contextualizing 'context'. In: Gorur, R./ Sellar, S./ Steiner-Khamsi, G. (Eds.): World Yearbook of Education 2019: Comparative Methodology in the Era of Big Data and Global Networks, Abingdon and New York: Routledge, 165-168.

Govinda, R./Sedwal, M. (2017): Introduction. Basic Education for All in India – Tracking Progress. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 1-29.

Govinda, R. /Mathew, A. (2018): Universalisation of Elementary Education in India. Story of Missed Targets and Unkept Promises, New Delhi: Council for Social Development, Working Paper.

Granovetter, M.S. (1973): The Strength of Weak Ties. In: *The American Journal of Sociology*, 78, 6, 1360-1380.

Gudavarthy, A. (2019): India after Modi. Populism and the Right, New Delhi et al.: Bloomsbury.

Gunter, H. / Mills, C. (2016): Knowledge Production and the Rise of Consultocracy in Education Policymaking in England. In: Verger, A. / Lubienski, Ch. / Steiner-Khamsi, G. (Eds.): The Global Education Industry. World Yearbook of education 2016. Abingdon, New York: Routledge, 125-141.

Hack, C. (2019): Erfahrungen mit der Verknüpfung der inhaltlich strukturierenden qualitativen Inhaltsanalyse und der qualitativen strukturalen Analyse am Beispiel der Explikation von Netzwerkkonstellationen. In: *Forum: Qualitative Sozialforschung (FQS)*, 20, 3, 25, https://www.ssoar.info/ssoar/handle/document/65487 [31.08.2021].

Häußling, R. (2008): Zur Verankerung der Netzwerkforschung in einem methodologischen Relationalismus. In: Stegbauer, C. (Hrsg.): Netzwerkanalyse und Netzwerktheorie. Ein neues Paradigma in den Sozialwissenschaften, (Netzwerkforschung Band 1), Wiesbaden: VS- Verlag, 65-78.

Häußling, R. (Ed.) (2009): Grenzen von Netzwerken, (Netzwerkforschung, Bd. 3), Wiesbaden: VS Verlag für Sozialwissenschaften.

Häußling, R. (2010): Relationale Soziologie. In: Stegbauer, C./Häußling, R. (Hg.): Handbuch Netzwerkforschung, (Netzwerkforschung, 4), Wiesbaden: VS Verl. für Sozialwiss., 63–87.

Häußling, R. (2020): Zur Materialität von sozialen Netzwerken in der Digitalen Gesellschaft. In: Friedrichs, W. / Hamm, S. (Eds.): Zurück zu den Dingen! Politische Bildungen im Medium gesellschaftlicher Materialität, (Votum. Beiträge zur politischen Bildung und Politikwissenschaft, Bd. 6), Baden-Baden: Nomos, 49 – 76.

Halualani, R. T. (2010): Intercultural Interaction at a Multicultural University: Students' Definitions and Sensemakings of Intercultural Interaction. In: *Journal of International and Intercultural Communication*, 3, 4, 304-324.

Haraway, D. (1988): Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. In: *Feminist Studies*, 14, 3, 575-599.

Harder, H. / Raina, D. (2022): Disciplines and Movements. Conversations between India and the German-Speaking World, Hyderabad: Orient Black Swan.

Hartong, S. (2012): Basiskompetenzen statt Bildung? Wie PISA die deutschen Schulen verändert hat, Frankfurt/New York: Campus Verlag.

Hartong, S./Schwabe, U. (2013): Wie ‚Agenten des Wandels' deutsche Bildungspolitik transformier(t)en – Ein integratives Diffusionsmodell für die Prozesse PISA und Bologna. In: *Swiss Journal of Sociology*, 39, 3, 493-515.

Haas, P.M. (1992): Introduction: Epistemic Communities and International Policy Coordination. In: *International Organization*, 46, 1, 1-35.

Heidler, R./Gamper, M./Herz, A./Eßer, F. (2014): Relationship patterns in the 19th century: The friendship network in a German boys' school class from 1880 to 1881 revisited. In: *Social Networks* 37, 1-13.

Henry, M./Lingard, B./Rizvi, F./Taylor, S. (2001): The OECD, Globalisation, and Education Policy, Oxford et al.: Elsevier Science.

Hepp, A. (2010): Netzwerk und Kultur. In: Stegbauer, C./Häußling, R. (Hg.): Handbuch Netzwerkforschung, (Netzwerkforschung, 4), Wiesbaden: VS Verl. für Sozialwiss., 227-234.

Herz, A./Peters, L./Truschkat, I. (2015): How to do qualitative strukturale Analyse? Die qualitative Interpretation von Netzwerkkarten und erzählgenerierenden Interviews, In: *Forum Qualitative Sozialforschung*, 16, 1, 1-26, https://www.qualitative-research.net/index.php/fqs/article/view/2092/ [24.05.2022].

Hill, S. /Chalaux, T. (2011): Improving Access and Quality in the Indian Education System, OECD Economics Department Working Papers, No. 885, OECD Publishing Paris, https://www.oecd-ilibrary.org/economics/improving-access-and-quality-in-the-indian-education-system_5kg83k687ng7-en [24.05.2022].

Hogan, A./Sellar, S./Lingard, B. (2016): Corporate Social Responsibility and Neo-Social Accountability in Education. The Case of Pearson plc. In: Verger, A./Lubienski, C./Steiner-Khamsi, G.: World Yearbook of Education 2016. The Global Education Industry, Abingdon, New York: Routledge, 108-124.

Hole, V., Jones, J. Y. & Klyve, C. R. (2005): Worldbankification of Norwegian development assistance, a report by IGNIS and the Development Fund (Oslo, IGNIS and the Development Fund).

Hollstein, B. (2010): Qualitative Methoden und Mixed-Method-Designs. In: Stegbauer, Ch. /Häußling, R.: Handbuch Netzwerkforschung, (Netzwerkforschung Band 4), Wiesbaden: VS Verlag, 459-470.

Hollstein, B. (2011): Qualitative Approaches. In: Scott, J. / Carrington, P. J. (Eds.): The SAGE Handbook of Social Network Analysis, London et al.: SAGE Publications Ltd, 404-416.

Holz, G. (2010). „Kommunale Strategien gegen Kinder- und Bildungsarmut“ – Der Ansatz kindbezogener Armutsprävention. *Zeitschrift Für Inklusion*, *4*(4), https://www.inklusion-online.net/index.php/inklusion-online/article/view/113, [07.04.2017].

Honan, E. (2015): Thinking Rhizomatically. Using Deleuze in Education Policy Contexts. In: Gulson, K.N./Clarke, M./Petersen, E.B. (Eds.): Education Policy and Contemporary Theory. Implications for research, London; New York: Routledge, 208-218.

Howard, P. (2002): Network ethnography and the hypermedia organization: new media, new organizations, new methods. In: *New Media & Society*, 4, 4, 550–574.

Hummrich, M. (2017): Umgang mit Heterogenität in international vergleichender Perspektive. In: Bohl, Th./Budde, J. (Hrsg.): Umgang mit Heterogenität in Schule und Unterricht. Bad Heilbrunn: Klinkhardt, 159-173.

Hummrich, M./Kramer, R.-T. (2018): „Qualitative Mehrebenenanalyse“ und Triangulation – Zur Methodologie von Mehrebenendesigns in der qualitativen Sozialforschung. In: Ecarius, J./Miethe, I. (HG): Methodentriangulation in der qualitativen Bildungsforschung, Berlin; Toronto: Verlag Barbara Budrich, 2. Überarb. Aufl, 123-147.

Ingold, T. (2018): Anthropology. Why it matters, Cambridge (UK); Medford (USA): Polity Press.

Ireton, B. (2013): Britain's International Development Policies. A History of DFID and Overseas Aid, Hampshire et al.: Palgrave Macmillan.

Iyer, P./Moore, R. (2017): Measuring learning quality in Ethiopia, India and Vietnam: from primary to secondary school effectiveness. In: *Compare*, 47, 6, 908-924.

Jahnke, Th. / Meyerhöfer, W. (Eds.) (2008): PISA & Co. - Kritik eines Programms, Berlin; Hildesheim: Verlag Franzbecker, 2nd ed.

Jha, J. (2010): ASER. In: *Contemporary Education Dialogue*, 7, 1, 134-139.

John, E. (2020): Can we Dance? Thoughts on Decolonisation. The ZAM Nelson Mandela Lecture, 01.03.2020, International Theatre Amsterdam, Amsterdam: ZAM-net Foundation.

Jungert, M. (2010): Was zwischen wem und warum eigentlich? Grundsätzliche Fragen der Interdisziplinarität. In: Jungert, M./Romfeld, E./Sukopp, T./Voigt, U. (Hrsg.): Interdisziplinarität. Theorie, Praxis, Probleme, Darmstadt: Wissenschaftliche Buchgesellschaft (WBG), 1-12.

Kadushin, C. (2005): Who benefits from network analysis: ethics of social network research. In: *Social Networks*, 27, 139-153.

Kamens, D. (2013): Globalization and the Emergence of an Audit Culture: PISA and the search for 'best practices' and magic bullets. In: Meyer, Heinz-Dieter/Benavot, Aaron: PISA, Power, and Policy: The Emergence of Global Educational Governance, Oxford: Symposium Books, 117-139.

Karatzia-Stavlioti, E. / Lambropoulos, H. (2009): Education and Economic Development: Evaluations and Ideologies. In: Cowen, R. / Kazamias, A. M. (Eds.): International Handbook of Comparative Education, Dordrecht: Springer, 633-650.

Keely, B. (2007): Humankapital. Wie Wissen unser Leben bestimmt, Paris: OECD.

Keller, R. (2011): Diskursforschung. Eine Einführung für SozialwissenschaftlerInnen, (Qualitative Sozialforschung, 14), Wiesbaden: VS Verlag für Sozialwiss., 4. Aufl.

Kerner, I. (2017): Postkoloniale Theorien zur Einführung, Hamburg: Junius Verlag, 3., erg. Aufl.

Klemenčič, E./Mirazchiyski, P.V. (2018): League tables in educational evidence-based policy-making: can we stop the horse race, please? In: *Comparative Education*, 54, 3, 309-324.

Klieme, E. (2011): Bildung unter undemokratischem Druck? Anmerkungen zur Kritik der PISA-Studie. In: Ludwig, L. /Luckas, H./Hamburger, F./Aufenanger, S. (Hrsg.): Bildung in der Demokratie II. Tendenzen – Diskurse – Praktiken, Opladen; Farmington Hills: Verlag Barbara Budrich, 289-302.

Klieme, E./ Vieluf, S. (2013): Schulische Bildung im internationalen Vergleich. Ein Rahmenmodell für Kontextanalysen in PISA. In: *Zeitschrift für Pädagogik*, 59. Beiheft, 229-246.

Klieme, E. /Teltemann, J. (2016): The Impact of International Testing Projects on Policy and Practice, in: Brown, G./Harris, L. (Eds.): Handbook of Human and Social Conditions in Assessment, New York; London: Routledge, 369-386.

Knodel, P./Martens, K. et al. (2010): Das PISA-Echo. Internationale Reaktionen auf die Bildungsstudie, Frankfurt/New York: Campus Verlag.

Knoke, D. (2011): Policy Networks. In: Scott, J. / Carrington, P. J. (Eds.): The SAGE Handbook of Social Network Analysis, London et al.: SAGE Publications Ltd, 210-222.

Knorr Cetina, K. (1999): Epistemic Cultures. How the Sciences Make Knowledge, Cambridge (Massachusetts); London (England): Harvard University Press.

Knorr Cetina, K. (2007): Culture in global knowledge societies: knowledge cultures and epistemic cultures. In: *Interdisciplinary Science Reviews*, 32, 4, 361-375.

Koch, L. (2007): Bildungsevaluation, Bildungsstandards, Grundbildung und eine neue Lehrerbildung: Eine neue Bildungstheorie? In: Beichel, J. / Fees, K. (Hrsg.): Bildung oder outcome? Leitideen der standardisierten Schule im Diskurs, München: Centaurus Verlag & Media UG, 23-42.

Kolleck, N./Kulin, S./ Bormann, I./ de Haan, G. /Schwippert, K. (Hg.) (2016): Traditionen, Zukünfte und Wandel in Bildungsnetzwerken, (Netzwerke im Bildungsbereich, 8), Münster: Waxmann.

Krempel, L. (2011): Network Visualization. In: Scott, J. / Carrington, P. J. (Eds.): The SAGE Handbook of Social Network Analysis, London et al.: SAGE Publications Ltd, 558-577.

Kroksmark, T. (2013). De stora frågorna om skolan [The big questions about school]. Lund: Studentlitteratur.

Krücken, G. (2005): Der »world-polity«-Ansatz in der Globalisierungsdiskussion. In: Meyer, J.W./Krücken, G./ Kuchler, B. (Hg.): Weltkultur. Wie die westlichen Prinzipien die Welt durchdringen, (Edition zweite Moderne), Frankfurt am Main: Suhrkamp, 300–318.

Kuckartz, U. (2018): Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung. Weinheim, Basel: Beltz Juventa, 4. Aufl.

Kuhn, T. S. (2017): Die Struktur wissenschaftlicher Revolutionen, Frankfurt a.M.: Suhrkamp, 25. Aufl.

Kumar, K. /Sarangapani, P. M. (2004): History of the Quality Debate. In: *Contemporary Education Dialogue*, 2, 1, 30-52.

Kumar, K. (2005): Quality of Education at the Beginning of the 21st Century – Lessons from India. In: *Indian Educational Review,* 41, 1, 3-28.

Kumar, K. (2009): The Challenge of Quality. In: Rustagi, P. (Ed.): Concerns, Conflicts, and Cohesions. Universalization of Elementary Education in India, New Delhi: Oxford University Press, 153-171.

Kumar, K. (2010): Quality in Education: Competing Concepts. In: *Contemporary Education Dialogue*, 7,1, 7-18.

Kumar, K. (2018): Autonomy in Times of Crisis. In: *Economic and Political Weekly*, 53, 18, 14-17.

Kumar, M. N./ Agnihotri, V./ Venuraj, R. (2013): Assessment For Learning. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 20, 4-7.

Kumar, P. /Wiseman, A. (2021): Teacher Quality and Education Policy in India. Understanding the Relationship between Teacher Education, Teacher Effectiveness and Student Outcomes, Abingdon; New York: Routledge.

Kumar, R. (Ed.) (2006a): The Crisis of Elementary Education in India, New Delhi: Sage.

Kumar, R. (2006b): When Gandhi's Talisman no longer guides policy considerations: Market, deprivation and education in the age of globalization. In: *Social Change*, 36, . 3, 1-46.

Kumar, R. (Ed.) (2014): Education, State and Market. Anatomy of Neoliberal Impact. New Delhi: Aakar Books.

Latour, B. (1986): The Powers of Association. In: Law, J. (Ed.): Power, Action and Belief (Sociological Review Monograph, 32), London; Boston: Routledge & Kegan Paul, 264-280.

Lawn, M. / Grek, S. (2012): Europeanizing Education: governing new policy space. Oxford: Symposium Books.

Lamnek, S. /Krell, C. (2016): Qualitative Sozialforschung. Weinheim; Basel: Beltz Verlag, 6. Aufl.

Lemke, T. (2020): Einführung. In: Bauer, S. /Heinemann, T./Lemke, T. (Eds.): Science and Technology Studies. Klassische Positionen und aktuelle Perspektiven, Frankfurt am M.: Suhrkamp, 2. Aufl., 551-573.

Lewis, S. (2017): Policy, philanthropy and profit: the OECD's PISA for Schools and new modes of heterarchical educational governance. In: *Comparative Education*, 53, 4, 518-537.

Lichtinger, U. / Müller, Th. / Girg, R. (2012): Individuelles Lernen mit Lernleitern. In: Bönsch, M. / Moegling, K. (Eds): Binnendifferenzierung, Teil 2, (Theorie und Praxis der Schulpädagogik, Bd. 18), Immenhausen bei Kassel: Prolog-Verlag, 69-83.

Lichtinger, U. (2018): Lernsystem Le.Ple.fE. Individuelles und gemeinsames Lernen in heterogenen Gruppen. In: *F&E Edition*, 24, 15-25.

Lietz, H. (2007): Mit neuen Methoden zu neuen Aussagen: Semantische Netzwerkanalyse am Beispiel der Europäischen Verfassung (Working Paper) http://www.haikolietz.de/docs/verfassung.pdf [24.05.2022], 1-9.

Little, A. (2010): Educational Development Index (EDI). In: *Contemporary Education Dialogue*, 7, 1, 118-123.

Lockheed, M. E. (2013): Causes and Consequences of International Assessments in Developing Countries. In: Meyer, Heinz-Dieter/Benavot, Aaron: PISA, Power, and Policy: The Emergence of Global Educational Governance, Oxford: Symposium Books, 163-183.

Lockheed, M. E./ Prokic-Breuer, T./ Shadrova, A. (2015): The Experience of Middle-Income Countries Participating in PISA 2000-2015. Washington, D. C.: World Bank Group and Paris: OECD Publishing, Paris. https://openknowledge.worldbank.org/handle/10986/23250 [12.11.2018]

Luhmann, Niklas (1978): Erleben und Handeln. In: Lenk, Hans (Hrsg.): Handlungstheorien interdisziplinär II, Erster Halbband, München: Wilhelm Fink Verlag, 235 – 253.

Luhmann, N. ([1985] /2004): Erziehender Unterricht als Interaktionssystem. In: Lenzen, D. (Hrsg.) / Luhmann, N.: Schriften zur Pädagogik, Frankfurt am Main: Suhrkamp, 11-22.

Madan, A. (2017): Checking Areas of Concern: What the Inputs Document has to say about Saffronisation Inequality and Privatisation. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, no. 27, 10-15.

Maddox, B. (2014): Globalising assessment: an ethnography of literacy assessment, camels and fast food in the Mongolian Gobi. In: *Comparative Education*, 50, 4, 474-489.

Mahajan, M. (2017): Philanthropy and the nation-state in global health: the Gates Foundation in India. In: *Global Public Health*, 1-12.

Mahapatra, A. (2009): Activity Based Learning. Effectiveness of ABL under SSA. A report of the baseline and year-end surveys by SchoolScape, June 2007 - April 2008, Chennai: Government of Tamil Nadu.

Majumdar, M. (2017): Universal Elementary Education. Pursuit of Equity with Quality. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 52-79.

Maniar, V. (2019): Overlooking the Idea of Common School in the Education Policy. In: *Economic and Political Weekly*, 54, 37, 18-19.

Marker, M. (2003): Indigenous voice, community, and epistemic violence: the ethnographer's "interests" and what "interests" the ethnographer. In: *Qualitative Studies in Education*, 16, 3, 361-375.

Martens, K./ Niemann, D./ Teltemann, J. (2016): Effects of international assessments in education – a multidisciplinary review. In: *European Educational Research Journal*, 15, 5, 516-522.

Mayring, P. (2010): Qualitative Inhaltsanalyse. In: Flick, U./v.Kardoff, E./Steinke, I. (Hg.): Qualitative Forschung. Ein Handbuch, Reinbek b. Hamburg: Rowohlt Taschenbuch Verlag, 468- 475, 8. Aufl.

Mayring, P. (2015): Qualitative Inhaltsanalyse. Grundlagen und Techniken, Weinheim; Basel: Beltz Verlag, 12. Überarb. Aufl.

McGoey, L. (2015): Pintsized Profit-makers. In: McGoey, L.: No such thing as a free Gift. London New York: Verso, 113-147.

Mehendale, A. (2010): Model Rules for the Right to Education Act. In: *Economic and Political Weekly*, 45, 4, 9-12.

Mehendale, A. /Mukhopadhyay, R. (2014): Inclusion in Private Unaided Schools: Has RtE Paved the Way? In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 23, 09-12.

Mehendale, A. / Mukhopadhyay, R. / Namala, A. (2015): Right to Education and Inclusion in Private Unaided Schools. An Exploratory Study in Bengaluru and Delhi. In: *Economic and Political Weekly*, 50, 7, 43-51.

Mehendale, A./Dewan, H. (2015): Towards a New Education Policy. In: *Economic and Political Weekly*, 50, 48, 15-18.

Menashy, F. / Shields, R. (2017): Unequal partners? Networks, centrality, and aid to international education. In: *Comparative Education*, 53, 4: 495-517.

Menashy, F. /Verger, A. (2019): The Value of Network Analysis for the Study of Global Education Policy. Key Concepts and Methods. In: Gorur, R./ Sellar, S./ Steiner-Khamsi, G. (Eds.): World Yearbook of Education 2019: Comparative Methodology in the Era of Big Data and Global Networks, Abingdon and New York: Routledge, 117-131.

Mendelovits, J. (2009): Reading Literacy: From International Perspective to Classroom Practice. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 13, 73-76.

Meyer, J.W./Ramirez, F.O. (2005): Die globale Institutionalisierung der Bildung. In: Meyer, J.W./Krücken, G./ Kuchler, B. (Hg.): Weltkultur. Wie die westlichen Prinzipien die Welt durchdringen, (Edition zweite Moderne), Frankfurt am Main: Suhrkamp, 212-234.

Meyer, H.D./ Benavot, A. (2013) „PISA and the Globalization of Education Governance: some puzzles and problems. In: Meyer, H.D./Benavot, A. (Eds.): PISA, Power, and Policy: the Emergence of Global Educational Governance, Oxford: Symposium Books, 9-26.

Meyer, H.D./Benavot, A. (Eds.) (2013): PISA, Power, and Policy: the Emergence of Global Educational Governance, Oxford: Symposium Books.

MHRD (1998): National Policy on Education 1986 (as modified in 1992) with National Policy on Education 1968, New Delhi: Government of India https://www.education.gov.in/sites/upload_files/mhrd/files/document-reports/NPE86-mod92.pdf [26.05.2022].

MHRD (2004): Annual report 2004-05, New Delhi: Government of India.

MHRD (2005): Annual report 2005-06, New Delhi: Government of India.

MHRD (2006): Annual report 2006-07, New Delhi: Government of India.

MHRD (2007): Annual report 2007-08, New Delhi: Government of India.

MHRD (2008): Annual report 2008-09, New Delhi: Government of India.

MHRD (2009a): Teacher Development and Management. Discussions and suggestions for policy and practice emerging from an International Conference on Teacher Development and Management held at Vidya Bhawan Society, Udaipur from 23rd to 25th February 2009.

MHRD (2009b): Annual report 2009-10, New Delhi: Government of India.

MHRD (2010): Annual report 2010-11, New Delhi: Government of India.

MHRD (2011): Annual report 2011-12, New Delhi: Government of India.

MHRD (2012): Annual report 2012-13, New Delhi: Government of India.

MHRD (2014): Annual report 2014-15, New Delhi: Government of India.

MHRD (2015): Annual report 2015-16, New Delhi: Government of India.

MHRD (2016a): National Policy on Education 2016. Report of the Committee for Evolution of the New Education Policy. New Delhi: Government of India. http://www.cbgaindia.org/wp-content/uploads/2016/06/New-Education-Policy-2016.pdf

MHRD (2016b): Some Inputs for Draft National Education Policy 2016. New Delhi: Government of India. https://mhrd.gov.in/sites/upload_files/mhrd/files/nep/Inputs_Draft_NEP_2016.pdf.

MHRD (2016c): Annual report 2016-17, New Delhi: Government of India.

MHRD (2017): Annual report 2017-18, New Delhi: Government of India.

MHRD (2019): Draft National Education Policy 2019, New Delhi: Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/Draft_NEP_2019_EN_Revised.pdf [26.05.2022].

MHRD (2020): National Education Policy 2020, New Delhi: Government of India, https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf [26.05.2022].

MIB (2010): India 2010. A Reference Annual, New Delhi: Government of India.

Mittelstraß, J. (2007): Methodische Transdisziplinarität, LIFIS Online, 5.11.2007, https://leibniz-institut.de/archiv/mittelstrass_05_11_07.pdf [04.02.2019].

MLJ (2009): The Right of Children to Free and Compulsory Education Act 2009, New Delhi: Government of India, https://www.education.gov.in/sites/upload_files/mhrd/files/upload_document/india_education_act_2009.pdf [01.07.2022].

Mondal, A. (2017): A Discourse on Educational Programmes in India, New Delhi: Kanishka.

Münch, R. (2009): Globale Eliten, lokale Autoritäten. Bildung und Wissenschaft unter dem Regime von PISA, McKinsey & Co, Frankfurt/Main: Suhrkamp.

Münch, R. (2011): Mit PISA-Punkten zu mehr ökonomischen Wachstum? In: Ludwig, L. /Luckas, H./Hamburger, F./Aufenanger, S. (Hrsg.): Bildung in der Demokratie II. Tendenzen – Diskurse – Praktiken, Opladen; Farmington Hills: Verlag Barbara Budrich, 277-288.

Münch, R. (2012): Das PISA-Regime. Zur Transnationalisierung des Bildungsfeldes. In: Bernhard, S. / Schmidt-Wellenburg, Ch. (2012) (Hrsg): Feldanalyse als Forschungsprogramm 1. Der programmatische Kern, Wiesbaden: VS Verlag für Sozialwissenschaften, 405-425.

Münch, R. (2013): Mit dem PISA-Express in die globale Wissensgesellschaft, in: Soeffner, H.-G.: Transnationale Vergesellschaftungen, Wiesbaden: Springer VS, 695-706.

Münch, R. (2016): Vorwort. In: Bloem, S.: Die PISA-Strategie der OECD. Zur Bildungspolitik eines globalen Akteurs, Weinheim, Bergstr.: Beltz Juventa, 5-7.

Münch, R. (2018): Der bildungsindustrieelle Komplex: Schule und Unterricht im Wettbewerbsstaat. Weinheim und Basel: Beltz Juventa.

Münch, R. /Hartong, S. (2012): Der Wettlauf um PISA-Punkte: Gewinner, Verlierer, Illusionen. In: *Pädagogische Korrespondenz*, 46, 5-20.

Mugo, J. K. / Ruto, S. J. / Nakabugo, M. G. / Mgalla, Z. (2015): A Call to Learning in East Africa: Uwezo's Measurement of Learning in Kenya, Tanzania and Uganda. In: *Africa Education Review*, 12, 1, 48-66.

Mukhopadhyay, R. (2009): Changing Mindsets about Quality. In: Rustagi, P. (Ed.): Concerns, Conflicts, and Cohesions. Universalization of Elementary Education in India, New Delhi: Oxford University Press, 171-186.

Mukhopadhyay, R./Sriprakash, A. (2017): Global frameworks, local contingencies: policy translations and education development in India. In: *Compare*, 41, . 3, 311-326.

Murris, K./ Bozalek, V. (2019): Diffraction and response-able reading of texts: the relational ontologies of Barad and Deleuze. In: *International Journal of Qualitative Studies in Education*, 1-15.

Naumann, J. (2004): TIMSS, PISA, IGLU und das untere Leistungsspektrum in der Weltgesellschaft. In: *Tertium Comparationis*, 10, 1, 44-63.

NCERT (2005): National Curriculum Framework 2005, New Delhi: NCERT.

NCERT (2009): Annual Report 2008-2009, New Delhi: NCERT, 111-122, http://www.ncert.nic.in/html/pdf/publication/annualreport/annualreport_eng_08-09/chapter-13.pdf , [29.11.2017].

NCERT (2015): NCERT Annual Report 2013-14, New Delhi: NCERT.

Niemann, D. /Martens, K. (2018): Soft governance by hard fact? The OECD as a knowledge broker in education policy. In: *Global Social Policy*, 18, 3, 267–283.

Niemann, D./Martens, K./ Teltemann, J. (2017): PISA and its consequences: Shaping education policies through international comparisons. In: *European Journal for Education*, 52, 175-183.

Niesz, T. / Krishnamurthy R. / Mahalingam, V. (2012): A History of the Activity Based Learning Movement in Tamil Nadu. An Independent Report submitted to Sarva Shiksha Abhiyan Tamil Nadu, Kent: Kent State University, http://docs.ehhs.kent.edu/ABLinTN.pdf [01.07.2022].

Neubert, D. /Scherer, C. (2014): Agency and World Views: An Introduction. In: Idem (Eds.): Agency and Changing World Views in Africa (Beiträge zur Afrikaforschung, 40), Münster: LIT Verlag, 1-13.

O'Connor, E. (2003): Preface for a Post-Postcolonial Criticism. In: *Victorian Studies*, 45, 2, 217-246.

OECD (2010): PISA 2009 at a Glance, Paris: OECD Publishing, https://www.oecd.org/pisa/46660259.pdf [18.07.2022]

OECD (2016): PISA 2015. Ergebnisse im Fokus, Paris: OECD, 1-15, verfügbar unter: http://www.oecd.org/berlin/themen/pisa-studie/ [23.04.2017].

OECD (2018a): Preparing our Youth for an Inclusive and Sustainable World. The OECD PISA global competence framework, Paris: OECD, https://www.oecd.org/education/Global-competency-for-an-inclusive-world.pdf [31.05.2022].

OECD (2018b): The Future of Education and Skills. Education 2030. The Future we want. Position paper. https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf [31.05.2022].

OECD (2019): Active with India, Paris: OECD. https://issuu.com/oecd.publishing/docs/active-with-india-2019?fr=sNmM1ODkzNTk1MQ [31.05.2022].

Olmedo, A. (2016): Philanthropic Governance. Charitable Companies, the Commercialization of Education and That Thing Called „Democracy". In: Verger, A./Lubienski, C./Steiner-Khamsi, G.: World Yearbook of Education 2016. The Global Education Industry, Abingdon, New York: Routledge, 44-62.

Ouane, A./Singh, M. (2004): Large Scale assessments and their impact for education in the South. In: *Zeitschrift für international Bildungsforschung und Entwicklungspädagogik*, 27, 1,2-8.

Oza, J./Bethell, G. (2013): Assessing Learning Outcomes: Policies, Progress and Challenges. Sarva Shiksha Abhiyan, DFID Funded Research Study, New Delhi: DFID.

Oza, J. /Yagnamurthy, S. /Srivastava, S./Pennells, J. (2015): Evidence for learning: supporting the development of the Government of India's National Achievement Survey, Conference Paper: „Learning for Sustainable Futures. Making the Connections", 13th International Conference on Education and Development, Sep. 15-17, 2015, University of Oxford, UK, 1-15, published as: Evidence for learning: Supporting the development of India's National

Achievement Survey, Surrey: Cambridge Education, https://www.camb-ed.com/download/file/127/106/oza-et-al-evidence-for-learning-ukfiet-2015pdf [07.07.2022].

Pappu, R. / Vasanta, D. (2010): Educational Quality and Social Inequality: Reflecting on the Link. In: *Contemporary Education Dialogue*, 7, 1, 94-117.

Parreira do Amaral, M. (2015): Methodologie und Methode in der International Vergleichenden Erziehungswissenschaft. In: Parreira do Amaral, M./Amos, S.K. (Eds.): Internationale und Vergleichende Erziehungswissenschaft. Geschichte, Theorie, Methode und Forschungsfelder, (New frontiers in comparative education, 2), Münster: Waxmann, 107-130.

Porter, T./Webb, M. (2007): The Role of the OECD in the Orchestration of Global Knowledge Networks, Conference paper, Canadian Political Science Association annual Meetings, Saskatoon, Canada, 24.05.2017 http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.531.2842&rep=rep1&type=pdf [26.09.2017].

Pratt, M.L. (1991): Arts of the Contact Zone. In: *Profession*, 33-40.

Pratt, M.L. (2008): Imperial Eyes. Travel Writing and Transculturation, London; New York: Routledge, 2nd edition.

Priyam, M. (2015): Contested Politics of Educational Reform in India. Aligning Opportunities with interests, New Delhi: Oxford University Press.

Przyborski, A./Wohlrab-Sahr, M. (2010): Qualitative Sozialforschung: Ein Arbeitsbuch, München: Oldenbourg Verlag, 3. korr. Aufl.

Radtke, F.-O. (2003): Die Erziehungswissenschaft der OECD – Aussichten auf die neue Performanzkultur, In: *Erziehungswissenschaft*, 14, 27, 109-136.

Radtke, F.-O. (2006): Das neue Erziehungsregime. Steuerungserwartungen, Kontrollphantasien und Rationalitätsmythen. In: *Vierteljahresschrift Pädagogik*, 82, 5, 45-49.

Radtke, F.-O. (2015): Methodologischer Ökonomismus. Organische Experten im Erziehungssystem. In: *Erziehungswissenschaft*, 26, 1, 7-16.

Radtke, F.-O. (2017): Kategorie Kultur. In: Bohl, Th. /Budde, J. (Hrsg.): Umgang mit Heterogenität in Schule und Unterricht. Bad Heilbrunn: Klinkhardt, 61-76.

Raina, D. (1990): Commoditised Science or Science for Consumption? In: *Economic and Political Weekly*, 25, 40, 2245-2247.

Raina, D. (unpublished): Reconfiguring the Centre! On the Structure of Scientific Exchanges in Colonial India.

Raina, D. (1996): Reconfiguring the Centre: The Structure of Scientific Exchanges Between Colonial India and Europe. In: *Minerva*, 34, 161-176.

Raina, D. (2003): Images and Contexts. The Historiography of Science and Modernity in India, New Delhi: Oxford University Press.

Raina, D. (2009): Knowledge. In: Iriye, A., Saunier, P. (Hg.): The Palgrave Dictionary of Transnational History. Hampshire: Palgrave Macmillan, 620–626.

Raina, D. (2011): Travelling Both ways: The Adoption of Disciplines, Scientific Textbooks and Institutions. In: Günergun, F./Raina, D. (Hrsg.): Science Between Europe and Asia. Boston Studies in the Philosophy of Science 275, Dordrecht: Springer Science and Business Media, 165-176.

Raina, D. (2015): Circulation and Cosmopolitanism in 18th Century Jaipur. The Workshop of Jyotishis, Nujumi and Jesuit Astronomers. In: Lefèvre, C. / Županov, I. G. / Flores, J. (Eds.): Cosmopolitismes en Asie du Sud. Sources, itinéraires, langues (XVIe-XVIIIe siècle) (Purusharta, 33), Paris: Éditions de l'École des hautes études en sciences sociales, 307-329.

Raina, D. (2016): After Exceptionalism and Heritage: Thinking through the Multiple Histories of Knowledge. In: Brentjes, S./Edis, T./Richter-Bernburg, L. (Hg.): 1001 distortions: how (not) to narrate history of science, medicine, and technology in non-western cultures, vol. 25, Würzburg: Campus, 25–38.

Raina, D. (2019): Jesuit Missionary Societies as the „Itinerant Academies" of Catholic Orientalism in India in the Sixteenth and Seventeenth Centuries. In: *The Journal of Transcultural Studies*, 1, 121-154.

Raina, J. (2019): What's in It for School Education? Draft National Education Policy, 2019. In: *Economic and Political Weekly*, 54, 37, 15-17.

Rajagopalan, S./ Sankar, V./ Chandraker, M. (2005): Measuring Learning. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 5, 4-6.

Ramalingam, D. (2017): Test Design and Objectives. In: Lietz, P. / Cresswell, J.C. / Rust, K. F. / Adams, R.J. (Eds.): Implementation of Large-Scale Education Assessments, Chichester: Wiley, 26-62.

Rampal, A. (2017): Reaffirming the Vision for Quality and Equality in Education. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 115-129.

Rao, S. (2013): What is this thing called assessment? In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 20, 8-10.

Rehbein, B./Schwengel, H. (2012): Theorien der Globalisierung, Konstanz; München: UVK Verlagsgesellschaft, 2. überarb. Aufl.

Rekus, J. (2005): Theorie der Ganztagsschule – praktische Orientierungen. In: Rekus, J. / Ladenthin, V. (Eds.): Die Ganztagsschule. Alltag, Reform, Geschichte, Theorie, Weinheim; München: Juventa, 279, 297.

Rekus, J. (2007): Qualitätssicherung durch nationale Bildungsstandards. Schulaufsicht vor neuen Aufgaben? In: Beichel, J. / Fees, K. (Hrsg.): Bildung oder outcome? Leitideen der standardisierten Schule im Diskurs, München: Centaurus Verlag & Media UG, 53-74.

Renn, O./Karafyllis, N.C./Hohlt, A./Taube, D. (Eds.) (2017): International Science and Technology Education. Exploring Culture, Economy and Social Perceptions, Abingdon; New York: Routledge.

Resnik, J. (2006): International organizations, the "education–economic growth" black box, and the development of world education culture. In: *Comparative Education Review*, 50, 2, 173-195.

Rieger-Ladich, M. (2017): Ordnungen stiften, Differenzen markieren. Machttheoretische Überlegungen zur Rede von Heterogenität. In: Bohl, Th./Budde, J. (Hrsg.): Umgang mit Heterogenität in Schule und Unterricht. Bad Heilbrunn: Klinkhardt, 27-42.

Rishikesh, [B.S.] (2013): Learnings from the 'Learning Guarantee Programme'. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 20, 99-102.

Rishikesh, B.S. (2017): Policy Initiatives in the New Millennium. In: *Learning Curve. A Newsletter from Azim Premji Foundation,* 27, 03-09.

Robertson, S./Vista, A./Walker, M. (Eds)/NCERT (2015): Large Scale Learning Assessments: A Handbook for the Indian context, New Delhi: NCERT, http://rmsaindia.gov.in/administrator/components/com_pdf/pdf/a377d85e5eb1f3bc05dc21c4f9ae14c7-Large-Scale-Learning-Assessments-Handbook.pdf [14.08.2018]

Rogers, E.M. (2003): Diffusion of Innovations, (Free Press Trade Paperback Ed.), New York: Free Press, 5. Aufl.

Rorty, R. (1991): Objectivity, Relativism, and Truth (Philosophical Papers Volume 1), Cambridge et al: Cambridge University Press.

Rottenburg, R. (2002): Weit hergeholte Fakten. Eine Parabel der Entwicklungshilfe. Stuttgart. (2009 auf englisch erschienen)

Rottenburg, R. (2005): Code-switching, or why a metacode is good to have. In: Czarniawska, B./Sevón, G. (Eds.) (2005): Global ideas. How ideas, objects and practices travel in the global economy, (Advances in organization studies, 13), Malmö: Liber, 259-274.

Rottenburg, R. (2009): Far-Fetched Facts. A Parable of Development Aid, (Translation by Allison Brown and Tom Lampert), Cambridge (Massachusetts); London (England): The MIT Press.

Rottenburg, R./Hubig, Ch. (2007): Trading zones. Eine zielführende Strategie des Konfliktmanagements im interkulturellen Transfer. In: Hubig, Ch. /Poser, H. (Hrsg.): Technik und Interkulturalität, Düsseldorf: VDI, 221-226.

Roy, K. (2019): Examining the Draft National Education Policy, 2019. In: *Economic and Political Weekly*, 54, 25, 1-23, https://www.epw.in/engage/article/examining-draft-national-education-policy-2019 [25.05.2022].

Rürup, M. (2018): Berichtet Bildungsberichterstattung über Bildung? Eine Auseinandersetzung mit KritikerInnen. In: Bormann, I. /Hartong, S./Höhne, T. (Hrsg.): Bildung unter Beobachtung. Kritische Perspektiven auf Bildungsberichterstattung, Weinheim; Basel: Beltz Juventa, 16-42.

Sadgopal, A. (2006): Dilution, Distortion and Diversion. A post-Jomtien reflection on the education policy. In: Kumar, R. (Ed.): The Crisis of Elementary Education in India, New Delhi; Thousand Oaks; London: SAGE, 92-136.

Sadgopal, A. (2010): Right to Education vs. Right to Education Act. In: *Social Scientist*, 38, 9/12, 17-50.

Sahoo, R.N./ UNICEF India (Ed.) (2019): India. Every child learns. UNICEF education strategy 2019-2030, [New Delhi]: UNICEF India.

Said, E. W. (2019): Orientalism (Penguin Classics), London: Penguin Books.

Samson, M. / Sondhi, B.K. (2017): Himachal Pradesh. Tackling the Issue of Quality Education. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 199-214.

Sarangapani, P.M. (2010): Quality Concerns: National and Extra-national Dimensions. In: *Contemporary Education Dialogue*, 7, 1, 41-57.

Sarangapani, P.M. (2018): Notes on quality in education. In: Jain, M./Mehendale, A./Mukhopadhyay, R./Sarangapani, P.M./Winch, Ch. (Eds.): School Education in India. Market, State and Quality, Delhi: Routledge, 139-158.

Sassen, S. (2007): A Sociology of Globalization, New York; London: Norton & Company.

Schleicher, A. (2017): The Future of PISA. In: *Tertium Comparationis*, 23, 1, 113-124.

Schmitt, M. (2017): Relationale Theoriebildung. Zum Verhältnis von Emirbayers relationalem Manifest und Whites Theorie von Identität und Kontrolle. In: Löwenstein, H./ Emirbayer, M. (Eds.): Netzwerke, Kultur und Agency. Problemlösungen in relationaler Methodologie und Sozialtheorie, Weinheim; Basel: Beltz Juventa, 74-91.

Schramm, K. (2020): Einführung. In: Bauer, S. /Heinemann, T./Lemke, T. (Eds.): Science and Technology Studies. Klassische Positionen und aktuelle Perspektiven, Frankfurt am M.: Suhrkamp, 2. Aufl., 471-494.

Schreier, M. (2014): Qualitative Content Analysis. In: Flick, U.: The SAGE Handbook of Qualitative Data Analysis, London et al.: Sage, 170-183.

Sellar, S. /Lingard, B. (2013): PISA and the Expanding Role of the OECD in Global Educational Governance. In: Meyer, Heinz-Dieter/Benavot, Aaron: PISA, Power, and Policy: The Emergence of Global Educational Governance, Oxford: Symposium Books, 185-206.

Sen, A. (2005): The Argumentative Indian. Writings on Indian Culture, History and Identity, London: Penguin Books.

Sharma, P. (2015): Standards-based assessments in the classroom: A feasible Approach to Improving the Quality of student's learning. In: *Contemporary Education Dialogue*, 12, 1, 6-30.

Sikka, S. (2017): National Policy of India on Education and Human Resource Development. Public Policy and Governance in India, New Delhi: Synergy Books India.

Sörlin, S. (1992): The International Contexts of Swedish Science: A Network Approach to the Internationalization of Science. In: *Science & Technology Studies*, 5, 2, 5-12.

Soh, K. (2017): PISA Ranking. Issues and Effects in Singapore, East Asia and the world, New Jersey et al.: World Scientific.

Sood, A./ Shukla, B.L. (2006): District Primary Education Project: The Experience of Himachal Pradesh. In: *Journal of Educational Planning and Administration – A Quarterly Journal*, 20, 3, 339-360.

Soudien, C. (2011): Building quality in Education: Are international standards helpful? In: *Contemporary Education Dialogue*, 8, 2, 183-201.

Spies, E./Seesemann, R. (2016): Pluralicity and Relationality: New Directions in African Studies. In: *Africa Today*, 63, 2, 132-139.

Spring, J. (2015): Globalization of Education. An Introduction. Abingdon; New York: Routledge, 2nd ed.

Sreekanth, Y. (2007): An Analysis of Question Papers of Different Boards of Examinations in Social Sciences. In: *Indian Educational Review*, 43, 2:,18-35.

Sreekanth, Y./Tewari, A.D./Srivastava, S./Bhushan, S./NCERT (2015): What Students know and can do. A Summary of National Achievement Survey, Class X, New Delhi: NCERT, 1-57.

Srivastava, H.S. (2017): Curriculum and Instructional Designing, New Delhi: Shipra Publications.

Stegbauer, Ch. (2008): Weak and strong ties. Freundschaft aus netzwerktheoretischer Perspektive. In: Ders: Netzwerkanalyse und Netzwerktheorie. Ein neues Paradigma in den Sozialwissenschaften, (Netzwerkforschung Band 1), Wiesbaden: VS- Verlag, 105-119.

Stegbauer, C. (2016): Grundlagen der Netzwerkforschung. Situation, Mikronetzwerke und Kultur, Wiesbaden: Springer VS (Netzwerkforschung).

Steiner-Khamsi, G. (2003a): The politics of League Tables. In: *JSSE*, 1, 1-6, https://www.jsse.org/index.php/jsse/article/view/301 [16.07.2022].

Steiner-Khamsi, G. (2003b): Vergleich und Subtraktion: Das Residuum zwischen Globalem und Lokalem [Comparison and Subtraction: Investigating the Residual in Globalization Processes]. In: Kaelble, H./Schriewer, J. (Eds.): Vergleich und Transfer. Komparatistik in den Sozial-, Geschichts- und Kulturwissenschaften. Frankfurt a.M.; New York: Campus, 369 – 397.

Steiner-Khamsi, G. (Ed.) (2004): The Global Politics of Educational Borrowing and Lending, New York; London: Teachers College Press.

Steiner-Khamsi, G. (2015): Internationaler Vergleich in der postnationalen Ära. In: Parreira do Amaral, M./ Amos, S. K. (Eds.): Internationale und Vergleichende Erziehungswissenschaft.

Geschichte, Theorie, Methode und Forschungsfelder, Münster: Waxmann (New frontiers in comparative education, 2), 41-56.

Steiner-Khamsi, G. (2019): Conclusions: What Policy-Makers Do with PISA. In: Steiner-Khamsi, G./Waldow, F. (Eds.): Understanding PISA's Attractiveness, London: Bloomsbury, 233-248.

Steiner-Khamsi, G./Waldow, F. (Eds.) (2019): Understanding PISA's Attractiveness, London: Bloomsbury.

Straus, F. (2010): Netzwerkkarten – Netzwerke sichtbar machen. In: Stegbauer, Ch./Häußling, R. (Eds.): Handbuch Netzwerkforschung, (Netzwerkforschung, 4), Wiesbaden: VS Verl. für Sozialwiss., 527- 538.

Strübing, J. (2014): Grounded Theory. Zur sozialtheoretischen und epistemologischen Fundierung eines pragmatischen Forschungsstils, (Qualitative Sozialforschung), Wiesbaden: VS Verlag für Sozialwiss., 3. überarb. Und erw. Aufl.

Sukopp, T. (2010): Interdisziplinarität und Transdisziplinarität. Definitionen und Konzepte. In: Jungert, M./Romfeld, E./Sukopp, T./Voigt, U. (Hrsg.): Interdisziplinarität. Theorie, Praxis, Probleme, Darmstadt: Wissenschaftliche Buchgesellschaft (WBG): 13-29.

Suresh, N. (2019): Towards 'Schoolification' of Early Childhood Years Draft National Education Policy 2019. In: *Economic and Political Weekly*, 54, 40, 17-20.

The PROBE Team/Centre for Development Economics (1999): Public Report on Basic Education in India 1999, cited as: PROBE.

Tikly, L. (2011): Towards a framework for researching the quality of education in low-income countries. In: *Comparative Education*, 47, 1, 1-23.

Tilak, J.B.G. (2003): Vocational Education and Training in Asia. In: *Journal of Educational Planning and Administration*, 17, 1, 53-67.

Tilak, J.B.G. / Gounden, A.M.N. (2006): Private Costs and Public Financing of Elementary Education in a High-Achiever State: Tamil Nadu. In: Mehrotra, S. (Ed.): The Economics of Elementary Education in India. The Challenge of Public Finance, Private Provision and Household Costs, New Delhi; Thousand Oaks; London: Sage, 285-323.

Todd, Z. (2016): An Indigenous Feminist's Take On The Ontological Turn: 'Ontology' Is Just Another Word For Colonialism. In: *Journal of Historical Sociology*, 29, 1, 4-22.

Tröhler, D. (2013): The OECD and Cold War Culture: thinking historically about PISA. In: Meyer, Heinz-Dieter/Benavot, Aaron: PISA, Power, and Policy: The Emergence of Global Educational Governance, Oxford: Symposium Books, 141-161.

Trojanow, I. /Hoskote, R. (2017): Kampfabsage. Kulturen bekämpfen sich nicht, sie fließen zusammen, Frankfurt a.M.: Fischer Verlag, 2. ed.

Turner, R. (2010): Lessons from the International PISA project. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 14, 84-87.

UNESCO (2004): EFA Global Monitoring Report 2005. Education for All. The Quality Imperative, Paris: UNESCO.

UNESCO (2014): EFA Global Monitoring Report 2013/14. Teaching and Learning. Achieving Quality for all, Paris: UNESCO.

UNESCO (2015): Rethinking education. Towards a global common good? Paris: UNESCO, http://www.unesco.org/new/fileadmin/MULTIMEDIA/FIELD/Cairo/images/RethinkingEducation.pdf [06.09.2020].

UNESCO (2017a): Global Education Monitoring Report 2017/18. Accountability in Education: Meeting our Commitments, Paris: UNESCO.

UNESCO (2017b): Analyzing and Utilizing Assessment Data for Better Learning Outcomes, Paris: UNESCO.

Urry, J. (2003): Global Complexity, Cambridge: Polity Press.

Urry, J. (2007): Mobilities, Cambridge: Polity Press.

Global Education Monitoring Report Team / UNESCO (2016): Global Education Monitoring Report. Education for people and planet: Creating Sustainable Futures For All. https://unesdoc.unesco.org/ark:/48223/pf0000245752 [06.09.2020].

Van der Veer, P. (2001): Imperial Encounters. Religion and Modernity in India and Britain, Princeton; Oxford: Princeton University Press.

Varghese, N.V. (2010): Karnataka School Quality Assessment. In: *Contemporary Education Dialogue*, 7, 1, 144-148.

Velaskar, P. (2010): Quality and Inequality in Indian Education: Some Critical Policy Concerns. In: *Contemporary Education Dialogue*, 7, 1, 58-93.

Verger, A./Lubienski, C./Steiner-Khamsi, G. (2016): The Emergence and Structuring of the Global Education Industry. Towards an Analytical Framework. In: Verger, A./Lubienski, C./Steiner-Khamsi, G. (2016): World Yearbook of Education 2016. The Global Education Industry, Abingdon, New York: Routledge, 4-24.

Vidyasagar, R. / Akila, R. / Elangovan, R. (2017): Tamil Nadu. Progress and Prospects. In: Govinda, R./Sedwal, M. (Eds.): India Education Report. Progress of Basic Education, New Delhi: Oxford University Press, 228-243.

Visvanathan, S. (2014): Alternative School Education and the Standardisation of Right to Education Debate. In: Jayaram, N. (2014): Ideas, Institutions, Processes: Essays in Memory of Satish Saberwal, New Delhi: Orient Blackswan Private Limited, 171-200.

Vollmer, G. (2010): Interdisziplinarität – unerlässlich, aber leider unmöglich? In: Jungert, M./Romfeld, E./Sukopp, T./Voigt, U. (Hrsg.): Interdisziplinarität. Theorie, Praxis, Probleme, Darmstadt: Wissenschaftliche Buchgesellschaft (WBG), 47-75.

Vollmer, T. (2015, unpublished): Von Mahatma Gandhi "Frieden" lernen – Möglichkeiten und Grenzen des Handlungsmodells Satyagraha. Berlin: Freie Universität Berlin.

Vollmer, T. (2016): Education for a better world? Gandhi's ideas on education and their relevance in modern India. In: Wulf, Ch. (Ed.): Exploring alterity in a globalized world, Abingdon/New York: Routledge, 94-114.

Vollmer, T. (2019a): Vielfältig vernetzt - Möglichkeiten und Grenzen sozialen Lernens in der Ganztagsschule. In: Steinhäuser, H./ Zierer, K./ Zöller, A. (Hrsg.): Portfolio Ganztagsschule, Baltmannsweiler: Schneider Verlag Hohengehren, 89-96.

Vollmer, T. (2019b): Wege der Transmission von Bildungskonzepten in einer globalisierten Welt. Das Beispiel der Transformation des National Achievement Surveys in Indien. In: Clemens, I./ Hornberg, S./ Rieckmann, M. (Hrsg.): Bildung und Erziehung im Kontext globaler Transformationen, Opladen; Berlin; Toronto: Verlag Barbara Budrich, 153-166.

Walgenbach, K. (2017): Heterogenität - Intersektionalität - Diversity in der Erziehungswissenschaft, Opladen; Toronto: Verlag Barbara Budrich (UTB GmbH); 2. Aufl.

Walker, M. (2011): PISA 2009 Plus Results: Performance of 15-year-olds in reading, mathematics and science for 10 additional participants. Melbourne: Acer Press.

Weber, J. (2020): Einführung. In: Bauer, S. /Heinemann, T./Lemke, T. (Eds.): Science and Technology Studies. Klassische Positionen und aktuelle Perspektiven, Frankfurt am M.: Suhrkamp, 2. Aufl., 339-368.

Wellman, B. (1983): Network Analysis: Some Basic Principles. In: *Sociological Theory*, 1, 155-200.

Westmann, S. (2014): Ambiguities and Intertwinings in Teachers' Work. Existential Dimensions in the Midst of Experience and Global Trends, Luleå: Luleå University of Technology.

Weymann, A./ Martens, K. (2005): Bildungspolitik durch internationale Organisationen. Entwicklung, Strategien und Bedeutung der OECD. In: *ÖZS*, 30, 68-86.

White, H. (1990): Die Bedeutung der Form. Erzählstrukturen in der Geschichtsschreibung (übers. Margit Smuda). Frankfurt a.M.: Fischer Taschenbuch Verlag. Original: The Content of the Form: Narrative Discourse and Historical Representation, Baltimore [u. a.]: Johns Hopkins Univ. Press, 1987.

White, H.C. (1995): Network Switchings and Bayesian Forks: Reconstructing the Social and Behavioral Sciences. In: *Social Research*, 62, 4, 1035-1063.

White, H.C. (2008): Identity and Control. How Social Formations Emerge, Princeton and Oxford: Princeton University Press.

White, H.C./Fuhse, J./Thiemann, M./Buchholz, L. (2007): Networks and Meaning: Styles and Switchings. In: Soziale Systeme 13 (1+2), 543–555.

Wieczorek, O. / Münch, R. / Brand, A. / Schwanhäuser, S. (Preprint, 2020): Governing the School by Transnational Networks: The OECD PISA Policy Advisor Network in the Global Field of Power.

Winch, Ch. (2010): Search for Educational Quality: The Dialectic of Inputs and Outputs. In: *Contemporary Education Dialogue*, 7, 1, 19-40.

Wiseman, A. (2013): Policy Responses to PISA in Comparative Perspective. In: Meyer, Heinz-Dieter/Benavot, Aaron: PISA, Power, and Policy: The Emergence of Global Educational Governance, Oxford: Symposium Books, 303-322.

Wiseman, A.W./Taylor, C.S. (Eds.) (2017): The Impact of the OECD on Education Worldwide, Bingley: Emerald Publishing.

Wiseman, A. /Kumar, P. (Eds.) (2021): Building teacher quality in India. Examining Policy Frameworks and Implementation Outcomes, Bingley: Emerald Publishing.

Woodward, R. (2009): The Organisation for Economic Cooperation and Development. London; New York: Routledge.

Woldegiorgis, E. T. (2020): Decolonising a higher education system which has never been colonised'. In: *Educational Philosophy and Theory*, 1-13.

Woldegiorgis, E. T. / Turner, I. / Brahima, A. (2021): Introduction. In: Woldegiorgis, E. T. / Turner, I. / Brahima, A. (Eds.): Decolonisation of Higher Education in Africa. Perspectives from Hybrid Knowledge Production, Abingdon; New York: Routledge, 1-16.

Wolff, S. (2010): Dokumenten- und Aktenanalyse. In: Flick, U./von Kardorff, E./Steinke, I. (Hg.): Qualitative Forschung. Ein Handbuch, Reinbek bei Hamburg: Rowohlt Taschenbuch Verlag, 502-513, 8. Aufl.

World Bank (2020): The COVID-19 Pandemic. Shocks to Education and Policy Responses, Washington, DC.: World Bank, https://openknowledge.worldbank.org/handle/10986/33696 [26.05.2022].

Yadav, S.K. (2005): Investing in Teachers for Improving Quality of EFA. In: *Journal of Indian Education*, 31, 2, 10-16.

You, Y. (2017): Comparing school accountability in England and its East Asian sources of 'borrowing'. In: *Comparative Education*, 53, 2, 224-244.

APPENDIX

Journals

An overview of the analysed journals

Nr.	Name	Description	Data situation on India's participation in PISA 2009 Plus	Groups of experts that are publishing there and exemplary titles
J1	*Economic and Political weekly (EPW)*[319]	Since 1949, EPW is published on a weekly basis in Mumbai (earlier: Bombay). EPW is an interdisciplinary journal that discusses socially, politically, and economically relevant topics. The aim of the journal is to critically discuss current socially relevant issues. Education is one of the major topics of the journal. EPW is one of the most important journals in the Indian context and it is read worldwide.	There are hardly any papers on PISA or OECD. If so, they appeared only after 2012 and focus more on the World Bank, education and assessment.	Authors from diverse disciplinary backgrounds contribute to the journal, mainly scientific community. Exemplary papers: Raina, D. (1990): Commoditised Science or Science for Consumption? In: *Economic and Political Weekly*, 25, 40, 2245-2247. Mehendale, A./Dewan, H. (2015): Towards a New Education Policy. In: *Economic and Political Weekly*, 50, 48, 15-18. Kumar, K. (2018): Autonomy in Times of Crisis. In: *Economic and Political Weekly*, 53, 18, 14-17.
J2	*Journal of Educational Planning and Administration – A Quarterly Journal (JEPA)*[320]	JEPA's publishing place is New Delhi. This journal is published four times a year since 1981/1982 by NIEPA (formerly NUEPA). The objective of this journal is the public dissemination of knowledge on educational planning and administration produced and shared at NIEPA.	In comparison to the other journals, there are a few more papers dealing with OECD or PISA. Many papers are concerned with quality of education and the topic area of R&D. A reference to OECD is made often. Especially the volumes 2013, 2014, and 2015 are of interest.	Heterogenous authors contribute to the journal, mainly within the area of educational planning and administration. Also international experts are publishing here. Exemplary paper: Sood, A./ Shukla, B.L. (2006): District Primary Education Project: The Experience of Himachal Pradesh. In: *Journal of Educational Planning and Administration – A Quarterly Journal*, 20, 3, 339-360.

[319] Website: http://www.epw.in/ [01.07.2022].
[320] Website: http://www.niepa.ac.in/Pub_Jepa.aspx [01.07.2022].

J3	*Indian Educational Review (IER),*[321]	IER is published twice a year by NCERT in New Delhi since 1966. The aim of the journal is to give insights in the educational research of the NCERT organization and its regional institutes. Furthermore, to give an inside view on the ongoing national Indian and international education discussion. This journal also functions as a tool for the dissemination of research to practitioners, e.g. teachers. Major topic areas are school research, education policy textbook, teaching-learning-processes and the evaluation and assessment of learning.[322]	There are hardly any papers that deal with PISA or the OECD. If so, this happens more indirect. Aspects of assessment, curriculum, and quality of education are topic areas of this journal.	Contributions are written by academics in the field of education but also by practitioners. Exemplary paper: Kumar, K. (2005): Quality of Education at the Beginning of the 21st Century – Lessons from India. In: *Indian Educational Review,* 41, 1, 3-28.
J4	*Journal of Indian Education (JIE)*[323]	JIE is published four times a year by NCERT in New Delhi since 1976. The aim of the journal is to discuss recent questions and innovations in education. The main topics are historical and	There are hardly any papers on PISA or the OECD. If so, this happens more indirect. Assessment, evaluation, curriculum, teacher education, and quality of education are topic areas of this journal.	Contributions are written by academics in the field of education but also by practitioners. Exemplary paper: Agrawal, M. et al. (2006): Changing the Typology of Questions in Examinations. In: *Journal of Indian Education*, 31, 4, 40-52, (amongst them are Chandrasekhar, K. and Sreekanth, Y.)

[321] Website IER: http://www.ncert.nic.in/publication/journals/journal_ier.html [currently not accessible].
[322] "The journal publishes articles and researches on educational policies and practices and values material that is useful to practitioners in the contemporary times. The journal also provides a forum for teachers to share their experiences and concerns about schooling processes, curriculum, textbooks, teaching-learning and assessment practices." (IER – 2017-55-1: 5)
[323] Website: http://www.ncert.nic.in/publication/journals/journal_jie.html [09.01.2018, currently not available].

		contextual perspectives on education in India.[324]	In a special issue on quality in education, it is stated that from the end of the 18th century and especially after achieving independence in 1947 „equality, quality and quantity were crucial issues in the Indian education" (JIE-2016-52-3: 03)	
J5	*Contemporary education dialogue (CED)*[325]	The publishing place of CED is New Delhi. This journal is published twice a year since 2003. The aim of CED is to critically discuss current national and international educational questions. Openness and interdisciplinarity are key characteristics of CED. The main topics are education for all, inequality, gender, poverty, teacher education and many others more.	There are hardly any papers on PISA or the OECD. Kumar/Sarangapani (2004) and Sharma (2015) are to be highlighted here. However, there is a special issue on quality in education (CED 2010, 7,1). This special issue is based on a conference organized by Digantar, Jaipur, and ICICI.	Contributions are written by academics as well as by educationists. Exemplary papers: Dhankar, R. (2003): The Notion of Quality in DPEP Pedagogical Interventions. In: *Contemporary Education Dialogue*, 1, 1, 6-34. Kumar, K. /Sarangapani, P. M. (2004): History of the Quality Debate. In: *Contemporary Education Dialogue*, 2,1, 30-52. Basu, M. (2006): Negotiation Aid: World Bank and Primary Education in India, In: *Contemporary Education Dialogue*, 3, 2, 133-154. Fennel, S. (2007): Tilting at Windmills: Public-Private Partnerships in Indian Education Today, In: *Contemporary Education Dialogue*, 4, 2, 193-2016.

[324] "NCERT encourages original and critical thinking in education. JIE provides a forum for teachers, teacher educators, educational administrators and researchers through presentation of novel ideas, critical appraisals of contemporary educational problems and views and experiences on improved educational practices. Its aim include thought-provoking articles, challenging discussions, analysis challenges of educational issues, book reviews and other related features." (JIE-2016-52-3: 05-06 Journal Cover)

[325] *"Contemporary Education Dialogue* serves as an independent open forum for researchers and practitioners to sustain a critical engagement with issues in education by engendering a reflective space that nurtures the discipline and promotes inter-disciplinary perspectives." (Website: http://ced.sagepub.com/ [01.07.2022] and https://uk.sagepub.com/en-gb/eur/contemporary-education-dialogue/journal202038 [01.07.2022].

				Dhankar, R. (2010): Editorial. In: *Contemporary Education Dialogue*, 7,1, 2-6. Soudien, C. (2011): Building quality in Education: Are international standards helpful? In: *Contemporary Education Dialogue*, 8, 2, 183-201. Sharma, P. (2015): Standards-based assessments in the classroom: A feasible Approach to Improving the Quality of student's learning. In: *Contemporary Education Dialogue*, 12, 1, 6-30.
J6	*Learning Curve. A Newsletter from Azim Premji Foundation (LC)*[326]	The publishing place of LC is Bangalore. LC is published three times a year by Azim Premji Foundation (APF) since 2003. The aim of the journal is to enrich the educational discussion in research and praxis. It is a "theme-based publication focussing on topics of current relevance to the education sector" (LC, 2013, 20: 106).	This publication is of significant relevance for the research, because international and national developments are covered. Especially of interest are the issues on educational assessment and educational policy development. At least two papers take reference to PISA and the OECD, both are written by ACER experts. There are special issues on Science Education, Reading (published 2009), Mathematics (published 2010) and on educational assessment in general (published 2013).	Contributions are written from various national and international experts, for example academic researchers, teachers, students, parents and educational experts. Exemplary papers: Agnihotri, V./ Shukla, N./ Bhandari, A. (2009): The Potential of Assessment in Science. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 12, 27-30. Mendelovits, J. (2009): Reading Literacy: From International Perspective to Classroom Practice. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 13, 73-76. Turner, R. (2010): Lessons from the International PISA project. In: *Learning Curve. A Newsletter from Azim Premji Foundation*, 14, 84-87.

[326] Website: https://azimpremjifoundation.org/foundation-publications/1351#page-title [01.07.2022].

J7	*International Developments (ID)*[327]	Since 2011, ID is published once a year by ACER in Camberwell, Australia. The aim of the journal is to inform the reader about ACER's activities and to discuss current questions in education. The focus of this publication is set on international empirical educational research.	A review of the time from 2011 until today shows, that ACER could reinforce and expand its engagement in India. Beyond that this publication informs about other organizations in India and their activities in the field of assessment.	Contributions are written mainly by ACER employees and ACER-related experts. No specific names are given.

[327] Websitet: https://research.acer.edu.au/intdev/ [01.07.2022].

Documents

Table overview documents

This table lists different categories and subcategories of documents. It also gives examples. Nevertheless, the list is not exhaustive. Further used documents are enlisted in the references section.

Nr.	Category	Sub category	Example
D1	Policy Documents	laws (constitution of India); NPE 1966, 1986; RTE 2009; NEP 2020; MoU between OECD and the Indian government (not available)	MLJ (2009): The Right of Children to Free and Compulsory Education Act 2009, New Delhi: Government of India, https://www.education.gov.in/sites/upload_files/mhrd/files/upload_document/india_education_act_2009.pdf [01.07.2022].
D2	PISA Reports and Questionnaires	ACER report of PISA 2009 Plus (Walker 2011); PISA-test items in Tamil language from 2009 (some exemplary photo copies)	Walker, M. (2011): PISA 2009 Plus Results: Performance of 15-year-olds in reading, mathematics and science for 10 additional participants. Melbourne: Acer Press. Dhamija, R. (draft of report): Final Report On Main Survey for OECD's Programme for International Student Assessment (PISA) in India – 2009+, prepared for submission to ACER.
D3	Annual Reports	annual reports of the institutions MHRD and NCERTs/ NUEPA, of organizations such as ASER, CSF, ACER, OECD.	NCERT (2009): Annual Report 2008-2009, New Delhi: NCERT, 111-122.
D4	Other organizational reports	Other publication series of (inter-)- national organizations such as OECD and World Bank.	Oza, J./Bethell, G. (2013): Assessing Learning Outcomes: Policies, Progress and Challenges. Sarva Shiksha Abhiyan, DFID Funded Research Study, New Delhi: DFID.

			Das, J./ Zajonc, T. (2008): India Shining and Bharat Drowning: Comparing Two Indian States to the Worldwide Distribution in Mathematics Achievement, World Bank Policy Research Working Paper No. 4644. Hill, S. /Chalaux, T. (2011): Improving Access and Quality in the Indian Education System, OECD Economics Department Working Papers, No. 885, OECD Publishing Paris. Sahoo, R.N./ UNICEF India (ED.) (2019): India. Every child learns. UNICEF education strategy 2019-2030, [New Delhi]: UNICEF India. The PROBE Team/Centre for Development Economics (1999): Public Report on Basic Education in India 1999, cited as PROBE. De, A./Khera, R./Samson, M./Shiva Kumar, A.K. (2011): PROBE Revisited. A Report on Elementary Education in India, New Delhi: Oxford University Press. MHRD (2009a): Teacher Development and Management. Discussions and suggestions for policy and practice emerging from an International Conference on Teacher Development and Management held at Vidya Bhawan Society, Udaipur from 23rd to 25th February 2009
D5	Parliament requests	Parliament requests from 2014 till today related to PISA 2009, to a possible new participation of India in PISA, related to the National Achievement Survey (NAS) of NCERT and to the new National Education Policy (NEP) as well as to the World Bank and UNESCO.	Parliament question nr. 2852 from December, 10th 2014

D6	Conference papers	-	Dhankar, R. (2011): The idea of quality in education, 16th March 2010 (revised on 11th December 2011), Azim Premji University, Bangalore and Digantar, Jaipur. Oza, J. /Yagnamurthy, S. /Srivastava, S./Pennells, J. (2015): Evidence for learning: supporting the development of the Government of India‘s National Achievement Survey, Conference Paper: „Learning for Sustainable Futures. Making the Connections“, 13th International Conference on Education and Development, Sep. 15-17, 2015, University of Oxford, UK, 1-15.
D7	Concept note	-	Department of Educational Measurement and Evaluation (DEME)/NCERT (n.D. [2009-2012]): Introduction of Item Response Theory in National Achievement Surveys under Sarva Shiksha Abhiyan. Concept note: Item Response Theory, New Delhi: NCERT; cited as: DEME/NCERT n.D.
D8	Blogpost and Websites	-	Prayatna, http://prayatna.typepad.com/education/2011/12/india-in-pisa-2009-process.html [30.10.2017]. OECD-Website: “How to Join PISA. Requirements for OECD Partner Countries and Economies to Participate in PISA”, [31.01.2019], currently not available.

Description of the DPEP programme by the World Bank

"The Second District Primary Education Project will assist the Department of Education and the government of India to extend the District Primary Education Program (DPEP) into about 50 to 60 new districts chosen from Uttar Pradesh and the seven states already participating in the First District Primary Education Project (DPEP I), and up to 15 districts in three new states (Gujarat, Himachal Pradesh and Orissa). Like DPEP I, this project will build national, state, district, and sub-district level managerial and professional capacity for the sustainable development of primary education in the project states and will support district-based activities aimed at improving access to education, reducing dropout and increasing learning achievement, with special emphasis on interventions that will target female and scheduled caste/scheduled tribe students, as well as children with mild to moderate disabilities. The project will consist of the following four components: 1) building and strengthening state institutional capacity in project states; 2) improving the quality of, reducing dropout from, and expanding access to primary education by strengthening the capacity of district and sub-district institutions to plan and manage program delivery; developing community participation and awareness; improving teacher in-service training, learning materials and teaching aids; and constructing new classrooms and improving existing school facilities in participating districts; 3) developing a distance education program; and 4) continuing the national management structure support for DPEP."[328]

Description of the DPEP programme by the Indian government

"DPEP is an externally aided project. 85 per cent of the project cost is met by the Central Government and the remaining 15 per cent is shared by the concerned State Government. The Central Government share is resourced through external assistance. At present external assistance of about Rs.6,938 crore composing Rs.5,137 as credit from IDA and Rs.1,801 crore as grant from EC/DFID/UNICEF/Netherlands has been tied-up for DPEP." (MIB 2010: 234)

"Major Achievements of DPEP:
i. DPEP has so far opened more than 1,60,000 new schools, including almost 84,000 alternative schooling (AS) centres. The AS centres cover nearly 3.5 million children, while another two lakh children are covered by Bridge Courses of different types;
ii. The school infrastructure created under DPEP has been remarkable. Works either complete or in progress include 52758 school buildings, 58,604 additional classrooms, 16,619 resource centers, 29,307 repair works, 64,592 toilets, and 24,909 drinking water facilities,
iii. The Gross Enrolment Ratio (GER) for Phase-I states was around 93 to 95 per cent for the last three years. After the adjustment for the Alternative Schools/Education Guarantee Centers enrolment, the GER in the 2001-02 works out above 100 per cent. In the districts covered under subsequent phases of DPEP, the GER including enrolment of AS/EGS was above 85 per cent;
iv. The enrolment of girls has shown significant improvement. In DPEP-I districts, the share of girls enrolment in relation to total enrolment has increased from 48 per cent to 49

[328] See: http://projects.worldbank.org/P035821/district-primary-education-project-ii?lang=en [20.05.2022]

per cent, while this increase in the subsequent phases of DPEP districts has been from 46 per cent to 47 per cent;

v. The total number of differently bled children enrolled is now more than 4,20,203 which represents almost 76 per cent of the nearly 5,53,844 differently-abled children identified in the DPEP States;

vi. Village Education Committees/School Management Committees have been setup in almost all project villages/habitations/schools,

vii. About 1,77,000 teachers, including para-teachers/Shiksha Karmis have been appointed;

viii. About 3,380 resource centers at block level and 29,725 centers at cluster level have been set-up for providing academic support and teacher training facilities" (ibid: 234f).

Results for Himachal Pradesh and Tamil Nadu in PISA 2009 Plus

„Himachal Pradesh-India

The mean reading literacy score for Himachal Pradesh-India was 317. This was the lowest mean reading score observed in PISA 2009 and PISA 2009+, along with that of Kyrgyzstan. In Himachal Pradesh-India, 11% of students are estimated to have a proficiency in reading literacy that is at or above the baseline level needed to participate effectively and productively in life. It follows that 89% of students in Himachal Pradesh-India are estimated to be below this baseline level. Students in Himachal Pradesh-India attained a mean score of 338 on the PISA mathematical literacy scale, statistically the same as those observed in Tamil Nadu-India and Kyrgyzstan. In Himachal Pradesh-India, 12% of students are proficient in mathematics at least to the baseline level at which they begin to demonstrate the kind of skills that enable them to use mathematics in ways considered fundamental for their future development. In Himachal Pradesh-India, there was a statistically significant gender difference of 30 score points in mathematical literacy, favouring boys. Himachal Pradesh-India's students were estimated to have a mean score of 325 on the scientific literacy scale, which is below the means of all OECD countries. This was the lowest mean science score observed in PISA 2009 and PISA 2009+, along with that of Kyrgyzstan. In Himachal Pradesh-India, 11% of students are proficient in science at least to the baseline level at which they begin to demonstrate the science competencies that will enable them to participate actively in life situations related to science and technology. In Himachal Pradesh-India, there was a statistically significant gender difference of 20 score points in scientific literacy, favouring boys." (Walker 2011: xiv)

„Tamil Nadu-India

Students in Tamil Nadu-India attained a mean score of 337 on the PISA reading literacy scale. This mean score is significantly higher than those for Himachal Pradesh-India and Kyrgyzstan but lower than all other participants in PISA 2009 and PISA 2009+. In Tamil Nadu-India, 17% of students are estimated to have a proficiency in reading literacy that is at or above the baseline level needed to participate effectively and productively in life. This means that 83% of students in Tamil Nadu-India are estimated to be below this baseline level. Students in Tamil Nadu-India attained a mean score of 351 on the PISA mathematical literacy scale, the same as those observed in Himachal Pradesh-India, Panama and Peru. This was significantly higher than the mean observed in Kyrgyzstan but lower than those of other participants in PISA 2009 and PISA 2009+. In Tamil Nadu-India, 15% of students are proficient in mathematics at least to the baseline level at which they begin to demonstrate

the kind of skills that enable them to use mathematics in ways considered fundamental for their future development. In Tamil Nadu-India, there was no statistically significant difference in the performance of boys and girls in mathematical literacy. Students in Tamil Nadu-India were estimated to have a mean score of 348 on the scientific literacy scale, which is below the means of all OECD countries, but significantly above the mean observed in the other Indian state, Himachal Pradesh. In Tamil Nadu-India, 16% of students are proficient in science at least to the baseline level at which they begin to demonstrate the science competencies that will enable them to participate actively in life situations related to science and technology. In Tamil Nadu-India, there was a statistically significant gender difference of 10 score points in scientific literacy, favouring girls." (Walker 2011: xvif).

OECD-website on requirements for an application for PISA

"**How to Join PISA. Requirements for OECD Partner Countries and Economies to Participate in PISA**

Background

The PISA Programme was launched in 1997 by the OECD with the objective to develop regular, reliable and policy relevant indicators on student achievement. Specifically, it was intended to deliver four types of products:

(a) a set of basic indicators that will provide policy makers with a baseline profile of the knowledge, skills and competencies of students in their country;(b) a set of contextual indicators that will provide insight into how such skills relate to important demographic, social, economic and educational variables;(c) trend indicators that will become available because of the on-going, cyclical nature of the data collections; and (d) a knowledge base that will lend itself to further focused policy analysis.

The programme aims to assess knowledge, skills and competencies, embedded in the context of important content domains such as literacy, mathematics and science. The assessment of cross-curriculum competencies relating to both in-school and out-of-school experiences of young adults has therefore been made an integral part of the data strategy. The target population for the assessment is 15-year-olds.

To date there have been six data collections, in 2000, 2003, 2006, 2009, 2012 and 2015. The 7th data collection will be completed at the end of 2018 and its results published on 3 December 2019. The publications summarising the results of the first six cycles can be found here. To access the micro and aggregated data bases go to our Data page.

Countries and economies applying now will be eligible for participation in the data collection in 2024 (PISA 2024).

Requirements

The arrangements and requirements for participation in PISA are stated below using the example of the PISA 2021 assessment.

1) The base international overhead costs for new participants in PISA 2021 is EUR 205 000 payable over four years at EUR 51,250 per year from 2019 to 2022 inclusive. New countries can opt for customised help to implement the study. In addition they can ask for help with analysis and reporting of the data. The costs for all the options are summarised in the table below.

	Total	2019	2020	2021	2022
Base cost	€205 000	€51 250	€51 250	€51 250	€51 250
Optional support with preparation and implementation	€210 000	€52 500	€52 500	€52 500	€52 500
Optional support with data analysis and reporting	€250 000	€62 500	€62 500	€62 500	€62 500

2) In addition, the costs for the national implementation of the programme are borne entirely by the participating countries. In particular, all participating countries are required to:
i) take responsibility for drawing a representative sample of schools and students in compliance with the internationally agreed target population definitions and sampling procedures. The field trial included a sample of approximately 1,500 students and the main study a sample of approximately 6,000 students;
ii) have the authority and resources to recruit schools to participate and to administer the assessment;
iii) have the capacity to deal with issues of translation, preparing and spiralling of assessment booklets;
iv) have the capacity to process returned booklets and score open-ended test items; and
v) contribute to the international overhead costs.

3) Participating countries need to appoint a National Project Manager (NPM) who carries out the surveys in the national context. The National Project Managers work with the OECD contractor on all issues related to the implementation of PISA in their country. They play an important role not just in the successful implementation of PISA in accordance with OECD quality standards, but also in the development and review of PISA reports and publications. The National Project Manager should have a university degree and previous experience in planning, organising and conducting large-scale surveys. Skills in managing a project with simultaneous multiple tasks, a high level of oral and written communication skills, fluency in English and knowledge of the national education systems are also important. English is the communication language for National Project Managers as well as the language used in the respective written documentation.
All participants are expected to attend the meetings of the National Project Managers. For the PISA 2021 cycle the first meeting will be held in January 2019 followed by two other meetings in March and November. Further meetings will be held in 2020 and 2021.

4) Participants are also expected to nominate a representative for the PISA Governing Board. This board is represented by all participating countries at senior policy levels and is responsible for specifying the policy priorities and standards for the development of indicators, establishment of the assessment instruments, and the reporting of results. The PGB meets twice a year – March/April and October/November. Participation for PISA partner countries (OECD non-member countries and economies) in this meeting is optional.

5) **Applications to participate in PISA are considered through an official letter informing the OECD of a country/economy's intention to participate in PISA including confirmation of its intention to contribute to the international overhead costs. Letters should be addressed to: Mr. Andreas Schleicher, Directorate for Education (edu.pisa@oecd.org).** The application will then be presented to the PISA Governing Board for its approval and you will be informed soon after of its decision."[329]

[329] Words in bold letters as in the original document. This information had been retrieved from the OECD website on 31.01.2019 and saved as a pdf, but is currently not available, see https://www.oecd.org/pisa/contacts/howtojoinpisa.htm [09.03.2022].

Parliament question nr. 2852 from December, 10th 2014

„GOVERNMENT OF INDIA
MINISTRY OF HUMAN RESOURCE DEVELOPMENT
LOK SABHA
UNSTARRED QUESTION NO: 2852
ANSWERED ON: 10.12.2014
PISA
ABHISHEK BANERJEE

(a) the rank obtained by India in the Programme for International Student Assessment – PISA 2009 Index;

(b) the reasons for India not participating in \PISA 2012; and

(c) the measures which have been taken since 2009 to improve India`s performance on the indicators used in the survey?

Will the Minister of HUMAN RESOURCE DEVELOPMENT be pleased to state:-

ANSWER

MINISTER OF HUMAN RESOURCE DEVELOPMENT (SHRIMATI SMRITI ZUBIN IRANI)

(a) India Participated in PISA 2009 only through schools in Tamil Nadu & Himachal Pradesh, in which 73rd rank was assigned by the PISA, 2009 Index. The reasons for poor performance were analysed and it was observed that the nature of questions/items asked in the PISA tests are content free and mostly application-based that require information on international names, brands, trademarks, products, etc. with which Indian students, especially students from rural areas, are unfamiliar.

(b) & (c) India has developed its own student assessment survey systems called the National Assessment Surveys (NAS), which are independently conducted by National Council of Educational Research and Training (NCERT) across the country on the latest international Item Response Theory (IRT) methodology. The NAS is conducted for classes III, V, VIII & X i.e. the critical stages of education early primary, end of primary, upper primary and secondary levels. The NAS is conducted every three years and provides detailed information on learning outcomes, which is useful for teacher training, curriculum development and for improving quality of education. The Central Board of Secondary Education (CBSE) has also introduced a test called Problem Solving Assessment (PSA) for the student in classes IX and XI from the year 2013, which gives students an exposure to application - oriented testing.“[330]

[330] Source: Lok Sabha, Keyword „PISA“ http://164.100.47.194/Loksabha/Questions/Qtextsearch.aspx ; Rajya Sabha http://164.100.47.5/qsearch/qsearch.aspx [13.03.2022].

Blogpost by prayatna December, 28th 2011

„In reply to a question in Parliament on March 10th, 2008 by Rajya Sabha MP, Rahul Bajaj on the reasons for India not participating in the PISA tests, Arjun Singh, the then Minister for HRD, didn't answer the question, but instead responded saying,

> The Government of India conducts its own pupil learning achievement surveys under Sarva Shiksha Abhiyan (SSA) through National Council of Educational Research and Training (NCERT) aimed to track changes in learning achievement levels of students and to give a national picture of the status of students learning levels. NCERT conducted such sample surveys for Class V in 2002-03, for Class III and Class VII/VIII in 2003-04 and for Class-V in 2006-07. The NCERT surveys cover a representative sample of students across districts.

Subsequently, the government seems to have changed its mind and decided to participate in the PISA tests on a pilot basis. In NCERT's Annual Report for 2008-09 (p117), there is a mention of Prof. Avtar Singh of NCERT attending the National Project Managers Meeting of PISA 2009 cycle at Frankfurt in February 2009. To my knowledge, there is no other mention of PISA on any of the government web sites or documents.

A February 2011 report by the Australian Council for Educational Research (ACER) office in India on the preparation for conducting the PISA tests in the two states in India as part of the 2009+ round provides some context and background.

> In 2009 PISA cycle, 65 countries (32 member and 33 non member) participated. In India after continuous deliberation among the leading educational policy making institutes like MHRD, NCERT, NUEPA, CBSE and development partners like World Bank, a Memorandum of Understanding (MoU) was signed between OECD and MHRD regarding India's participation in PISA in 2009 plus cycle. As it was late for any country to participate in PISA, a new timeline was developed to accommodate India and eight other countries (Georgia, Costa Rica, Mauritius, Malaysia, Moldova, Venezuela (Miranda), Malta, UAE (except Dubai). Initially it was suggested, India was to participate in PISA with four states but on further deliberations it was decided that only two Indian states (Himachal Pradesh and Tamil Nadu) will participate in this prestigious activity.
>
> World Bank contracted Australian Council for Educational Research (India) to support NCERT in conducting PISA 2009 plus in India in the states of Himachal Pradesh and Tamil Nadu for training of personnel involve in field administration (school coordinator & test administrator), quality monitoring of field administration, training of coders and supervision of coding activities.
>
> In India, PISA is administered in three languages i.e., English, Hindi and Tamil.

There are more details in the ACER India report on how personnel were trained to administer the PISA tests in Tamil Nadu and Himachal Pradesh, how quality was monitored and the challenges faced in adminstering the PISA tests in India for the first time. Around 16,000 students from 400 schools in these two states were tested as part of the PISA 2009+ cycle of tests."[331]

[331] Blogpost: http://prayatna.typepad.com/education/2011/12/india-in-pisa-2009-process.html [01.07.2022].

Interviews with experts

Semi-structured interview guide

For the purpose of facilitating the reading during the course of the conduct of the interviews, some words were underlined to optically highlight them. These underlined questions were valued as of being of core questions to enhance the possibility of comparing the interview data amongst the waves of data collection.

Welcome address, explaining the way of proceeding

Introduction
In 2009, Himachal Pradesh and Tamil Nadu joined the PISA test. We are very much interested in the whole process of this participation.

Opening question
Could you please tell us from your perspective how it came that those two states participated and what happened then?"

Issue related questions
Possibly asked questions:
How precisely took the process place? Could/Can you tell us the way of proceeding as elaborately as possible? For example in a detailed description? Of course, as far as you might remember the process and also as far as you have notice/knowledge of the way of its proceeding. Thus, what happened and how did it happen?
Who participated? Could/Can you tell us any names?
How did it come that Tamil Nadu and Himachal Pradesh were chosen? Why these two states?
Can/Could you also tell us anything about the process of rejection? When was PISA gone?
What is it like today?
Yet, are there changes in the educational system related to PISA and the global diffusion of educational concepts (for example the so called 'standards')? (If an answer or no answer is given, then: for example within the curriculum?)

Last question:
Thinking about education in the 21st century and given challenges like f.ex. education for all and given the worldwide diffusion of the philosophy of testing – do you think the idea of assessment helps in whole? Or in what regard? ~ betterment of education

Standardized questions
Regarding our research project, do you have any suggestions?
Which kind of journals should we consider?
Which kind of experts (also experts belonging to other areas) should we ask?
Which kind of texts or papers should we read?

Thanks
Thank you so much

Revised semi-structured interview guide

Alternative: Working with periods rather than terms such as „rejection": (1) prior participation (2006-2010), (2) after participation (2010-2012, and 2012-2015), (3) and today (2015-2019). Changes are indicated with blue colour.

Welcome address, explaining the way of proceeding

Introduction
In 2009, Himachal Pradesh and Tamil Nadu joined the PISA test. We are very much interested in the whole process of this participation.

Opening question
Could you please tell us from your perspective how it came that those two states participated and what happened then?"

Issue related questions
Possibly asked questions:
How precisely took the process place? Could/Can you tell us the way of proceeding as elaborately as possible? For example, in a detailed description? Of course, as far as you might remember the process, and also as far as you have notice/knowledge of the way of its proceeding. Thus, what happened and how did it happen?
Who participated? Could/Can you tell us any names?
Alternative: Period 2006-2010: What was the situation in India like before the participation? What have been hopes/expectations?

How did it come that Tamil Nadu and Himachal Pradesh were chosen? Why these two states?
Alternative: According to one comment, four states were asked, but only two accepted: HP and TN. Why HP and TN? What have been the other two possible states? Why not Kerala?

Can/Could you also tell us anything about what happened after the results were out? When was PISA gone?
Alternative: Period 2010-2012 and 2012-2015: What was the situation in India like after participation of India in PISA? What kind of critique/reflection on how PISA has been conducted in India?

Alternative: Period 2010-2012: When was PISA gone? How exactly did it happen? (When and how was the decision made to withdraw from PISA?)
Period 2012-2015: Can you also tell us anything about what happened after 2012 (the withdrawal) from it?

What is it like today?
Period 2015-2019: Given that newspaper articles say India is most likely to take part in PISA again, what is the situation like today? How many states will take part in next round? And which states will take part? Which kind of schools? What kind of hopes/expectations for next round?

Yet, are there changes in the educational system related to PISA?
(If an answer or no answer is given, then: for example, within the curriculum, within the way testing is done?)

Alternative: A widely shared view is, that PISA changes the way testing is done in India (e.g. transformation of NAS). What do you think today about this, are there already visible changes in the educational system related to PISA?

Questions with the aim of theory building:
Period 2015-2019: Given that newspaper articles say India is most likely to take part in PISA again, what is the situation like today? How many states will take part in next round? And which states will take part? Which kind of schools? What kind of hopes/expectations for next round?

Looking through the literature, there is less written on the engagement of OECD in India. Yet, according to newspaper articles, preparations for another participation of India in the PISA study have already begun. How present is the engagement of OECD in India according to your view?

Moreover, it seems that the Australian Council for Educational Research (ACER), who conducted the PISA study until 2015, is an important actor in shaping and transforming the way testing is done in India. How present is the engagement of ACER in India according to your view?

Stressing the aspect of negotiation (trading zone)
Reading a comment of an interview expert: *it was not like that World Bank was rolling over India*. Given that, how do you view India's negotiation with the OECD/ with ACER?

A widely shared view is, that the time span of participating in the PISA 2009 Plus project was too short for deep changes in the education system, e.g. in reference to curriculum reform. However, changes are visible in the way testing is done. (e.g. transformation of NAS). What do you think today about this, are there already visible changes in the educational system related to PISA?

Period 2015-2019: Given that newspaper articles say India is most likely to take part in PISA again, what is the situation like today? How many states will take part in next round? And which states will take part? Which kind of schools? What kind of hopes/expectations for next round?

Last question:
Thinking about education in the 21st century – do you think the idea of assessment helps? In whole? Or in what regard?

Standardized questions
Regarding our research project, do you have any suggestions?
Which kind of journals should we consider?
Which kind of experts (also experts belonging to other areas) should we ask?
Alternative: Do you know any experts in HP and TN?

Which kind of texts or papers should we read?
Alternative: Where can I find documents stating the decision to participate or withdraw from PISA?

Thanks
Thank you so much!

Key for transcription

Abbreviation	Explanation
I1, I2	The abbreviations „I1" and „I2" stand for interviewers
E1-E18	The abbreviations stands „E1-E18" for experts
N.N.	In case, names of people or places that are not understandable, these are changed to N.N. (as place holders).
[N: text]	If a person is speaking and another person is saying something in between, this intersection is marked as „[N: text]".
Name of Journal	Names of journals are put in italic letters.

Table overview of interview data

Number	Organisation	Date	Number of Audio files	Interview length	Interviewer	Type of interview
E1	Independent researcher	27.06.2016	1	1:47	I1, I2	exploration
E2	Independent researcher	20.09.2016	2	1:14 and 0:19	I1, I2	semi-structured interview
E3	Independent researcher	29.09.2016	1	0:59	I2	semi-structured interview
E4	NCERT-staff	03.10.2016/ 06.10.2016	2	0:39 and 0:35	I2	semi-structured interview
E5	Independent researcher	04.10.2016	1	0:56	I2	exploration
E6	NCERT-staff	06.10.2016	1	1:17	I2	semi-structured interview
E7	Independent researcher	06.10.2016	1	1:16	I2	semi-structured interview
E8	Independent researcher	10.10.2016	1	0:59	I2	semi-structured interview
E9	former NCERT-staff	10.10.2016	1	0:27	I2	semi-structured interview
E10	Pratham/ASER-staff, researcher	10.10.2016	1	0:40	I2	semi-structured interview
E11	Independent researcher	04.12.2017	1	0:51	I2	exploration
E12	ACER India -staff	29.11.2018	1	1:00	I2	semi-structured interview
E13	CSF-staff	30.11.2018	1	0:33	I2	semi-structured interview
E14	SCERT-staff	04.12.2018	1	0:23	I2	semi-structured interview
E15	APF-staff	04.12.2018	1	1:15	I2	semi-structured interview
E16	former project manager for PISA in TN	11.12.2018	1	0:53	I2	semi-structured interview
E17 + E18	NCERT-staff	18.12.2018	1	1:24	I2	semi-structured interview

Analysis

Coding frame

Main categories	**Subcategories**	**Sub-subcategories**	**Description of the scope of the category, definitions, examples**
International organisations	Frequently mentioned	ACER, OECD and PISA, World Bank, UNICEF, UNESCO, DFID,	This category includes descriptions of international organisations in general and descriptions of relevant international organisations in particular. In this code, general knowledge is collected for instance on the organisation OECD. The focus is set on the OECD Directorate of Skills and Education, headed by Andreas Schleicher. Furthermore, it encompasses descriptions about PISA in general, about the PISA test items, the PISA league table, the PISA 2009 Plus Project in particular and the PISA for Development project. Lastly, this category collects descriptions of educational consultants.
	Less frequently mentioned	Pearson, Learning Metrics Task Force, ETS, European Union, IEA, Gates Foundation	
	Educational Consultants	-	
Indian national organisations	MHRD/MoE	RTE 2009, Educational Programmes, FICCI, NTA	The most important ones for the research are MHRD and NCERT. Then there are also educational programmes such as SSA, RMSA, DPEP, educational laws like the RTE 2009. Furthermore, the FICCI round table as well as a newly built organization called NTA. This category collects descriptions of the organisation NCERT for instance. Lastly, it encompasses descriptions of governmental officials resp. bureaucrats.
	NCERT	DEME/ESD, NAS, CCE	
	state governments	SCERT	
	KV's	-	
	Governmental bureaucrats in administration of education	-	
Private Indian testing organisations	Frequently mentioned	Pratham/ASER, APF and APU, Educational Initiatives	This category collects descriptions of private institutions in general and descriptions of private institutions in particular, e.g. the organisations Pratham/ASER and APF.

	Less frequently mentioned	Central Square Foundation (CSF), Gray Matters India,	
Networks and Subgroups, Exchange and Lobbying	Networks and subgroups	-	This category encompasses descriptions of networks in general and descriptions of subnetworks in particular. Positionings and relations are considered as well as diverse modes of communication, e.g. via messaging apps and phone calls. There are for instance intra- and inter-institutional whatsapp-groups. It contains a description of flows of knowledge in networks as a cascade. Furthermore, descriptions of documents are collected, e.g. the Right to Education Act 2009. Lastly, flows of money and funding, e.g., the funding of PISA.
	Messaging apps and phone calls		
	documents and		
	funding/ money		
Stories on how PISA emerged in India	Standard story: OECD approached India	-	This category encompasses different story (segments) on how PISA made its way to India. It depicts the standard story, collects story segments that hint to an alternative story, and summarizes story segments to a preliminary bird's-eye view. Lastly, it contains passages that express no knowledge on how PISA came to India.
	Alternative Story: Political pressure to participate in PISA		
	Bird's-eye view: Through organized meetings		
	No knowledge on PISA to India		
Selection of States to test	About the two participating states	Himachal Pradesh (HP) and Tamil Nadu (TN)	This category encompasses different story (segments) on how the two states were selected. It collects descriptions of the two states as well as of other non-participating states, especially Kerala. It summarizes expectations on the two states. Lastly, it contains passages that express no knowledge on how Himachal Pradesh and Tamil Nadu were chosen.
	Other non-participating Indian states	Kerala, Karnataka, Chandigarh, Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Jharkhand, Uttar Pradesh	
	Standard story: Government of India takes decision on HP and TN	-	

	No Knowledge on HP and TN	-	
	Expectations on HP and TN	They will do well	
		Two states will give better image of India	
		Taking HP and TN as role model	
		HP and TN will agree	
PISA 2009 Hopes and Expectations	Capacity building	-	This category encompasses codes that deal with hopes and positive expectations. These are clustered to the idea of capacity building, the idea of wanting to know more about India, to the idea of being part of the international community and lastly to the idea of the relevance of aspirations of the Indian middle class to go into PISA.
	Knowing more about India and India's position in the world		
	Being part of the international assessment community		
	Aspirations of the Indian middle class		
PISA 2009 Critical Concerns	Cheating in PISA	-	This category encompasses codes that deal with critical concerns on PISA. These are clustered into cheating in PISA, PISA as being not useful for Indian contexts, to the idea that there is no need for external testing as there are already many tests conducted in India, to the idea of a socio-cultural disconnect between the PISA test and India's context, to the idea that building the system is more important, and lastly to the concern, that there has been a sample problem.
	Not useful for Indian contexts/Questioning the impact of PISA		
	No need for external testing		
	Socio-cultural disconnect		
	Building the system is more important		
	Sample problem		
PISA 2009: Reflection of the participation process	Pilot study	-	This category encompasses codes that deal with the reflection on the PISA test and India's participation in it. Secondly, it collects descriptions of the public discussion about PISA in India.
	Post-PISA 2009 public discussion		
Changes in India in relation to PISA	Changes in the conduct of testing/ Using Item-Response-Theory	-	This category encompasses codes that deal with changes in relation to the PISA test and India's participation in it. These are clustered to changes in the way testing is done, to the idea of being more open towards international collaboration, to the idea of building capacity and participating more in international
	Being more open towards international collaboration		

	Capacity building and international cooperation Testing disease and being mad after testing No connection to PISA		collaboration, and to the critical concern, that the idea of testing spreads out like a disease. Lastly, it collects passages that expressed no knowledge on how PISA effected education in India and passages that expressed that there are no connections between PISA and changes in the Indian education system visible.
(Inter-)national Educational Testing in India	Standardization as two-sided coin	-	This category includes descriptions of testing on an international and national level. It collects descriptions of the idea of educational testing in general as well as descriptions of the state of art of doing testing in India. Secondly, it clusters passages that deal with standardization, its advantages and disadvantages.
Diversity and Context-sensitivity	Diversity of Schooling in India	-	Diversity with its various dimensions is an issue for almost every expert (or document), whether they were involved in PISA 2009, or not. The covered dimensions of diversity are: rural-urban-disparity, context, poverty, English as language, reflection on coloniality, social/global inequality, and access.
Globalisation and Competition	Neoliberalism in India/ International policies	-	This category encompasses codes that deal with globalisation and competition on the Indian national level as well as on the international level. It also contains descriptions of Olympiads and pageants as (playful) forms of testing and competition as for instance in sports, beauty, and mathematics. Furthermore, descriptions that illustrate competition as a horse race, or a rat race. Secondly, it contains descriptions on the effect of neoliberalism in India. Thirdly, it collects descriptions on international policies. Lastly the herewith propagated need for educational reform.
International Comparison	Frequently mentioned	Central Europe, UK/USA, South East Asia/Singapore, China,	This category encompasses descriptions on international comparisons in general and in particular comparisons through PISA. It is divided in countries that are frequently mentioned and

		Kyrgyzstan, Scandinavia	countries that are less frequently mentioned. In the interviews with experts, Germany is mentioned often, because of the background of the interviewer. Germany got mentioned often because it did badly in PISA at first, but improved over time. UK/USA are mentioned because of existing international relations and collaboration, for instance student mobility. Furthermore, anglo-north-american contexts are mentioned to bring other contexts (other than the Indian or German context) into the discussion. China, Singapore and Scandinavia are mentioned because they are perceived as high-achiever states.
	Less Frequently mentioned	Latin- and South-America, Africa, Australia	
Education and Academic Educationists		-	This category collects descriptions on education very broadly and on educationists in particular.
Development through education		-	This category deals with the idea to reach development by means of education.
The Quest for Quality of Education	Learning and Crisis of Learning	-	This category encompasses passages that deal with the learning crisis in India and the therewith connected policy debate.
	Improving Learning and bringing accountability to the system		
Teacher	-	-	This category encompasses passages that deal with the image and positions of teachers in India, as well as their education and training.

Reading questions

To obtain an overview of the data set, to systemize the collected data, and to build the theoretical and methodological framework of the study, the material had been analysed with the following set of questions:

On networks:	Which kind of data on the network do I gain out of literature, documents, and interviews? Do I see limitations of the network or structural holes in the data? Are there reciprocal ties in the data? Are there key nodes of influence? Who are they? Who participates in which events? What kind of ties are emerging from that? Which kind of tools have been transferred? What is a tie?
On the quality of the collected data:	What kind of quality has the information I gather out of the different data sources? Which information? What kinds of questions do evolve? Where are knowledge gaps? Which difficulties appear? Where are limitations within the collected data or the range of the methods? What kind of elements are there within the data set? Does the data set provide more insights, when looking at it with quantitative methods of analysis, than when looking at it with qualitative methods of analysis?
Journals	About the scientific community: Who publishes? What kinds of groups are visible? Who is cited? What is the scientific community speaking about? What are their arguments? What kind of topics can be extracted from the literature analysis? How can these be clustered? What role does educational research play? About the participation process: Who has been responsible in the administration of the PISA test at national and state level? Who would be willing to speak about it? How can one read the participation process? Was it a political decision? Who was involved in it? Which kind of stories are there? Interest on pro and contra arguments: Why is it good to participate in PISA? What kind of hopes were expressed? What kind of constraints were expressed? What are the expected advantages and disadvantages?
Document analysis	Which kind of conceptions of education, teacher image, quality, assessment, evaluation, and development are stated in documents? What is a document for me?

	What is the informative value of the document? What kind of information do I get out of the document?
Interviews with Experts	What was the process like? Which valuable information are given, which are not published elsewhere? Which kind of linkages/connections become visible through the interviews? How are the experts socially embedded? How is this documented in interviews or documents? What position do they have? What do they know about the PISA process in India?
On the whole data set:	Which topics evolve out of the journals, documents, and interviews? How can they be clustered? Which topics or arguments are also stated in journals and documents? Are the topics of the literature and document analysis and the topics of the interviews related?
On the theoretical and methodological framework:	How do I connect documents, interviews, and literature? How do I connect social research and network research? What is a story? What is part of a story? How is this defined? How do I select segments out of the collected data? How do I do mixed method, and triangulation? What is it especially that I gain by applying a relational perspective? What do I see that I will not discover by using only qualitative educational research methodologies?

Key for the colours of the network maps

Colour	**Description**	**Examples**
Green	Nodes that are governmental institutions or close to governmental organizations.	National Council of Educational Research and Training (NCERT).
Yellow	Academic institutions, Non-Governmental Organisations (NGOs) and free institutes.	JNU, Educational Initiatives, Pratham and its co-organization ASER.
Orange	International large organisations.	Organisation for Economic Co-operation and Development (OECD), Australian Council for Educational Research (ACER), Department for International Development, DFID, World Bank, UNESCO, UNICEF.
Blue:	Publications and events.	PROBE 1999, PISA 2009, PISA 2009+, RTE 2009. Other forms of assessment: Continuous and comprehensive evaluation (CCE) and National Achievement Survey

		(NAS) by NCERT, and Annual Status of Education Report (ASER) done by Pratham.
Red:	Countries that were often referred to.	China, Singapore, Finland and Germany are mentioned often.

Key for the shapes of the network maps

Shape	Description	Examples
Black oval	Encompassing nodes and arrows symbolising trading zones and epistemic spaces	Trading zones between governmental bodies, private organisations and educationists at the state level, e.g. round tables
Two or more circles in the same colour, but in different shades (muted colours and transparent colours)	Organisations that belong together. The different colour shades symbolise different levels and depict the hierarchy between any one organisation or socio-material arrangement. Transparent colours symbolise the bigger organisation, muted colours symbolise subordinated belonging organisations.	ACER and ACER India, Pratham and ASER, OECD and PISA; the subnetwork of governmental bodies from MHRD/GoI and NCERT up to state governments and SCERT's at the state level and corresponding regional bodies.
Arrow pointing in both directions	Depicting a relation between two nodes	NCERT and educationists, OECD and MHRD/GoI
Light-blue oval	Symbolising the global educational sector in general, or depending on the specific map the background of the trading zone	global education sector, PISA 2009 Plus, conference in Udaipur 2009

List of Abbreviations

Abbreviation	Description
ACER	Australian Council for Educational Research
APF	Azim Premji Foundation
APU	Azim Premji University
ASER	Hindustani for 'impact'; abbreviation for: Annual Status of Education Report, citizen-led assessment
CBSE	Central Board for Secondary Education
CCE	Continuous and Comprehensive Evaluation
CSF	Central Square Foundation
DEME/ ESD	Department of Educational Measurement and Evaluation / Educational Survey Division
DIET	District Institute of Educational and Training
DISE	District Information System for Education

DFID / FCDO	Department for International Development / Foreign, Commonwealth and Development Office
DPEP	District Primary Education Programme
EDI	Educational Development Index
EI	Educational Initiatives
ETS	Educational Testing Service
FICCI	Federation of Indian Chambers of Commerce & Industry
GoI	Government of India
GoS	Governments of States
HP	Himachal Pradesh
IRT	Item-Response-Theory
KSQAO	Karnataka School Quality Assessment Organisation
MHRD	Ministry of Human Resource Development (Ministry of Education)
MoU	Memorandum of Understanding
NAS	National Achievement Survey
NCERT	National Council of Educational Research and Training
NCF	National Curriculum Framework
NEP	National Education Policy
NGO	Non-Governmental Organisation
NUEPA / NIEPA	National University of Educational Planning and Administration / National Institute of Educational Planning and Administration
NPE	National Policy on Education
NPM	National Project Manager
OECD	Organization for Economic Cooperation and Development
PISA	Programme for International Student Assessment
RIE	Regional Institute of Education
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RTE	Right of Children to Free and Compulsory Education (RTE) Act, 2009, short: Right to Education Act 2009
SC	School Coordinator
SCERT	State Council of Educational Research and Training
SEQI	School Education Quality Index
SPM	State Project Manager
SSA	Sarva Shiksha Abhiyan
TA	Test Administrator
TN	Tamil Nadu
TIMMS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund / United Nations Children's Fund
UWEZO	Kiswahili for ‘capability’; citizen-led assessment, earlier conducted by Twaweza, since 2019 by Usawa, https://usawaagenda.org/about-us/who-we-are/ [08.02.2023]
VBS	Vidya Bhawan Society