Chapter 17
PISA: Ideology and a Paradigm Shift

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Abstract This chapter argues that PISA helps to strengthen the hegemony of the ruling groups. Still, at the same time, it generates political opposition from local actors and criticism from scholars. It displays the contents in six sections. First, it provides a brief background on the rise of the OECD and PISA and describes the content of the test. Second, it portrays the Global Education Reform Movement (GERM) and the role of the OECD in its promotion. Third, it presents an analysis of how the OECD and the governments that applaud its action use the parsing of science. It aims to strengthen the ideas that good education is only one in which 15-year-old students answer questions about language, mathematical understanding, and science. Fourth, it sets the speculation that on why teachers are the main piece of the reforms' purposes and, consequently, provoke rejection and opposition to PISA. Fifth, it exhibits the case of how the Mexican government ask for the OECD help to launch an education reform in 2009. However, the Department of Education rejected the OECD proposal in 2010. Afterwards, the government that took office in 2012 made a move following the OECD commendations. Still, the new administration rejected them again in 2018. Sixth, it discusses whether PISA meets the characteristics of normal science, that is, a paradigm that helps solve problems that education did not disentangle before. Or, if it is another tool, with sophisticated methodology, to reinforce the dominant ideology.

17.1 Introduction

Three collections of essays and research reports compiled by outstanding scholars analyse the Programme for International Student Assessment (PISA) and other international standardised tests from a multiplicity of viewpoints and disciplines, mostly in comparative perspective. There are historians, economists, political scientists, educators, and policymakers who discourse on PISA and its effects. The book edited by Miguel Angel Pereyra, Hans-Georg Kotthoff, and Robert Cowen, *PISA Under Examination: Changing Knowledge, Changing Tests, and Changing Schools* (Pereyra et al. 2011), portrays the mutations that PISA provoked in many places of

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the world. Although not all, but some of the authors may see the educational swaps around the planet as radical as Martha Nussbaum sees them: “nations all over the world will soon be producing generations of useful machines, rather than complete citizens who can think for themselves, criticise tradition, and understand the significance of another person’s sufferings and achievements” (Nussbaum 2010, p. xv).

The assortment made by Heinz-Dieter Meyer and Aaron Benavot, *PISA, Power, and Policy: The Emergence of Global Educational Governance*, emphasise the political aspects and consequences that PISA and the Organization for Economic Cooperation and Development (OECD) policies convey at a global scale. Nonetheless, they also analyse social concerns produced by the PISA League Tables and its production of texts, reports, briefings, and other policy documents to form a dominant discourse about educational change and governance (Meyer and Benavot 2013). Florian Waldow and Gita Steiner-Khamsi’s book, *Understanding PISA’s Attractiveness: Critical Analyses in Comparative Policy Studies*, examines the “projections,” as in a cinema, which governments and policymakers propel for the promotion of education reforms, the perception of a crisis in schooling, or the naturalisation of policies. They do their task mostly with a base on country studies (Waldow and Steiner-Khamsi 2019). The authors of the three books share a consensus in that the OECD has a remarkable influence in designing education policies on education all over the world (see Zajda 2020a, c).

The global influence of the OECD began when it launched the PISA programme. Before PISA, the organisation’s action meant to collect and scrutinise data from member countries. With the foundation of the Centre for Educational Research and Innovation (CERI) in 1968 and the publication of the annual series *Education at a Glance*, it expanded its field of action. The idea of PISA was born in 1995 (or so), and its first application was in 2000. The publication of the first results provoked various reactions: from the “PISA Shock” in Germany to a warm welcome in other countries, especially in those which students showed an achievement above the average.

Not only the OECD but also the growth of other intergovernmental organisations that were pushing for reforms in education since previous decades, such as UNESCO and the World Bank, converged on an international education reform model. Such a convergence triggered a paradigm shift in terms of visions of development that may affected education and schooling systems (Lauwerier 2017). Those organisations encouraged many international test scores, but PISA offers systematic, comparable information and assessments that provide substance to make value judgments and to impel educational policy (Carnoy 2015). The OECD contends that PISA is a reliable scientific tool to measure students’ achievement, make international comparisons, and draw valuable lessons that may lead education reforms to increase the quality of education and to impulse that the students acquire “skills for life”. PISA, thus, provided instruments for conceiving and practising education around the earth. It helps in the promotion of a global education reform movement, in which teachers and schools are at the centre (OECD 2010a, b). Even though that PISA surveys included information about schools, teachers, family context and organisational matters, it did not yield enough data to evaluate the activity of teachers. Then the

Teaching and Learning International Survey (TALIS) entered the arena in 2008, although with a smaller number of participating countries.

Sotiria Grek and Thomas Popkewitz do not use the concept of paradigm shift; yet, each one of them see a profound swing on the modes of control of the school systems: a new political technology to govern by numbers, to look for categorical rationality to arrange what and how education should be (Grek 2009; Popkewitz 2011). However, if one takes the point of view of Thomas S. Kuhn (who coined the term paradigm to categorise scientific revolutions), PISA does not contain the elements of a scientific paradigm, unless such a notion is used externally and reflects ideological visions.

17.2 The Problem

In the postscript to the second edition of *The Structure of Scientific Revolutions*, Kuhn says that paradigms are "the most novel and least understood aspect of this book" (Bird 2018). The claim that the consensus of a disciplinary matrix is an agreement on paradigms-as-exemplars to explain the nature of normal science and the process of crisis, revolution, and renewal of normal science. The function of a paradigm is to supply puzzles for scientists to solve problems. Plus, to provide the tools for their solution. A crisis in science arises, Kuhn argued, when there is not enough confidence in the ability of the paradigm to solve scientific problems, particularly worrying puzzles called 'anomalies' (Bird 2018) while paradigm shift refers to the time when the usual and accepted way of doing or thinking about something changes completely.

In *The German Ideology*, Marx contends that reality appears upside down in ideology, much like the photographic process provides an inverted image. The overturned image is telling; it is a recognizable depiction of reality, even if it is at the same time a distorted one. Karl Mannheim elaborated further on the idea of the complex relationship between reality and ideology by pointing to the human need for ideology. Ideologies are neither true nor false but are a set of socially conditioned ideas that provide a truth that people, both the advantaged and the disadvantaged, want to hear. Ideology exists to protect existing social conditions from attack by those who are disadvantaged by them. Members of the Frankfurt School, such as Jürgen Habermas, drew on the Marxist idea of ideology as a distortion of reality to point to its role in communication, wherein interlocutors find that power relations prevent the clear, uncoerced articulation of beliefs and values (Sypnowich 2019).

This articulation of principles and meanings are the adhesives to reinforce hegemonic thinking. Still, hegemony is a social and political phenomenon; it is not normal science. Hegemony refers to the process through which dominant social groups achieve their political authority through the incorporation of the fears, hopes, and concerns of subordinated groups. In this process of ideological integration, dominant groups appropriate symbols and concepts traditionally associated with dominated groups and insert them into their dominant discourses. Hegemony is thus a

process through which dominant groups pull together multiple—often contradictory—discourses and achieve 'collective will' under their leadership. Generated through 'official' policy-making processes, policy texts, and devices constitute part of this process of ideological incorporation (Takayama 2012): 149.

One could argue that, in effect, education in the world is full of "anomalies." That schooling does not meet the expectations that governments and societies have created to solve development problems and social inequalities. Besides, education is not providing citizens with the knowledge to live in harmony with their fellow human beings and nature. Somebody could even say, as Philip Coombs argued since the 1960s, that there is a world educational crisis (Coombs 1968). The OECD and other intergovernmental organizations claim that international test scores and comparisons could define a global educational policy to solve such a crisis. Thus, schools' systems claim for a revolution in education to dismantle what is obsolete. That is to say, a new paradigm for education.

- How did the OECD influence the design of education policy and promoted reforms on a global scale to make PISA part and parcel of hegemonic thinking on education?
- Is PISA a scientific instrument or one that serves to stratify countries?
- Why teachers became the main target of education reforms championed by the OECD?
- Finally, can PISA be itemized as a paradigm that completely changed things and thinking about education? Or, to the contrary, did it only create the illusion that it is a scientific, neutral, and reliable tool to measure the progress of education?

Beyond the particular answers to these questions, this chapter contends that PISA helps to strengthen the hegemony of the ruling groups, but at the same time, it generates political opposition from local actors and criticism from scholars.

17.3 Birth and Splender

Although the World Bank continues to be the leading intergovernmental body that offers financing for education projects in line with the neoliberal vision (Stromquist and Monkham 2014), the Organisation for Economic Cooperation and Development grows in influence and visibility as a promoter of education reforms. This influence or soft power, as Wiseman (2013) calls it, is because it has a potent instrument, the Programme for International Student Assessment. Such a programme combines two elements awkward to reconcile: it stratifies and, at the same time, promotes homogeneity among school systems. The United States and the United Kingdom were pushing for neoliberalism and states, with a social-democratic tradition, were fighting for the survival of neo-Keynesian approaches. However, from the mid-1990s—and even more marked with the founding of the Directorate of Education within the OECD, in 2002—the debates, which previously occurred in philosophical and

ideological terms, vanished and gave way to a technocratic discourse on how the OECD can better promote free market and competition (Rizvi and Lingard 2006).

The OECD was born in 1961 as a product of the Marshall Plan for the reconstruction of the European economy. It is, therefore, a fruit of the Cold War, although with conducive tasks. The United States remains the country that contributes the most funds to the organization and tries to impose its views. During the first three decades of its existence, there were debates between the US version of market liberalism and the protection of several European governments that, from their social democratic vision, tried to foster a social and regulated market (Tröhler 2013).

In its origins, the OECD was an organisation whose principal mission was to design instruments for the collection of economic information and to standardise a system of statistics—indicators—that allowed the governments of the country members to make comparisons and learn from each other. Within the OECD, education was a secondary aspect; it was a section of the Office for the Training of Scientific and Technological Personnel. It was the time of the birth of the theory of human capital that already permeated the work spirit of the organisation: schooling should stress economic objectives and, therefore, promote the training of scientific personnel and the development of technology. Its first documents expressed the idea of improving and expanding the teaching of science and mathematics in schools.

The life of the organisation evolved. In 1968 the OECD founded the Centre for Research and Innovation in Education (CERI), partly because of the insistence of several European countries to recognize and affirm the qualitative aspects of economic growth and to create better living conditions for their populations. In parallel, it established a broader vision of education, which highlighted their cultural and social purposes, as well as a heavy emphasis on the search for equality and social justice. Despite the insistence of the United States, several states refused to homogenise their information systems in education; that reason delayed the educational indicators project until the mid-1980s (Meyer and Benavot 2013).

However, the idea of promoting education linked to the market economy was making its way. From the 1990s, it became clear that in the field of education, the OECD declared itself in favour of human capital formation, new ways of governing education, and a global space to make comparative studies of the performance of educational systems. It was the emergence of its education reform agenda. It was the beginning of an overhaul that some perhaps call it a paradigm shift. The periodic publication *Education at a Glance* underlined the emergence of the OECD as a power in the formulation of educational policies. Such a review is more than the presentation of statistics; it includes recommendations to improve indicators (or how to reform them), formulas to make spending more efficient, pieces of advice on teacher preparation and recruitment, and it embarks on suggestions on transparency and accountability. It presumes neutrality in ideology and politics, excludes commenting on cultural relations and national identities.

Daniel Tröhler argues that "Indeed, *Education at Glance* and its indicators suggest cultural indifference. The cluster 'context of education' is clearly not meant to be a cultural context, where social meanings are constructed by human interaction. 'Contexts of education' are reduced to figures and statistics that are correlated with

other figures and statistics" (Tröhler 2013:156). However, *Education at a Glance* has not instrumental devices to know about the quality of education. PISA is the tool that allowed OECD to make comparisons, not only about growth and educational programmes but concerning student performance.

The OECD developed and applied the first PISA exam between 1997 and 1999 and began publishing the results in the year 2000. PISA assesses competencies and skills of 15-year-olds at the end of compulsory education, which in most of its member countries is of 12 years. They are children who begin secondary school (or the second cycle of secondary education) or enter the labour market. The exams cover areas of reading comprehension, mathematics, and scientific competence. The instruments evaluate the mastery that young people have of processes, understanding of concepts, and ability to act in complex situations. It is a cyclical evaluation—every 3 years—and on each occasion, it emphasizes one of the three domains (OECD 2010a).

The publication of the first results of PISA presented several surprises and generated broad debates. The emphasis of PISA 2000 was to evaluate reading comprehension skills. Countries like Germany and Japan, whose educational systems were reputed to be reasonable, effective, and equitable, appeared at the intermediate levels of international comparison. They suffered what some analysts call "the PISA shock". The press took the figures seriously, and, as in the United States and Mexico, there were severe criticisms to governments and teachers (Takayama 2012; Tamez Guerra and Martínez Rizo 2012; Waldow 2009). However, both PISA and OECD policy regarding education are subject to rigorous scrutiny, not only by radical intellectuals but also by scholars who do not identify themselves with critical approaches, as Martin Carnoy extensively reports (Carnoy 2015).

Germany, Japan, and other countries responded to the stimulus of PISA and undertook reforms of various types in their education systems. PISA became the measure of all things. Several nations, including Mexico, imitated the methods and instruments of PISA, requested advice from the OECD to guide its reforms—not reduced, even if it is the dominant aspect, to establishing evaluation systems—and changes in the institutions (INEE 2015). The OECD publishes studies on education in countries on specific topics, makes international comparisons, and increasingly registers as a leading actor in the definition of what to do in school and training and where to march. The paradox is that the OECD does not have legal instruments or financial resources to prepare its studies, it depends on contracts with the governments of the member countries and those that join its projects, whose number is increasing.

Either by design or by the influence of the press or even by political will, PISA stratifies nations. Also, it stigmatises some of them, to the extent that their media calls them losers (Bolivar 2011). Nevertheless, the purpose is to standardise education and direct reform efforts towards areas that are desirable for sustained growth, support for the market economy, and promotion of democracy. Although it was not part of the original OECD framework, there is a depreciation of the social sciences, arts, and humanities.

While it is true that issues such as equity and equal opportunities remain in the OECD discourse, according to Rizvi and Lingard (2006), those are articulated far from the strong definition of social justice towards ideas of social capital and inclusion, but without the emphasis previously put in social classes. The OECD aligned itself with the imperatives of globalization and neoliberalism. To give political strength to the ideology that favours the private sector over the public, most of the intergovernmental organizations promote the New Public Management, whose canons for education imply to govern by goals and products. Nevertheless, Ulf P. Lundgren points out that PISA is mostly a political instrument which base is evaluation: "The results of international assessments draw the political view of how to govern goals and content in relation to measurable outcomes. Within education the idea of governing by goals and results was central to reforms long before the New Public Management was coined… In periods of change this is more evident than in periods of stability" (Lundgren 2011: 19–20).

17.4 PISA and Others Tools

Perhaps the success of PISA as an instrument of accountability is because it matches well with the dominant ideology, neoliberalism, associated with globalization. However, it was not a dictatorial imposition. It included worries of social groups that the education of their offspring was in decline, that the traditional curriculum no longer met the needs of the future of work and the economy. Clara Morgan (2011) reveals the United States origin of PISA. True, as other authors (like, Kamens 2013; Lundgren 2011; Tröhler 2013) pinpoint the background of large-scale assessments in TIMSS and the IEA, and the first efforts of international comparisons, especially in Europe. Still, Morgan reports how officials from the U.S. Department of Education approached the OECD to insist on the creation of a system of global indicators in education. It responded to domestic interests. The United States wanted to compare the performance of its education system with those of other industrialized countries.

Executives and experts from the United States National Centre for Education Statistics and OECD specialists designed the International Indicators and Evaluation of Education Systems (INES), which was the immediate forebear of PISA. It was under the INES project that the OECD launched the call won by the consortium led by the Australian Centre for Educational Research (ACER). ACER proposed to generate new knowledge-oriented towards life skills and literacy rather than to curriculum content (Morgan 2011: 55).

Another reason why the OECD gained prominence amongst intergovernmental organizations involved in education globally could be that its instrumental view offered empirical substance to what Pasi Sahlberg (2015) calls GERM (for Global Education Reform Movement). On the one hand, the OECD with its policy papers pushed more and more governments to use the vision and tools of the NPM or New Public Management as innovative model of governance (insert topics in the popular

agenda; design reforms in line with skills for life and free-market; implement changes on the curricula based on competencies, and assess results). It included the incorporation of concerned parties from civil organizations, teachers' unions, and officials of subnational governments. PISA was the centrepiece at the point that closes the NPM cycle: assessment. Besides, it served to open the door to information (accountability) that many state bureaucracies kept under lock, as in Mexico (Tamez Guerra and Martínez Rizo 2012).

It postulates neutrality in ideology and politics, excludes commenting on cultural relations and national identities. As of the dissemination of the results of PISA 2000, not only several governments undertook reforms, the matter entered the public arena. The press played an active role in the propagation (albeit superficially) of the results and rankings. Journalists marked a certain tendency to find guilty parties and, as the twenty-first century progressed, became a viral issue in the emerging social networks. The media pointed to two responsible actors for the failures: teachers and the bureaucracy. Although it maybe was not an OECD target, PISA increased criticism against the public school and advocated privatization. Such a subject pleased those who from the political right and the businesspeople seek to reduce the legitimacy of public education (Hernández Navarro 2013).

With the NPM came the proposals for a novel way of governance in education: school management and knowledge management. From the OECD perspective, such a path was necessary to institute models of governance able to balance responsiveness to local diversity with the ability to ensure national objectives and international competition (Burns et al. 2016). However, from critical perspectives, the OECD assessment platforms, PISA in particular, is part of a technocratic tendency to rule by numbers (Grek 2009; Popkewitz 2011). In other words, to offer the appearance of rationality, where the results of learning present no ideological biases. Its aim is improving educational systems, expanding the economy of nations and forging democratic, equitable societies, with governments that promote and respect the human rights and responsible citizens committed to democracy (Zajda 2020b).

True, these mottoes seem commendable, they generate conformity in specific social segments that may see their expectations of economic improvement and intellectual growth incorporated into public policies. It also produced debates amongst serious scholars convinced that international assessments are healthy, contribute to the improvement of education, and build new knowledge (Carvalho and Costa 2015; INEE 2015; Ravela 2011). The expectations of ordinary people and academic discussions may contribute to the legitimacy of the OECD and the governments that follow the organization's advice. It appropriates the desires of both popular segments and middle classes for a better education. PISA is already part of the ethos of global education reform. For some, it is a clear sign of the paradigm shift in education. The school world moved from a rigid curriculum to the search for life skills.

Nevertheless, other observers cited by Carnoy (2015) criticize that the OECD speaks of democracy and human rights and, at the same time, shows as triumphant pieces the results of students from Chinese cities (such as Shanghai and Beijing) and Singapore as cases of better practices. In those regions, governments neither have democratic systems nor respect for human rights. Furthermore, China and

Singapore state heavenly censure personal opinion is: "high achievement on standardized tests may also reflect a school system efficient functioning as a disciplinary mechanism, representing the absence of independent and creative thinking" (Zhao and Meyer 2013: 268).

Martha Nussbaum makes a severe criticism of the worldwide tendency to reform education. GERM implies radical removals. Although she does not use the idea of a paradigm shift, she coincides—although not as an apology—in that the emphasis that intergovernmental organisations place on literacy, mathematics, and science implies a renunciation of other dimensions of learning, just as crucial, can get lost to the detriment of humanity. "What are these radical changes? The humanities and the arts are being cut away, in both primary/secondary and college/university education, in virtually every nation of the world".

However, despite academic and political criticism, the OECD was mounted on the global wave, its technocratic approach coincides with aspirations of governments—and many citizens— to have quality education in their countries. Moreover, the scientific language generates consensus. Numerous researchers think that PISA is a neutral instrument and that the rankings that it throws are incentives to progress.

17.5 Governing by Numbers

Andreas Schleicher, director for the Directorate of Education and Skills of the OECD, stresses the aim of PISA, as both a scientific instrument and a policy apparatus. He also points out that the ownership of PISA is not a private firm, but a patrimony of countries, and institutions, experts and educators from all over the world. PISA also changed the trend of presenting data as the years of schooling, students' enrolments, schools' facilities, and the number of teachers serving to measure what people learn. Moreover, although he warns that "the quality of the education a student acquires can still best be predicted by the student's or his or her school's socioeconomic background" (Schleicher 2019) at the end, what matters for the media and most observers are the rankings. Few scholars talk about the instruments, and even of the type of questions PISA uses, what imports is the position each nation occupies in the ranking. It depends on the position if a country is exalted or impugned.

The rankings that PISA data produces stratify cultures, there are winners and losers. However, the matter is not linear. For instance, some states or regions get high scores on the tests. Though, public opinion does not glorify them since there is a suspicion that the educational policy of those countries leads to prepare students to answer the tests (Carnoy 2015). That makes it a cause for scandal. However, it shows the influence (soft power) of the OECD to promote educational reforms following the guidelines set by the same organization. Indeed Rizvi and Lingard (2006) point out that the OECD became a political actor. It plays a significant role in national education statesmanship up to the point that some reforms may be illegitimate if they do not have OECD's blessing via an OECD policy review paper.

The OECD pursues such a governance role within many countries. Angel Gurría, the Secretary-General of the OECD, pinpoints PISA's main goal: "PISA is not only the world's most comprehensive and reliable indicator of students' capabilities, but it is also a powerful tool that countries and economies can use to fine-tune their education policies" (Schleicher 2019). Moreover, Schleicher (2019) reinforces PISA's influence on education policy and curriculum globaally:

> The aim with PISA was not to create another layer of top-down accountability but to help schools and policymakers shift from looking upward within the education system towards looking outward to the next teacher, the next school, the next country. In essence, PISA counts what counts, and makes that information available to educators and policymakers so they can make more informed decisions (Schleicher 2019, p. 3).

In this way, Antonio Bolivar contends, PISA acquires a growing influence in defining national educational policies. The knowledge stemming from the evaluation of competencies becomes an instrument for governing (Bolivar 2011, p. 64). The application of PISA began in 2000, with the participation of 28 OECD member countries and four non-member countries. In 2018 it was applied in almost one hundred nations. Such growth and the media diffusion of each presentation of its results made of PISA tests one of the most famous educational events. The OECD recommends contextualizing the results of these tests in the socio-economic and cultural conditions of each country to avoid reductionist interpretations. Despite this, it seems clear that the PISA rankings provide fuel to media whether to question the poor performance of their respective educational systems or to exalt their achievements.

For instance, the presentation of the 2018 results, "PISA 2018 Worldwide Ranking – average score of mathematics, science, and reading," placed 23 countries above the 500 points average, the winners, the ones that may be a reference for other nations. Other 33 obtained between 500 and 450, those with potential to become winners, but not yet. Moreover, another 56 that are below 450, the losers, according to the media of their societies.

Miguel A. Pereyra and colleagues asserted the rise of PISA as a remarkable phenomenon. "Rarely has educational information translated so fast into the word disaster—and domestic political crisis." Further, at the same time, such data presented in rankings converted PISA into the world stardom (Pereyra et al. 2011, pp. 1–2). They quote several authors to pinpoint that the growing influence of international agencies, mainly the OECD, on schooling has contributed to the marketization of education.

PISA creates "reference societies" for either scandalization or glorification. Waldow (2009) argues that it is easy enough to explain why some PISA top scorers, given conducive prior stereotyped perceptions, turn into positive reference societies. High scores appear to be an indicator of high-quality education; thus, these countries arise as models; it is attractive to emulate to improve other country results. Finland would be the best example. Still, Waldow continues it is slightly harder to explain why other top scorers turn into negative reference societies, like Korea or Singapore.

Following the presentation of the results of PISA 2000 in Germany, a reporter from *Der Spiegel* mentioned that they had caused astonishment. It became the "PISA shock." The same in Japan after its fall in mathematics score in PISA 2003. In Mexico, the results of PISA mainly served to question the national education system, as shown in the headlines of the press, after the presentation of the results of PISA since 2001. In terms of the ways that the Finnish government and media received PISA results, it is remarkable that the Finnish press mentioned the country's success in only eight pages. In contrast, Germany, one of the lowest performers, received 687 pages of press attention (Grek 2009: 7).

Ever since PISA first round, it became an engine to push for education reforms following the GERM. For example, in response to the PISA findings, German education authorities organized a conference of ministers in 2002 and proposed reforms of an urgent nature, such as developing standards for measuring students' competencies upon completion of secondary schooling and the introduction of large-scale assessment testing at the end of primary and secondary education (Grek 2009, p. 8). However, Florian Waldow maintains that PISA only accelerated moves already in motion in Germany (Waldow 2009).

Still, the PISA shock in Germany was profound: "A search for the words 'PISA study' in the German National Library's (DNB's) search catalogue produced 150 hits in German that deal with all three studies – 2000, 2003 and 2006. The overarching problem that these publications examine has to do with how the country is going to recover from the shock and the reasons for the poor results." (Ringarp and Rothland 2010). As in other nations, German authorities battle for improvement not only on PISA scores but also in the governance of their education systems.

Thus 'local' policy actors are using PISA as a form of domestic policy legitimation or as ideological means of defusing discussion by presenting policy as based on robust evidence. The local policy actor also signals, to an international audience, through PISA, the adherence of their nation to reform agendas), and thus joins the club of competitive nations (Steiner-Khamsi 2004: 76). Moreover, the construction of PISA with its promotion of orientations to applied and lifelong learning has powerful effects on curricula and pedagogy in participating nations. It promotes the responsible individual and self-regulated subject.

Finally, paraphrasing Sotiria Grek, PISA is a primary governing resource for many countries: it provides knowledge and information about systems and implants constant comparison within the participating states, without the need for new or explicit forms of regulation in education. With globalization as having the potential to be simultaneously a response to, as well as a conduit of world concerns, PISA seems to constitute an essential node in the complex task of governing global education. This reading of PISA supports her paper's overarching argument about its use and meaning as a political technology: a governing resource for both the national agency and the OECD. That is to say, governing by numbers, the ultimate rationality according to technocratic viewpoints. Another ideological push to reinforce the hegemony of ruling groups says authors of radical perspectives: "Numbers are inscribed in the field of practices that, in the instance of PISA, entails the alchemy of school subjects that translate disciplinary knowledge into principles to govern

schools" (Popkewitz 2011, p. 43). Despite that, teachers and children are the centres of school life.

17.6 Teachers: The Primary Target for the Reforms

Perhaps one of the issues that provide attractiveness to the OECD in its eagerness for global education reform is that in its discourse it states that the improvement of school systems includes equity and pays attention to the lives of teachers. Its narrative in favour of equity and the quality of global education embraces demands from subordinate groups within member countries or those participating in PISA. In its language, it confronts social inequities: "The persistence of social inequities in education—the fact that children of wealthy and highly educated parents tend to do better in school than children from less privileged families—is often seen as a difficult-to-a reverse feature of education systems. Though, countries across the world share the goal of minimising any adverse impact of students' socio-economic status on their performance in school. PISA shows that, rather than assuming that inequality of opportunity is set in stone, school systems can become more equitable over a relatively short time" (OECD 2017).

Global consulting firms, like McKinsey, joined the OECD in its efforts to persuade nations to implement teachers' policies because—the authors argue—the quality of an education system cannot exceed the quality of its teachers. It is naive to assume that classroom nature would raise just because a given reform changed the structure, governance, curriculum and textbooks (Barber and Mourshed 2007). The focus of the solution—not all the outcome—depends on having "students and schools at the centre, teachers at the heart". In its literature, the OECD conceives teachers as leaders of learning, promoters of knowledge and the locomotives of reforms in education. However: "This requires enhancing the role of teachers; setting clear standards for practice; professionalising their recruitment, selection, and evaluation; and linking these things more directly to school needs" (OECD 2010a, b: 3). The resource of resorting to teachers as architects of the future may yield certain advantages to the governing groups that push for global education reform. The diagnosis presented by the OECD is comprehensive, not linear or reductionist. It takes into account crucial aspects of school life and difficulties of a profession that requests knowledge and passion:

The demands on schools and teachers are becoming more complex. Society now expects schools to deal effectively with different languages and student backgrounds, to be sensitive to culture and gender issues, to promote tolerance and social cohesion, to respond effectively to disadvantaged students and students with learning or behavioural problems, to use new technologies, and to keep pace with rapidly developing fields of knowledge and approaches to student assessment. Teachers need to be capable of preparing students for a society and an economy in which they will be expected to be self-directed learners, able and motivated to keep learning over a lifetime (OECD 2005, p. 7).

In that way, linked to the efforts of changes in education, the OECD complemented the PISA project, with TALIS. In 2008 the OECD launched the first international series of surveys to focus on the learning environment and the working conditions of teachers in schools. The OECD suggests that TALIS offers teachers and school principals the opportunity to provide their perspectives on school contexts.

TALIS is another compendium of recipes for global reform. While the first message endeavours to reach the teachers, the recipients are the governments that participate in the TALIS surveys and pushes them to take experiences from countries that have the best practices in the training and recruitment of the best and the brightest. "TALIS data also allow countries to identify other countries facing similar challenges and to learn from their approaches to policy development." (OECD 2014). Accordingly, TALIS turned into an additional education policy machinery to persuade governments to follow the route drawn by the OECD, more numbers but also reports that reach the core of the schools. It seems a means of ideological incorporation of subordinate groups (teachers and parents in this case) through 'official' policy-making processes, policy texts, and devices. Furthermore, it produces the recommendation that shows the clear intention of influencing—even determining in some instances— local policies. "Countries can then use this information to deepen the analysis of the issues TALIS examines and to aid the development of policy relating to these matters" (OECD 2014).

The OECD consolidated complete assessment programs: PISA in several modalities, TALIS, and other examinations. With them, it forms an interface of international large-scale assessments (ILSA). With such networks, the OECD facilitates diverse flows of "people, information and ideas, language, methods, values and culture" helping to constitute the very epistemic communities through which the OECD exerts its governance function in education (Lewis et al. 2016: 42). These epistemic communities use a disciplinary and multidisciplinary matrix as an agreement to explain the nature of schooling and the process of crisis and renewal; that is to say a paradigm shift. PISA and TALIS provide puzzles for governments to solve problems. Plus, to provide the implements for their solution.

The influence of the OECD on domestic affairs grows. It is, as Rizvi and Lingard (2006) warned, a robust institution which governments must take into account. The intervention of the OECD in educational reform in Mexico, for example, can illustrate the point that perhaps it exceeds the limits of soft power, as Wiseman (2013) would say. And, yet, it is highly contested.

17.7 Mexico: A Case in point

Several authors documented how the revolutionary state of the 1930s incorporated the teachers into a vertical corporatist system, a single national labour organisation, the National Union of Education Workers (SNTE) with mandatory membership (Fernández Marfil 2019; Fernández Marín 2010; Muñoz Armenta 2008; Ornelas

2010, 2018; Rivera Lomas 2016). The central government and the state authorities never asked the workers of education if they wished to belong to it. The authorities deducted 1% of their base salary as union dues. In its beginnings, in the 1940s, the leadership fought for teachers: fair wages, health services, decent pensions.

The corporatist system, as in other parts of the world, implied a rigid hierarchical structure, with powerful leaders and compliant members. The Mexican government succeeded in concentrating social groups in that system: the workers in the Confederation of Mexican Workers (CTM), the peasants in the National Peasant Confederation (CNC), the bureaucrats in the Federation of Workers at the Service of the State (FTSE), the merchants, industrialists and bankers in their organisations; the teachers in the SNTE. And all within the Institutional Revolutionary Party (PRI) under the command of the president in turn.

The PRI was the hegemonic party because it included popular demands, such as public safety, free education for the children of organised workers and incorporated political plurality (but only within its ranks). The regime based its legitimacy, as Max Weber would say, not in its democratic origin (it was the product of a revolution), but in an active government that delivered results (Merquior 1980). To guarantee loyalty to the regime of the Mexican Revolution, the government granted political and administrative positions to the leaders in exchange for the control they maintained over the workers. In the education sector, president Avila Camacho gave the labour organisers the administrative control of primary and secondary schools. The schools' principals ceased to be authorities to become union agents. That was in 1946. It was an incentive for SNTE bosses to demand more. They soon colonised the national inspectorate agency. In a few decades, they captured the structure of the low bureaucracy until reaching the summit in the government of Felipe Calderón (2006–2012), when he appointed the son-in-law of the SNTE leader as undersecretary of Basic Education.

The problem is not that the teachers have moved from the classroom to the bureaucracy. They knew the system and understood the tasks of schools. The setback was the corruption and control procedures. Teachers obtained benefits, but they also became prisoners of a system where they had to pay for everything: incorporation to the job, change of the job station (from a rural to an urban area, for example), or to be a school principal. Dishonesty arrived at a high point. Teachers who were close to retirement "conquered" the right to inherit their job to their descendants.

In 2008, the government signed the Alliance for the Quality of Education with the head of the SNTE. In it, the administration handed over portions of authority that by law were a monopoly of the Department of Public Education (SEP). The Secretary of Public Education, Josefina Vázquez Mota, asked the OECD for support to promote an educational reform to end those immoralities and, of course, improve the quality and equity of education. The government and the OECD signed a pact in 2009 (OECD Directorate for Education 2009), and the OECD delivered in 2010 a package of suggestions, which reflect the points underpinned by TALIS.

Fifteen recommendations repeat a lot about the best practices and lessons learned from the countries that perform best in PISA and TALIS. It had two bases: (1)

accountability and assessment, and (2) policies for teachers. Although OECD avoided discussing corruption, the eight recommendations to improve teacher capacity seemed like a recipe book to eliminate it: (1) Produce and implement a coherent, aligned set of standards for teachers and teachers of teachers. (2) Raise the bar for entry into the teaching profession. (3) Create a reliable accreditation system specific for the teachers' colleges and put in place much stronger quality assurance mechanisms for them. (4) Review the process of initial appointment to teaching posts to allow more flexibility and choice for both candidates and schools. (5) Establish a probationary period for beginning teachers during which there would be intensive mentoring and support, followed by a rigorous performance evaluation before receiving a permanent appointment. (6) Invest in identifying and training a cadre of mentor teachers. (7) Build a system of school and district-based professional development to complement the course-based system offered through the National Training Catalogue. (8) Develop and implement a rigorous teacher evaluation system, designed both to guide intervention and targeted professional development to remedy identified weaknesses, and to identify outstanding candidates for promotion to mentor teacher (OECD 2010a, b).

The new Secretary of Public Education rejected the OECD offer in 2010 (the bond between the president and the SNTE leader was a priority). However, in 2012, Enrique Peña Nieto's administration took it completely. It promoted a comprehensive educational reform whose centre was to improve quality and equity. Still, the political slogan was the requirement for success: recover the rectory (power on) of education and cease the inheritance and sale of jobs in the education sector. Public opinion applauded the reform, and the president imprisoned the SNTE leader in February 2013. He promoted changes in the Constitution and the elaboration of two new laws that, at the same time that addressed domestic matters, recovered the recommendations of the OECD: the law of the National Institute for the Evaluation of Education (INEE) and the General Law of the Professional Teaching Service (SPD). The first focuses on assessment. The second intended to bring order to a chaotic world and to impose merit over patronage. Under the justification of guaranteeing to all students a "quality education", those modifications stipulated that teachers should pass standardized assessments to obtain a teaching post, maintain their positions, and to apply for promotions (Ornelas 2018).

The SPD perhaps induced a paradigm shift, according to Del Castillo and Valenti (2014). It ended with the discretion in the granting or inheriting of teaching posts and eliminated the practice that SNTE leaders appointed school principals and supervisors. It put the merit and the teaching effort above the union patronage. However, other scholars criticized the SPD for following the instructions of the OECD (Cuevas Cajiga and Moreno Olivos 2016; Pérez 2017). The SPD affected the interests of the SNTE factions that had benefited from the previous system. With the arrest of the leader, the government dealt well with the majority faction, but not with the dissident of the left, grouped in the National Coordinator of Education Workers (CNTE) which vehemently opposed the reform. Between 2013 and 2017 the government managed to reduce the opposition of the CNTE.

However, such an organisation, allied with the opposition candidate, Andrés Manuel López Obrador (AMLO), based on eliminating the education reform. AMLO won the elections and quickly buried the legislative changes of 2013. In December 2018, he sent an initiative to reform the Constitution, to revoke the laws of the INEE and the SPD, and to generate two new ones. Even with the rhetoric of change and support for teachers who asked that Mexico leave PISA, TALIS and the OECD in general, the government—which has granted countless concedes to dissident teachers—did not listen to them. Mexico continues within these ILSAs and, perhaps a detailed analysis of the new General Law of the System for the Career of Teachers will show that with changes in words, six of the eight OECD commendations remain.

Beyond that there was a radical change in the presidency of the republic—the hegemony of the PRI was exhausted, and President López Obrador tries to create a new order—more than a paradigm shift in education, Mexico maintains old guidelines from the regime of the Mexican Revolution. Though, in combination with the soft power of the OECD. Even an intellectual defender of the dissident groups in Mexico and a member of a tri-national left-wing alliance (Canada, USA and Mexico) that applauded the AMLO initiative points out:

> While national and regional governments remain the employers of public-school teachers, the policies articulated by supranational institutions, including the Organization for Economic Co-operation and Development (OECD) are ever more influential (Bocking 2020).

17.8 PISA a Tool of the Hegemonic Thinking

Either paradigm or ideology, PISA is a tool of hegemonic groups. If one takes the issue of a paradigm shift in terms defined by Kuhn, it is not very easy to conceive that GERM resembles a scientific revolution and that it has become the standard practice (as a normal science equivalent) of educational systems. True, there are educational reforms, even some of them are profound: involve changes in structure, governance, in the preparation and recruitment of teachers, and pedagogical approaches. However, traditional structures and practices still constitute the "normality", and they survive around the world. PISA and other ILSAs have contributed to changing perceptions on instructive rational amongst governments and social sectors. Being part of the big leagues of education became an obsession for singular governments (Rivas 2015). Successful images, including glorification, of certain reference countries, such as Finland, influence universal educational thinking (Sahlberg 2015). PISA and in general, all the activities and publications of the OECD form a body of thought and empirical data that give strength to ideas proposed by the globalization and its ideological forge: neoliberalism.

The reforms associated with GERM have certainly modified aspects of school systems, but their ideological approaches have not penetrated to become the "normal science." While governing by numbers is a strong trend, political struggles remain the way to conquer power and maintain the hegemony of the ruling groups.

While the OECD has considerable influence—it even exercises soft power—it is far from being a controlling local political actor. However, it helps to legitimize those governments which receive its blessings on their education reforms. Furthermore, OECD studies have contributed to project the idea that the PISA path is the solution to the global crisis of education. Turner (2014) explains neo-liberalism as the 'belief that the free market delivers benefits':

> Neo-liberalism is the belief that the free market delivers benefits and that the market should be as unrestricted as possible Neo-liberalism involves the policies that are based on a rhetoric of personal freedom and political democracy, but which focus on macroeconomic measures, such as deregulation of markets and trade, flexible labour markets, privatization of public services, macroeconomic stability and strict financial discipline… Poverty and unemployment, on the other hand, are seen not as macroeconomic phenomena but as personal failings that can be overcome by improved training and more entrepreneurship (Turner 2014).

Zajda (2020a), on the other hand, argues that education policy reforms, influenced by the OECD education indicators and PISA's defined academic standards, reflects a global neo-liberal ideology:

> Recent higher education policy reforms globally reflect aspects of a dominant ideology of neo-liberalism and neo-conservatism (Zajda 2018). Neo-liberal policies are largely based on dominant market-oriented ideologies, rather than progressive democratic policy reforms. Neo-liberal political and economic policy imperatives are defined by the ideology of laissez-faire economics, with its cost-saving policies, efficiency, and maximizing profits, as their goal (Zajda 2020a).

PISA and other ILAS represent a collection of generally hardened concepts that provide a truth that some people want to hear. They include intellectual instruments, such as the New Public Management, which promotes institutional changes, strengthen pedagogical tendencies, and, in particular, a systematic approach to aligning teachers with rapid technological and organizational changes. Besides, it infuses the impression that teacher most be competent, disciplined, productive to the maximum of their ability and that they support—although never openly posed—capitalism. Although PISA and the OECD polices help governing groups to operate power relations through an uncoerced articulation of beliefs and values, such postures also generate resistance.

The safeguard of the existing order, especially by teachers' unions and organized political forces, also forges ideological approaches and political organization to contest the onslaught of neoliberalism. The educational reforms promoted by the OECD, the World Bank, UNESCO and think tanks, such as McKinsey & Co, are part of the hegemonic ideology, but since it does not incorporate enough elements of the opposition groups, it has not yet become well established in many countries. Teachers have developed many ways to resist, either passive or active. The paradigm shift in intellectual dominion does not translate into reality ultimately. The reforms are a territory in dispute.

17.9 Conclusion

This chapter argues that PISA helps to strengthen the hegemony of the ruling groups. Still, at the same time, it generates political opposition from local actors and criticism from scholars. It displays the contents in six sections. It provides a brief background on the rise of the OECD and PISA and describes the content of the test. It portrays the Global Education Reform Movement (GERM) and the role of the OECD in its promotion. It presents a critical analysis of how the OECD and the governments that applaud its action use the parsing of science. It aims to strengthen the ideas that good education is only one in which 15-year-old students answer questions about language, mathematical understanding, and science. It demonstrates the case of how the Mexican government ask for the OECD help to launch an education reform in 2009. However, the Department of Education rejected the OECD proposal in 2010. Afterwards, the government that took office in 2012 made a move following the OECD commendations. Still, the new administration rejected them again in 2018. Finally, the chapter discusses critically whether PISA meets the characteristics of normal science, namely a paradigm that helps solve problems that education was unable to solve before. Or, if it is another tool, with a sophisticated methodology, to reinforce the dominant educational ideology of desired educational outcomes.

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