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The Handbook of Global Education Policy

Edited by

Karen Mundy, Andy Green, Bob Lingard, and Antoni Verger

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Chapter 32

Global Indicators and Local Problem Recognition: An Exploration into the Statistical Eradication of Teacher Shortage in the Post-Socialist Region

Gita Steiner-Khamsi

Introduction

Research on policy borrowing and lending contributes to a better understanding of *why* local actors adopt global education policies, and *how* they reframe, modify, or adapt them once transferred to a new context. This dual focus on reception and translation enables researchers to analyze and understand the spread of global education policies in great detail. When examining agency, context, and networks, the question of which policy actors benefited, and who lost in the wake of a policy import, attains the utmost relevance. Naturally, this emphasis has extensive methodological consequences. Among them is the necessity to follow up 5, 10, or 15 years later to see what impact a borrowed policy had on the local policy process. Unsurprisingly, the project of understanding cross-national policy attraction and adaptation has piqued the interest of those who study globalization.

In this chapter I look at a particular case in the process of global policy attraction and adaptation. Looking specifically at global indicators of teacher shortage, I problematize the fact that they function as a "problem recognition filter" at the local and national levels. That is, global indicators narrow the perspective of local actors and determine what they recognize, or do not recognize, as a problem requiring a solution. At times this operates as a vicious cycle, because the (global) solutions are created before the (local) problem has been well understood and defined. Also, because global indicators are used as a tool to measure and define local problems, the interplay between local and global actors, and the overlap between problem recognition and solution, does not account for local realities, even as it propels the spread of global education policy. In an age of globalization and evidence-based

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policy planning, these two features generate a closed circuit that leaves very limited room for local problem recognition and local problem solution.

The result of this closed circuit is that, more often than not, the solution is packaged in the form of international standards, 21st-century skills, or best practices. Curiously, what occurs in practice, both in developing and developed countries, is an inversion of the decision-making process. Rather than first defining the problem and seeking an answer, the formulation of the (local) problem is aligned with the pre-existing (global) solution. Problems tend to be redefined in terms of quality, accountability, equity, and other global buzzwords. The language changes but the approach – aligning local problem analysis with available global reform packages – remains the same. For example, just as ten to 15 years ago project proposals had to address the issue of "building civil society," today international consultants are hired to formulate education sector reviews that focus on low student achievement in early literacy and numeracy, or lack of teacher accountability.

Therefore, the question addressed in this chapter is how, and to what extent, do internationally generated indicators about teachers generate global norms about teachers; that is, determine globally, for example, what their standard qualification should be, how many hours they should teach, how much they should earn, etc. in their respective countries? More specifically, by addressing the use of indicators in the policy process, we may ask what is lost or gained by the heavy reliance on indicators developed by international knowledge banks, such as the World Bank, the Organisation for Economic Co-operation and Development (OECD), and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

The Use of Global Indicators for Local Problem Recognition

Until now, a great deal of research on policy borrowing and lending has focused on how the "global" is used as an argument to generate reform pressure at the local and national levels. The "semantics of globalization" is a well-explored research topic (Schriewer and Martinez 2002). Translated into the language of comparative policy studies, this means that the early work on borrowing and lending focused on the use of the "global" for local agenda setting. Many researchers found that policy actors refer to globalization as a quasi-external force that is internally induced at critical moments of heightened policy conflict (see Steiner-Khamsi 2002). In other words, domestic policy actors sometimes portray themselves as victims of external forces, such as financial crisis, an emergency situation, or globalization to carry through unpopular reforms. In effect, the semantics of globalization function as a coalition builder, producing the desire for policy change. However, agenda setting is only one stage in the process where the global leaves its imprint. In this chapter, I attempt to investigate another: the impact of global indicators on local problem recognition.

In a recent publication on comparative policy studies, I explored the curious phenomenon of retroactive problem definition in greater detail (Steiner-Khamsi 2013). In this chapter, I attempt to take the argument a step further. Not only are the existing (global) solutions, fueled by funding from international organizations, spread to every corner of the globe, but the indicators for identifying the (local) problem and measuring success are also determined at the global level. The closed

circuit of problem definition and solution has led to a self-reinforcing, global governance system, in which international organizations diagnose, prescribe, and evaluate progress toward what they had earlier prescribed as the solution for the local problem. In addition to their financial stature as loan and grant providers, international organizations like the World Bank, the United Nations Children's Fund (UNICEF), and bilateral aid agencies, collect massive amounts of data, and promote particular reform packages, that typically reflect the mission of their organization. Operating as databanks, they document the status quo and amass baseline information to substantiate the need for particular reforms. Then, in the capacity of knowledge banks, they "lend" policy ideas by disseminating their own portfolio of "best practices" that work in different countries.

The three properties of international organizations – money, statistical data, and policy knowledge – account for the type of governance that international and bilateral aid agencies exert vis-à-vis the recipient governments. The self-reinforcing feature of global norm setting rests on the discursive power of global indicators that define the problem, determine the solution, and measure progress toward it. Even though multilateral agencies compete to spread or sell their own package of "best practices" to grant or loan recipient governments, their use of global development indicators is remarkably similar. The indicators used by UNESCO (World Education Indicators) and the World Bank (World Development Indicators) are nearly identical not just in what they measure, but also in what local problems they ignore, or choose not to measure. The indicators tend to focus on problem areas for which international organizations or businesses have solutions, reform packages, or best practices to offer or to sell. Local problems that are generalizable and de-territorializable, and for which *one* (global) solution could be implemented cross-nationally, are given preference.

The consequences of an economy of scale should not be underestimated. It is relevant for state bureaucracies that are concerned with routinizing and standardizing interventions, and it is even more a priority for international businesses concerned with profits, large margins, and low implementation costs. Problems that are seen as too specific, that is, confined to a particular context, are of little interest, because they are difficult to remedy by means of a wholesale policy import. They may as well not exist as far as international donors are concerned, because there is no statistical tool to measure them, and no global solution to lend.

A good case in point, documented elsewhere (Steiner-Khamsi and Stolpe 2006), is international organizations' lack of interest in nomadic education. With a few exceptions, they are unable to identify and measure the challenges associated with schooling the children of nomadic pastoralists, who, in search of greener pastures, must seasonally change their place of residence. How do schools provide education to children of families with a non-sedentary lifestyle? The issue of school access for children of cattle breeders is actually not as exotic as it may sound, and greater attention to this particular segment of the rural population, which is widespread in places like Mongolia, Niger, Nigeria, several Eastern Africa, Middle Eastern, and Arab countries, would be highly desirable. Nevertheless, nomadic education has been ignored, and there is no global agenda on increasing access to education for children in remote rural areas, or indicators to measure access and education quality for children in non-sedentary settings.

The case discussed in this chapter is situated at the opposite end of the spectrum. Unlike educational access for children of herders, teacher shortage is acknowledged to be a pressing issue worldwide, and numerous international organizations have directed their attention and funding to remedy it. The UNESCO Institute of Statistics asserts that millions of teachers will be needed worldwide to achieve universal primary education by 2030. For example, South and West Asia would need an additional 3.5 million teachers, and countries in sub-Saharan Africa would need to recruit 145,000 annually to increase primary enrolment to a universal level by the year 2015. In addition, at the lower secondary school level, 5.1 million teachers are needed to ensure that countries continue to expand compulsory education beyond the primary level (UNESCO 2013). Naturally, the issue is of great interest to teacher unions and civil society organizations. Without any doubt, economists are also preoccupied with teacher salary reform, because in over half of all developing countries, personnel remuneration absorbs at least 75% of the national education budget (UNESCO 2009).

Measuring Teacher Shortage Globally: Wrong Assumptions and Even Worse Solutions

The global figures on teacher shortage, produced by UNESCO (2013) and presented above, grossly understate the magnitude of the problem. Though many education systems have policies and practices in place to cope with chronic teacher shortage, these remedies obscure and invalidate the statistical measure. In many parts of the world, teacher shortage is tackled by relying on double shifts, assigning additional teaching hours, or hiring underqualified or unqualified instructors.

Closer examination reveals that the global education indicator of teacher shortage is biased toward educational systems of developed countries, and does not reflect the complexity of the problem in developing countries. The measurement rests on the following three assumptions that, while possibly valid for developed countries, are inapplicable to the rest of the world: Every teacher works full-time, is qualified, and is paid equitably.

False Assumption 1: Every Teacher Works Full-time

In many developing countries, teachers work in two shifts due to a lack of classrooms, teachers, or both. "Teacher utilization" is thus a notion that is relevant for national level data, but disappears when statistical information is provided at a global level. Teachers who take on a morning and afternoon shift mask the extent of actual teacher shortage.[1]

It is notable that the opposite also applies in many developed countries, where teachers work part-time or teach, to use the concept from the development context, "half a shift." In Switzerland, for example, four out of five teachers are women, and the majority chooses to work part time (Wolter *et al.* 2003; Fuchs 2009). Two-thirds of all teachers work either 50% or less of the full 40 hours per week workload because they can live comfortably on half a paycheck. In poorer countries the opposite applies: teachers work a few hours per week at school because they cannot afford to live on a teacher salary alone.

For example, in several post-socialist countries in Central and Eastern Europe, and the Commonwealth of Independent States, teachers deliberately keep their teaching commitment to the bare minimum to remain employed, so they can work a second job as a municipal employee, merchant, or farmer. The part-time job enables them to remain connected to the profession, draw on the social benefits that public service entails, and serve their country. Armenia and Tajikistan stand out as countries that employ a large number of teachers who work only a few hours per week; that is, less than the statutory teaching load (UNICEF CEECIS 2012). As a principal in a rural school of Kyrgyzstan noted: "There are many teachers in our village but they have other jobs. Only patriots end up working as teachers" (UNICEF Kyrgyzstan 2009).

False Assumption 2: All Teachers are Qualified

Each education system determines the minimum qualification required for teaching. All over the world, the standard qualification has been continuously raised over the past few decades or century, respectively. Today, pre-service teacher education is typically offered at the lower tertiary level for primary school teachers, and upper tertiary level for secondary school teachers. However, there is a huge gap in developing countries between supply and demand for qualified teachers. There are simply not enough qualified teachers to fill vacancies that promise little more than unattractive salaries and onerous work conditions. As a result, only underqualified (e.g. teachers with a vocational degree in teacher education, rather than with a degree at tertiary level), or unqualified teachers (e.g. employees without any teacher education degree) get hired.

In Pakistan, for example, the concept of "life-long learning for teachers" denotes the most common career path. The previous generation of teachers began working with only a short teacher training certificate (Primary Teacher Certificate or Certificate of Teachers), and then, over the course of their career, earned a Bachelor's degree (BA or BSc). With higher education expansion, the inverse now applies. The new generation of teachers begins with a BA or BSc degree in hand but then, because they cannot find a more interesting job, end up working as teachers. They then enroll, sometime during their career, in a teacher education program (Certificate of Teachers, Diploma of Education, or BEd), to complete the standard qualification that is needed for a solid salary. The principle of life-long learning is reflected in the promotion scheme: teachers are promoted and increase their salary with every additional qualification, certificate, or degree that they manage to secure. The salary schemes of provincial governments reflect this pathway to teacher qualification: the higher salary levels distinguish between promotions and new entrants and reserve quotas for both types of personnel actions. In other words, teachers in Pakistan typically start work as unqualified or underqualified teachers and work, or rather study, their way up.

Clearly, the global measure of teacher shortage does not account for whether or not a teacher is qualified. As a result, the problem disappears. For example, in Lesotho, the standard qualification for teachers is 12 years of schooling, as well as a three-year program to earn an Education Diploma. However, only 20% of the practicing teachers fulfill the requirement (Phamotse 2009). Thirty-three percent of practicing teachers

are considered underqualified (hold a Primary Teacher Certificate or equivalent), 41% are unqualified (only completed lower or upper secondary school and hold no pedagogical certificate/qualification), and 6% have other types of qualification that are not directly related to the teaching profession. From a national perspective, the unfilled positions (80%) are considerable, when the distinction between qualified, underqualified, and unqualified teachers is taken into account.

False Assumption 3: All Teachers of the Same Salary Rank are Paid Equitably

Of all the three assumptions, the third is the least discussed in the research literature. In the former Soviet Union and Mongolia, teachers work according to a *stavka* system, where they are paid based on the number of hours that they teach, and compensated for any additional task, such as grading student work, serving as class teacher, or taking charge of a science or language laboratory. This is in stark contrast to the weekly workload system, in countries such as in countries of North America and the European Union, where teachers are paid for 35–40-hour weekly workloads. In the workload system, a teacher's job includes teaching, preparation, grading, administrative work, and parent–teacher conferences. The divide is large, and repercussions so considerable, that I will discuss them in a separate section of this chapter.

The point is that in the *stavka* system, teachers are able to boost their income by taking on additional teaching hours and tasks. In practice, the teaching load system benefits teachers in urban or large schools, as well as experienced teachers. They are usually the ones best able to secure additional teaching hours and tasks for which they are paid extra. On the other hand, the *stavka* system has a detrimental effect on secondary school teachers in rural schools, who barely manage to secure a full 18–22-hour teaching load in their subject area.

The smallest common denominator of teacher shortage – measured globally in terms of unfilled positions – is, at best, meaningless and inaccurate. At worst it is harmful, because it obscures important local realities that might otherwise be addressed. In fact, the global indicator of teacher shortage masks the "crisis of the teacher workforce" (*Russian: krizis pedagogicheskogo kadra*) that exists not only in the post-Soviet region, but also other parts of the world. The exclusive focus on teacher quality, and the neglect of massive teacher shortage, has far-reaching effects on policy. It perpetuates the belief that educational systems are populated with poorly performing teachers who by means of teacher licensing, "optimization" (reduction) of schools, or a per capita financing mechanism, need to be pushed out of the system. Most prominently, the global teacher accountability reform movement has turned a blind eye to the root causes of low teacher morale, motivation, and performance: poor work conditions, meager salaries, and lack of teaching qualification. Nevertheless, managerial reforms, such as the teacher accountability reform, are very popular with non-educators and bureaucrats (see Verger *et al.* 2013). For them, greater regulation and control – nowadays reframed as "accountability" measures – will remedy the problem of the low quality of instruction. Teacher performance evaluation is typically part of a teacher accountability reform. However, any additional layer of control introduced in a highly centralized and hierarchical setting, such as putting the school director or inspectors in charge of evaluating the performance of teachers, may be used as a source for bribes in contexts where corruption is seen as a way to boost the income of director and other civil servants.

In half the world, teacher accountability is the cause of, rather than the solution to, low quality instruction. Teachers are regulated and controlled too much, not too little. For example, the educational systems of Eastern Europe, the Caucasus, Central Asia, China, and Mongolia have a rigid accountability system, as a well as a relatively domineering central government structure in place. In fact, inspectors and school directors see it as their professional duty to closely monitor the work of teachers and, if necessary, deduct salary supplements if they have not graded student assignments, punish them if the students in their class are unruly or have broken equipment, and humiliate them in front of their peers. In these countries, teachers spend too many hours documenting their work and filling out reports, rather than working with students, parents, and their peers. Oblivious to the magnitude of the professional crisis in the post-Soviet region, and some other parts of the world, many international organizations are enamored with teacher accountability that, regardless of circumstances and context, is supposed to improve the quality of education (Bruns *et al.* 2011; see Klees *et al.* 2011). Driven by inaccurate data, and dwelling on false assumptions, teacher accountability is a managerial reform that donors pursue with great zeal and conviction. As a result, the adoption of teacher accountability measures is a programmatic conditionality for the approval of grants or loans.

Measuring Teacher Shortage Globally, Regionally, Nationally, and at School Level: The 10+1 Indicators of Teacher Shortage

The talk about the "crisis of the teacher workforce," mentioned above, has been ubiquitous in the post-socialist education space for quite some time, leading governments and international agencies to seriously explore ways to lift the salary of teachers and attract teacher education graduates to the profession. Given this heightened interest in the situation of teachers, UNICEF funded a series of "SITAN" (situation analyses) of teachers in Mongolia, the CEECIS region (Central and Eastern Europe and the Commonwealth of Independent States), and in the Eastern and Southern Africa Region (see UNICEF CEECIS 2012; UNICEF Kyrgyzstan 2009; UNICEF Mongolia 2012). The most ambitious comparative research project was the six-country study in the CEECIS region. It included situation analyses of teachers in the following six countries: Armenia, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Kyrgyzstan, Moldova, and Uzbekistan. The six research teams collected multilevel data (school, district/province, central level) from the following sources: statistics, policy documents, human resource information (salary tables, staff lists, salary slips), and interview of administrators, school directors, teachers, and students.

The six-country study set out to explore and explain the following contradiction: in all six countries there was public talk of the "teacher crisis" and yet the official teacher shortage statistics only suggested a shortage of 0.2–4.5% in the respective countries. The research project attempted to understand how exactly the official indicator of teacher shortage (defined as unfilled positions) helped to obscure real teacher shortage that in some countries was massive *if* measured at school and district/province level. The national statistics on teacher shortage lead to the erroneous

conclusion that teacher shortage is not a problem in the region. However, the magnitude of the teacher shortage crisis surfaces, once the central-level data are juxtaposed with school-level and district/province-level data and, in particular, when coping mechanisms of schools and district/province-level authorities are investigated in greater detail.

As a result of the inadequate global measure of teacher shortage, we started to differentiate between overt teacher shortage (using the global indicator of unfilled positions) and covert teacher shortage (using regional indicators) in the CEECIS region. In collaboration with researchers from the six countries, we developed ten regional indicators that reflect the specific features of communist and post-communist education systems. These include extremely low base salary, supplemented by additional payments for specific tasks, school location, and teacher experience. Finally, we used the 10+1 indicators (ten indicators of covert teacher shortage, plus one indicator of overt teacher shortage), to produce single case studies that helped us to understand which regional indicators apply to which countries, and which do not.

In terms of our methods, we began by comparing every country (global indicator), a few countries (regional indicators), and single case studies (national indicators), to measure the phenomenon of teacher shortage at different levels. We found that with each higher level of analysis – even moving from a provincial to a national level within a country – the teacher shortage rate diminishes. In addition, the period of the school year in which teacher shortage is measured is important. The highest rate is in the spring, when schools report their staffing needs to the district level authorities. That rate drops dramatically once the school year begins in the fall, for an obvious reason. Schools have learned to cope with teacher shortage by using ten different strategies, which ensure that each class period is taught by someone, regardless of whether they are qualified, already have a full teaching load, or have already retired.

The following two examples provide a glimpse into how schools deal with teacher shortage. The first example is from a school in Jalal-Abad, Kyrgyzstan, which uses Kyrgyz, Russian, and Uzbek as languages of instruction. The school employs 48 teachers, and, in the spring, officially reported 25 vacancies, which prevented them from offering physics in Grades 7–11. Asked how the school copes with teacher shortage, the principal replied:

> First of all, we don't divide the classes in Kyrgyz, English, and Russian into two groups even though we would be entitled to do so. This is bad for the quality of teaching in these classes, but we do not have any other choice. Second, we invited four teachers from the surrounding schools to teach at our school. Third, we begged our own retired teachers to come back and teach for us. Seven of our teachers are at retirement age, but are still working. Finally, we received permission from the District Department of Education to assign a double teaching load for our teachers. Twenty teachers at our school teach more than two teaching loads (that is, more than thirty-two to thirty-eight hours). Many of them teach subjects for which they never received any training. The highest teaching load/week at our school is fifty hours. Teaching so many hours is inhuman for teachers, but there is no choice. (UNICEF Kyrgyzstan 2009)

As a follow-up question, we asked: "How many of your teachers that took on additional hours teach subjects for which they weren't trained?" The principal answered:

> It is easier to answer which teachers only teach subjects for which they have a specialist diploma, a degree, or a certificate. Most of our teachers end up taking on additional hours in subjects for which they never took preparatory courses.... [Deputy principal goes through the list of teachers, listed in the salary forms]. From the forty-eight teachers in our school, twenty-two teachers teach subjects other than the ones they have been trained to teach. (UNICEF Kyrgyzstan 2009)

The greatest indicator of covert teacher shortage is the number of teachers that are assigned to teach additional hours in subjects for which they are not trained or qualified. Naturally, this particular indicator has great repercussions for the quality of instruction. The 2006 Programme for International Student Assessment (PISA) study mentions the shortage of qualified teachers in Kyrgyzstan explicitly, and attributes the low student outcomes in science to the lack of qualified science teachers. In Kyrgyzstan, 62% of all schools report vacancies in science. Almost all of these schools (59% countrywide) deal with the shortage by filling their vacancies with teachers who take on additional lessons in science, or by assigning non-qualified teachers (that is, teachers qualified in other subjects, but with no training in science) to teach science (CEATM 2008).

Redistribution of vacant hours is the most common strategy used at the school level to cope with teacher shortage. Kyrgyzstan participated in two PISA surveys (2006 and 2009), and received the lowest rank in the league table. Even though the redistribution strategy is detrimental to the quality of instruction, it is very popular among teachers. They depend on receiving extra payment from the additional teaching hours. Given the inadequate teacher salaries that existed in Kyrgyzstan prior to the salary reform of 2011, this particular coping strategy helped to retain effective teachers at the school, and in the profession (for more detail, see Steiner-Khamsi *et al.* 2011).

Table 32.1 is a summary of the 10+1 indicators grouped into three categories that affect the quality of instruction.

The ten indicators were regionally developed, and characterize core features of post-communist education systems. The research teams in the six countries of the CEECIS region adapted them nationally to reflect contextual differences. The indicator "+1," listed last in Table 32.1, is the final, overt measure of teacher shortage. It represents the global indicator that measures unfilled positions. Since the global indicator "unfilled positions" does not at all capture the reality in the CEECIS region (only 0.2–4.5% of positions are unfilled), we adapted it regionally, and measured canceled subjects and lessons. Even the regional adaptation of the global indicator (canceled subjects and lessons due to teacher shortage), proved to be insufficient. It was only at the school level where the full picture of teacher shortage emerged. This is why it is important to pursue a system theory perspective that explains how a system regulates itself; that is, how it copes with a problem. In this case, the problem being how systems cope with a lack of qualified teachers.

Table 32.1 10+1 Indicators of teacher shortage: the case study of Kyrgyzstan

Indicators			*Measurement/examples*
1	A. Para-teachers (non-qualified teachers)	Number of professionals (without pedagogical training) who teach at a school	For example, electrician who teaches physics, accountant who teaches math, etc. (professionals without pedagogical training)
2		Number of pedagogical specialists who teach subjects for which they were not trained	For example, Kyrgyz language and literature teacher (with a pedagogical specialist degree) who teaches biology or subjects other than Kyrgyz language and literature
3		Number of university students who teach at a school	This includes both part-time correspondence students (*zaochnik*) as well as full-time university students (*ozchnik*) who teach at the school
4	B. Qualified teachers who teach beyond the permissible or advised retirement age, teaching load, or class/group size	Number of teachers at retirement age	Teachers who continue to teach or are brought back to the school to fill vacancies; the retirement age is 63 years for men, and 58 for women.
5		Number of teachers hired from another school	To circumvent the regulation on the maximum teaching load (24–27 hours per school), teachers are hired from another school to teach at the school. At times these teachers are also hired because the school lacks teachers with the needed qualifications
6		Number of teachers teaching at the same school with more than 24–27 teaching hours/week	Schools need to request permission from the District Education Department if their teachers teach more than 1.5 teaching loads. Some districts officially lifted the ceiling for the maximum amount of teaching hours from 1.5 to two teaching loads (*stavka*)
7		Number of teachers who do not split the class into groups despite the entitlement to do so	In a few subjects (foreign language courses, IT, etc.), schools are permitted to split the class into two groups to allow for more effective learning. Schools with teacher shortage typically do not split classes into groups to avoid increasing the teacher shortage
8	C. Mismatch between what is taught on paper and what is taught in practice	Number of teachers with prolonged absences or absenteeism	Absences can be seasonal or permanent, and can be related to other non-school related economic activities/work (harvesting, trade, etc.), or other school-related obligations (e.g. principals or deputy principals in charge of teaching classes, but because of other obligations neglect their teaching commitment)

Table 32.1 (*Continued*)

Indicators		*Measurement/examples*
9	Number of teachers who teach for a shorter duration than officially prescribed	The duration of the instructional hours is shortened regularly to save on human resources (which are lacking). The reduction in instructional time applies both to lessons (35 minutes instead of 45) as well as to the school year (shorter school year than prescribed)
10	Number of teachers that are listed in the lesson plan without holding the actual lessons	This indicator includes teachers who are kept on the payroll, but who have recently, or long ago, quit and moved to another location
+1	Canceled subjects and lessons	Measures those subjects that were reported as having a vacancy (or lessons within a subject that had a vacancy) that were not taught in the past school year

Source: Steiner-Khamsi *et al.* (2011); see also UNICEF CEECIS (2012), 19.

Comparing Many Countries, Few Countries, and Single Case Studies

We can now understand, in a more systematic manner, why global indicators constitute policy tools of limited use. Aside from political and economic reasons, they are literally *meaningless* when applied to a particular education system, or a specific context. Naturally, the field of comparative policy studies is not alone in facing the challenge of having to balance the depth, versus the breadth, of its assertions. This problem is inherent to the comparative method.

As researchers, we constantly make choices on whether to sacrifice depth for breadth, or vice-versa. When we investigate and carefully tease out the contradictions between the different levels of analysis, we must decide whether we also need to explain them. In this particular example of teacher shortage, the ultimate goal should be to develop a theory of systems that explains the distinct patterns that we find at global, regional, national, district, or institutional levels. The reason why the global indicator of teacher shortage is meaningless in the post-communist region, is that there is a wide divide between the teacher management, teacher employment, and teacher education systems of the (post-) communist world, and other countries with similarly high literacy rates, as well as between poor and rich countries. Thus discrepancies in teacher shortage statistics motivate us to dig deeper, and bring to light fundamental differences in these systems. Understanding the logic of systems should be the ultimate goal of comparative policy studies. The single case study, in combination with cross-national and regional comparison, is the most effective method of inquiry for fully disclosing the inner workings of an educational system.

The academic question of whether single case studies qualify as comparative becomes moot when considered against the backdrop of studies that pursue contextual

comparison (see Little 2000). Case studies are a *sine qua non* of contextual comparison. It is indispensable to carry out case studies to explain similarities and differences between various units of analysis, whether they are cases, countries, contexts, or systems. Researchers should not be pressured by colleagues in their discipline to choose one comparative method or another. Ideally, a comparative study draws on several cases, a few cases, or a single case, as part of the same study. Furthermore, a case study must produce a "thick" description and is, by definition, both horizontal and vertical. It draws on many variables and rests on a sample size of one. Therefore, I find the term "vertical case study" not just tautological, but to some extent misleading, because it suggests that it is possible to produce a case study that is flat or non-vertical (see Vavrus and Bartlett, Chapter 31, this volume). Nevertheless, it may be useful as a reminder that the greatest strength of case studies is their depth, and ability to explain the causal web of actors that interact in a bounded system.

The advantages and disadvantages of case-oriented versus variable-oriented comparative research, as well as between large-N (many countries) versus small-n (few countries) comparisons, are accurately presented in Todd Landman's textbook on comparative methodology (Landman 2003; see also Ragin 1997). Landman systematically discusses the key characteristics of comparative studies that draw on single cases, comparison of a few countries, and comparison of many countries. He should also be credited for acknowledging the value of case studies for contextual comparison. For Landman, single case studies "are by nature not comparative, but may have comparative merits" (Landman 2003, 25). Landman presents a figure that illustrates the depth versus breadth dilemma. Figure 32.1 shows how every increase in sample size results in a greater level of abstraction.

The example of teacher shortage demonstrates that the level of abstraction, reflected in global indicators, creates not only a validity problem, but also an interpretation challenge. For example, the global indicator of teacher shortage may suggest a virtually non-existing shortage rate of 0.2% in a given country. However, the low rate conceals the fact that schools in that country must rely on teachers who work double shifts, take on additional hours, or engage in other local practices that help the system to cope with massive teacher shortage. The high level of abstraction found in large-N studies leads to generalizations, as well as speculations or false interpretations. Single case studies suffer from the inverse problem, resulting from

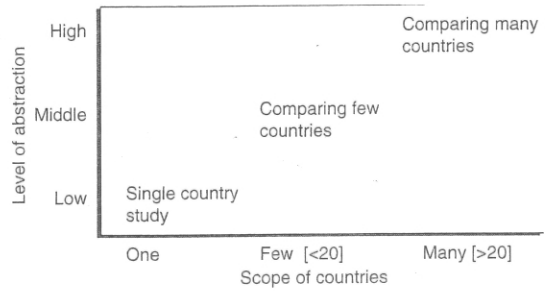

Figure 32.1 Methods of comparison.
Source: Landman (2003), 25.

the lack of comparison with other contexts, cases, systems, or countries. As a result, practices may be attributed to culture rather than to general processes, beliefs, and practices that also exist elsewhere.

The insufficiencies of the teacher shortage indicator are found in other global indicators that, by virtue of having to focus on the smallest common denominator across a wide spectrum of countries, gloss over contextual differences. It should be taken for granted that the level of abstraction and, by implication, the magnitude of imprecision and extent of de-contextualization, increases with every additional case, context, country, or system added onto a comparative study. In fact, the level of abstraction may increase to the extent that the global indicator becomes devoid of any context-specific or country-specific meaning. It becomes literally *meaningless*.

The "Data Revolution": Problems of Transition?

It appears on the surface that we moved in the policy process from politics to statistics and, within statistics, from ad hoc evaluation studies to constant and continuous data mining. Naturally, coalition- and consensus building remain at the very heart of every policy process. Evidence-based policy planning or the "data revolution" represents a political strategy to make the policy process *seem* less political and more rational. In this chapter, I attempted to show that global indicators encounter so many different country-specific or contextual interpretations that they become in fact meaningless or uninterpretable.

Having demystified the use of global indicators for local problem recognition, the question becomes: why amass so much meaningless data? The answer is: it allows for more actors, including non-state actors, international organizations and businesses, to participate in, and benefit from, educational reform. Everyone is invited to participate as long as standards are followed and progress measured and documented. Judging from the debates surrounding the post-2015 development agenda, the trend toward data mining is likely to proliferate over the next few years.

The report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (United Nations 2013), lists five thematic priorities[2] to be pursued in the post-2015 development environment, and concludes with a call for a "data revolution" to help monitor progress toward global development targets.

> We also call for a **data revolution** [bold in original] for sustainable development, with a new international initiative to improve the quality of statistics and information available to citizens. We should actively take advantage of new technology, crowd sourcing, and improved connectivity to empower people with information on the progress towards the targets. (Executive Summary, n.p.)

The High-Level Panel recommends establishing a Global Partnership on Development Data, that ensures that "baseline for post-2015 targets is in place by January 2016," because they expect that the frenzy to collect data will reach a new level in the immediate future. Development projects are already under pressure from funding agencies to collect baseline data and then, a few months or years later, an impact evaluation with quasi-experimental design. The indicators used for the baseline and impact studies are global indicators. As mentioned in the introductory section, the

local problem definition and solution, as reflected in baseline and impact studies, are driven by international knowledge banks that, in the case of international educational development, also happen to be agencies that provide grants and loans, as well as reform packages or "solutions," to low income countries.

The fact that global agendas effectively eclipse local needs, there is a functional overlap between description and prescription, and the disappointing realization that much of development statistics hides behind a "façade of precision" (Samoff 1999), does not seem to concern the High-Level Panel of Eminent Persons. For the Panel, the data revolution entails collecting and analyzing more and better data. It envisions the ability to increase data collection with new technologies. In fact, it has been suggested that "mobile technology and other advances" will "enable real-time monitoring of development results." Better data is equated with data that is disaggregated by gender, geography, income, disability, and other categories, "to make sure that no group is being left behind."

The High-Level Panel statement should be interpreted as an unwavering belief in the validity of global indicators. Arguably, every revolution is followed by a transition period, characterized mostly by chaos. In fact, the transition argument is often used as an explanation for why data are imprecise or unavailable. It is notable that back in the very early stages of the "data revolution" in educational development, the Global Partnership in Education (at the time, Education for All Fast Track Initiative (EFA-FTI)) conceded that reliance on statistical data is nearly impossible. The 2007 annual report identifies incongruence of statistical data between international and national databanks, inconsistencies between the international Indicative Framework and the national education sector plans, and an inability to measure – among other questions of top priority – *good* primary education.

First, according to the EFA-FTI Secretariat (2007), the gap between what Ministries of Education report in terms of enrolment figures, and what the UNESCO Institute for Statistics determines, is more than three percentage points. In some cases it is as high as 20. For a donor strategy that relies so heavily upon benchmarking and monitoring annual targets, the incongruence of statistical information is a problem so grave that it calls into question the very foundation of evidence-based planning. The contradictions addressed in this paper deal with indicators that are, at first glance, simpler and uncontested such as, for example, student enrolment or teacher shortage.

Needless to say, the situation is far more complicated when organizations attempt to measure more complex concepts such as poverty, dropout, or teacher absenteeism. Upon closer examination, the statistical information provided at not just country, but also at the international level, is not simply imprecise, it is deeply entrenched in political and economic agendas. In Mongolia, for example, poverty measures swing back and forth several times; usually just before the start of an election season. Similarly, dropout statistics vary dramatically, depending on which government agency has manufactured the data. Surprisingly, there is also a big difference between two departments within the same ministry. Whereas the Nonformal Education Department reported 40,000 dropouts in 2003/4, the department in charge of educational statistics at the Ministry of Education only counted 11,953 (see Steiner-Khamsi and Stolpe 2003, 181).

Many attempts are currently being made to develop global indicators that capture the complexity of a phenomenon in different contexts and countries. An example of

a sophisticated analysis demonstrating the scope of the problem is the methodological study on out-of-school children prepared by the Education Policy and Data Center (Omoeva *et al.* 2013). The Out of School Children (OOSC) Initiative, launched by UNICEF and UNESCO in 2010, is another noteworthy attempt to agree on a broader conceptual framework at the global level, which researchers could use to develop indicators at the national level. The OOSC Initiative, for example, defines five dimensions of exclusion (5DE), which are subsequently narrowed down and detailed at the national level.

In other words, there are efforts made to refine global agendas with evidence collected at national and local levels. The purpose is to increase the validity of global indicators by making them more sensitive to a variety of contexts. Why is there such a deep concern with transforming global indicators into a useful policy tool for national and local actors? To return to the questions raised earlier in this section, global indicators may be invalid measures of national and local realities and therefore qualify as "junk;" that is, are decontextualized to an extent that they do not make sense and are devoid of meaning. Nevertheless, decision-makers use them as effective political and economic tools for transferring educational reform packages from one context to another.

As the authors of this volume have pointed out, we are dealing today with the phenomenon of global norm-setting in education. It is not so much the fact that this phenomenon exists, but rather that the processes, mechanisms, and agencies that perpetuate it should be subject to scrutiny. There is indeed a "globally structured agenda for education" (Dale 2000; Verger 2014; Sahlberg, Chapter 7, this volume), and global indicators have been used as tools not only to measure, but also to disseminate a portfolio of "best practices," international standards, and global education policies, at great benefit to those international agencies that lend or sell their packages to recipient countries (see Verger, Lubienski and Steiner-Khamsi 2016).

Notes

1 For a detailed discussion of the various forms of teaching shifts see Bray (2008) and Ndalama and Chidalengwa (2010).

2 The five priorities or "five big, transformative shifts" (see Executive Summary) are: (a) leave no one behind; (b) put sustainable development at the core; (c) transform economies for jobs and inclusive growth; (d) build peace and effective, open and accountable institutions for all; and (e) forge a new global partnership.

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