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Teachers and Teaching in the Context of Globalization

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A flyer for a workshop on new directions and practices in K–12 teaching promotes a one-day session in a small town in Michigan, featuring Pasi Salhberg, a noted expert on Finnish education reform (Sahlberg, 2011), focused on the experience of Finnish teachers. Shock in Germany over students’ mediocre achievement in the 2000 Program for International Student Assessment (PISA) led to “PISA tourism” (Waldow, 2010). Twelve years later, Swedish policy makers looked with interest at Germany after the country’s rise in the 2012 PISA. In a similar twist, worrying about a lack of flexibility and creativity in its labor force, China looked to the United States to learn from its teachers (Zhao, 2009). Today, people in many countries can readily find efforts to draw on the experience of education elsewhere to speak to national problems of teaching, whether the examples are Chinese education success or Singapore math teaching.

Teaching in the context of globalization today means that discussions of teaching no longer are local ones, nor are they understood solely in national terms. Instead, whether it be in the Midwest of the United States or the middle regions of China, teaching is considered through the lens of globalization—that is, understanding teaching in one place in relation to teaching in other places and defining the goals of teaching in part by a vision of a changing and more interconnected world.

Increasingly, scholars and practitioners talk about teaching and teachers in reference to other countries’ practices or to groups of practitioners elsewhere. And they talk about teaching with ideas developed in or transplanted from other places. The phenomenon of borrowing ideas about teaching from other countries is certainly not new, as evidenced by Horace Mann’s interest in Prussian education (Mann, 1842), but the pace of contact has intensified, not least because of the speed of technological development and the fact that contacts are more wide ranging than in previous eras. Furthermore, comparisons are now institutionalized in multilateral and global institutions such as the European Union (EU), the Organization for Economic Co-operation and Development (OECD), and the World Bank. How teaching is defined, studied, and managed today is influenced by contexts beyond a local community or a national policy system; teaching today is informed by the discourses and actions of transnational, international, and global actors. Thus, any handbook on research on teaching must encompass research in the context of globalization.

Previous editions of American Education Research Association (AERA) handbooks have not paid particular attention to research on educational practices outside the United States or the situation of teachers and teacher development in other countries. These handbooks have discussed the field by drawing primarily on literature from certain parts of the world, chiefly relying on scholarship published in English, and the limits of such discussions—empirically, theoretically, and epistemologically—have not been considered. In addition, the idea that global processes might influence policies and practices in the United States has not been a substantive focus for prior inquiries. Thus, a chapter on teachers and teaching in the context of globalization is not only desirable but also necessary in a handbook reviewing research on teaching.

Globalization’s heightened connections have profound implications not just for what scholars think teaching should entail or how they envision it, but also for how to perceive and interpret teaching. As scholars throughout the world are in greater contact with one another, through increased opportunities for international study and
research and because of changes in digital communication, the notion of a community of scholars (and hence of an international field) has fluid boundaries. Similarly, with the increasing relevance of international comparisons of student achievement, national systems of education around the world are actively and regularly drawing on the experience of education elsewhere to argue for their own policy and practice reforms. For all these reasons, in this chapter we examine experiences beyond U.S. national borders and review research internationally.

We approach our topic—teachers, teacher development, and teaching in the context of globalization—from a discursive perspective, viewing research as one important way that teaching and teachers can be constructed. We show empirical data about teachers and teaching, and demonstrate how international research portrays and problematizes teaching and how these portrayals are themselves engendered by and interact with conflicting discourses on globalization.

In our review, we recognize the difference between two forms of globalization: globalization that stands for the objective flows of people, policies, and ideas and globalization as a discursive construction that serves as a justification for research studies, policy implementations, and changes in teaching practices. The two forms interact with each other, occasionally reinforcing and occasionally loosening the grip each has on educational systems and on teachers within those systems. For a long time, globalization was perceived as an ephemeral force that posed a challenge and evoked a response; but that, akin to the market's invisible hand, presented no body to question, challenge, or engage in dialogue with. Recent investigations of global influences have shifted attention toward bodies that contribute to the circulation of norms and accountability mechanisms by carrying ideas across spaces and selling these ideas as they rely on the status and prestige of their position in heterarchy—or "an organizational form, somewhere between hierarchy and network, that draws upon diverse horizontal links that permit different elements of the policy process to cooperate (and/or compete) while individually optimizing different success criteria" (S. Ball, 2009, pp. 155-156). In examining how discourses about teachers and teaching are constructed in the context of globalization, we attend to the various roles played by multiple actors, with varying degrees of reach and scale, and the consequences of these constructions for teachers' lives and the practices of teaching.

Drawing on a conceptualization of globalization that views processes that create flows and disjunctures and recognizes the role of many actors operating at different levels, we examine how global norms on teaching circulate around the world and analyze how regimes of accountability, testing, and transnational governance shape approaches to teaching in different contexts. To set the context for this discussion, we first provide a conceptual lens for talking about globalization and how education across countries is and can be viewed globally. We identify the levels and actors relevant to this framework. We then explain the design of our review. Finally we offer some background information on the state of teaching internationally in order to provide some context for the research findings we explore in the major sections following the introduction.

### Conceptualizing Globalization as a Context

We view globalization as a set of processes that have significant influences on how we construct and examine teachers and teaching at this moment in history. Many scholars characterize the current "global era" as powerfully influenced by and reinforcing "global connections" (Utting, 1995, p. 9). Issues that might have been seen as the purview of national or subnational units in the past are now "global issues"—climate change, trade, the economy. These phenomena—horizontally, the increasing links among spaces; vertically, the construction of arguments about supranational or global interests—are relevant to understanding teachers, teacher development, and teaching, as well as scholarship on them. Our interest is in how theories that conceptualize the processes and actors of globalization can inform a review of research on teachers and teaching.

#### Key Concepts in Studying Globalization

The meaning of globalization varies with the perspective one brings to it (Stromquist & Monkman, 2014, p. 1). Much scholarly energy has been invested in examining the impact of globalization on the convergence and divergence of education policies and practices and the interaction of the global and the local (Anderson-Levitt, 2003; Arno, Torres, & Franz, 2013). Yet we, with de Sousa Santos (2006), are struck by the fact that

> [s]trangely enough, globalization seems to combine universality and the elimination of national borders, on the one hand, with rising particularity, local diversity, ethnic identity and a return to communitarian values, on the other. In other words, globalization appears to be the other side of localization, and vice versa. Moreover, it seems to be related to a vast array of transformations across the globe. (p. 393)

Recent scholarship emphasizes globalization as a "much more multifaceted dynamic, one that is contingent, ambiguous, contradictory, and paradoxical" (Stromquist &
Several key concepts emerge from this more recent line of scholarship: global flows, spaces, and networks, and friction. These concepts influence our approach to the review of research on teachers and teaching and our interpretation of that literature. Here we briefly introduce these key concepts.

**Global flows.** Our review is informed by the work of Appadurai (1996), who argues that globalization is a form of new imaginary—or “a constructed landscape of collective aspirations . . . now mediated through the complex prism of modern media” (p. 31)—in which life in its multitude of forms is no longer imagined only in terms of local community norms, national traditions, or shared myths, but reverberates with images, slogans, and actions that flow around the globe. In this global neoliberal imaginary, teachers and teaching are increasingly positioned as solutions to economic problems and means of securing global competitiveness. Voices in these conversations include those of actors far removed administratively and spatially from the daily work of teaching in a particular location, who often frame teaching as a shared concern.

In our review, we sought to understand not only the ideas about teachers and teaching that are circulating through policy and research networks, but also how these ideas flow, as well as barriers to and disjunctions in flows. As Rizvi and Lingard (2010) argue, “these shifting patterns of global interaction do not affect all communities in the same manner. . . . The globalized world is fundamentally heterogeneous, unequal and conflictive, rather than integrated and seamless” (p. 24).

**Spaces and networks.** Flows occur through spaces, but not all spaces are the same. We are mindful that when talking about teaching in a global context, we must try to avoid the tendency to homogenize or to assume a single convergent set of trends and processes. Ferguson (2006), in research on social, political, and economic transformation in several African states, argues that flows often follow predictable trajectories encompassing some spaces in the circuits of ideas, people, and goods, leaving others outside of these circuits and flows. Ferguson’s argument puts a burden on our review work, because to agree with it means that we need to explore regions and locations that may be less connected to dominant flows of ideas about teachers and teaching because of language differences, divergent academic traditions, or uneven access to technology.

In focusing on flows in the global circulation of ideas, we particularly wished to examine the role of formal and informal networks in informational and policy flows. Castells’s (2010) analysis of global transformations points to changes in communication brought forth through technology and transportation that create “the space of flows: the material support of simultaneous social practices communicated at a distance” (p. xxxii). Attention to networks through which information passes and then becomes enacted is one significant focus of our analysis. As Rizvi and Lingard (2010) show, global information networks shape national policy making in education:

Policy processes . . . are located within a global architecture of political relations that not only involves national governments, but also IGOs, transnational corporations and NGOs. Policies are developed, enacted and evaluated in various global networks from where their authority is partly derived. (p. 186)

Policy networks facilitate the spread of global norms, adherence to which may signal either a pursuit of legitimate forms of modernity or a potential alignment between national, regional, or subnational interests and globally circulated means of achieving them. Of note is the recursivity between global norms and national settings—a cyclical process in which various actors appropriate global norms and enact or implement them in national contexts, with all the attending struggles and contradictions, and potentially contribute to changes in the global norms themselves (Halliday & Carruthers, 2007; Oppenheim & Stambach, 2014). The interconnections among international organizations, national governments, transnational corporations, and policy entrepreneurs have created new forms of governance in which state actors are not the only ones setting agendas in education. ‘Teachers’ lives and work in this web of connections become subjected to ever more influences that are recontextualized from elsewhere by exogenous actors.

**Friction.** The idea of global flows is further nuanced with Tsing’s (2005) notion of friction—or “the awkward, unequal, unstable, and creative qualities of interconnections across difference” (p. 4). Tsing attends to the tensions between the universal and the particular that are “charged and enacted in the sticky materiality of practical encounters” (p. 1) and out of which emerge conflicts, contestations, appropriations, and struggles that can bring together unlikely alliances or compromises amid groups of participants with divergent goals. The notion of friction underscores that motion can occur only when “a wheel turns because of its encounter with the surface of the road” (p. 5), thus drawing attention to concrete events, meetings, conferences, exchanges, and workshops that ignite sparks generating global imaginary in specific places and in the lives of specific actors.
These conceptual lenses present an approach to globalization that is important for our analysis of research on teachers, teaching, and teacher education. By focusing on global flows, barriers to those flows, and the conflicts and struggles that those flows engender, as well as the actors and actions that facilitate circulation of ideas through those flows, we hope to illuminate how the institution of teaching is being transformed through engagement with global imaginaries and transnational policy networks. We pay attention to rhetoric about teaching (both policy and research writing) as expressive of the imaginary that is the construction of teaching. Our perspective on globalization encourages us to consider points of interconnection and constructions of shared images of teaching. We also seek to recognize diversity that exists in the face of, and in some cases in response to, globalization.

In contrast to some researchers, we do not treat globalization as an actor, but recognize that the economic, technological, social, and cultural forces of globalization operate in, on, and through actors at many levels. In the case of research on teachers and teaching, these actors today represent a larger array and more interconnection among levels than in previous periods of history.

In this chapter, we refer to international and transnational or supranational actors; national-level state and nonstate actors; and subnational and local actors (see Table 11.1). All are participants in the discourses of teachers, teacher education, and teaching, and their interaction and the ways ideas flow among them is part of our inquiry.

Mundy and Ghali (2000) document the expansion of actors and types of policy actors in educational policy and note

the increasingly "pluri-scalar" nature of contemporary educational policy processes, which increasingly involve multiple levels of government (from local to international), new kinds of actors (including professional networks, nongovernmental organizations, and private sector actors with a transnational reach); and new processes (including heightened reference to international standards and norms). (p. 717)

Differences among actors manifest themselves in the scale and reach of actors' influences. Because we refer to

<table>
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<th>TABLE 11.1 Levels and Actors Who Play Roles in Teaching</th>
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<tr>
<td>International/Intergovernmental</td>
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<tr>
<td>• World Bank</td>
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<tr>
<td>• OECD</td>
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<tr>
<td>• UN Organizations—Especially UNESCO, UNICEF</td>
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<tr>
<td>Regional/Supranational and Transnational (State and Nonstate)</td>
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<tr>
<td>• Intergovernmental—EU, APEC (Asia-Pacific Economic Cooperation), Bilateral Organizations</td>
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<td>• Nonstate</td>
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<tr>
<td>○ Trade Associations (e.g., Education International, a Federation of Teacher Unions from Around the World)</td>
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<td>○ Nongovernmental Associations (NGOs; e.g., Save the Children)</td>
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<td>○ Philanthropic Foundations (e.g., Bill and Melinda Gates, Aga Khan, Soros)</td>
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<td>○ Advocacy Networks (e.g., Global Campaign for Education)</td>
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<tr>
<td>○ Professional Associations and Scholarly Networks (e.g., WERA [World Educational Research Association], WCCES [World Council of Comparative Education Societies], WALS [World Association of Lesson Studies], Research Consortia (e.g., IEA [International Association for the Evaluation of Educational Achievement]), and Academic Journals (e.g., Teaching and Teacher Education)</td>
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<tr>
<td>○ Private Sector Actors/Corporations, including publishing Houses (e.g., Pearson, McKinsey, Springer)</td>
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<tr>
<td>National (State and Nonstate)</td>
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<tr>
<td>• State Policy Actors, including Ministries of Education (e.g., U.S. Department of Education)</td>
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<td>• National Research Organizations/Foundations (e.g., DFG [German Research Foundation], NSF [National Science Foundation])</td>
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<td>• International Aid Organizations (e.g., JICA [Japan International Cooperation Agency], USAID [United States Agency for International Development], CIDA [Canadian International Development Agency])</td>
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<td>• Cultural Education Outreach Offices Working Internationally (e.g., Confucius Institutes, British Council)</td>
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<td>• Universities and National Professional Research Associations</td>
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<tr>
<td>• Journals (e.g., Educational Researcher, Teachers College Record, Comparative Education, Frontiers of Education in China)</td>
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<tr>
<td>• Mass Media (e.g., New York Times, Education Week, Chronicle of Higher Education)</td>
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<td>Subnational (Province or State)</td>
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<td>Local (Community, District, School)</td>
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actors at multiple levels, we caution against taking these hierarchies at face value and, along with Ferguson and Gupta (2002), we urge an interrogation and a critical examination of how these hierarchies came to be perceived and experienced as such.

**Policy makers.** Changes in teaching in the past were facilitated by the work of policy makers. The past decade witnessed a resurgent interest in policy related to teaching around the world. Writing from Europe about broad international trends, Nóvoa (2011) suggests that "in recent years we have seen teachers return to the limelight, after forty years of near invisibility" (cited in Robertson, 2012a, p. 591). Central-level policy actors have become prominent voices in discussing teaching, and conversations about teaching have of late brought policy makers from different countries together. Ministers of education, for example, participate in education summits where national teacher policies and practices are shared. Policy leaders from different countries inform one another as a way of making sense of their own countries' teaching situations and imagining national reforms. U.S. President Obama's Secretary of Education Arne Duncan is a case in point, as he argues for reforms in teaching and teacher preparation informed by and with explicit reference to education elsewhere. National policy actors engage in imagining teaching and teacher policy as related to a "global learning crisis" (EFA Global Monitoring Report Team, 2014, p. 5). Teaching is understood globally—that is, understanding teaching in one setting now is viewed as requiring understanding teaching in other settings, and teaching is seen as part of a larger global context (and problem). Conceptions of desirable educational outcomes and constructions of legitimate educational practices emerge in a reflexive dialogue or an anxious look over the shoulder at the real or imagined accomplishments of other nations, private sector actors, or international consortia.

**International and transnational organizations.** The idea of policy makers working across national boundaries to shape their domestic education agendas regarding teachers and teaching has received impetus from the energetic efforts of international organizations. Both intergovernmental policy actors (such as the World Bank and OECD) and nonstate transnational actors (including nongovernmental organizations, private sector and corporate actors, foundations and philanthropic actors, policy networks, and education research associations and networks) now engage in shaping the discourses of teaching and governing teacher development. We consider as well supranational regional actors, both intergovernmental (such as the EU) and nonstate (such as a regional educational journals or research associations, e.g., the European Association for Research on Reading Learning and Instruction, EARLI). These international and transnational organizations have positioned themselves globally in a very different relationship to teachers and their work than in previous eras (Mundy & Ghali, 2009). That is, international reports, as authoritative texts, convey meaning about the nature of teaching; the knowledge that teachers possess or need to possess; and the recruitment, preparation, and retention of teachers. Through indicator studies, policy briefs, research studies and surveys, these organizations frame teachers, teacher education, and teaching in particular ways (Robertson, 2012a), and they encourage a common identification of the problem, standardization in data collection, and shared solution sets.

Examples are the OECD background reports prepared for the 2011 and 2012 International Summits on the Teaching Profession (OECD, 2011; Schleicher, 2012). These reports helped set the agenda for an international dialogue on teaching. Using international and sometimes comparative data, these reports couch arguments about teaching as something that has global importance and that makes sense to discuss across countries, with (apparently) standard metrics and shared terms and constructs. See, for example, the efforts of UNESCO, the UNESCO Institute for Statistics, the World Bank, the OECD, UNICEF, and the Global Monitoring Project in developing indicators for teachers and teaching as part of UNESCO's International Task Force on Teachers for Education for All (Motivans, 2012).

Transnational organizations such as the European Union and the Asia-Pacific Economic Cooperation (APEC) also are key players in the circulation of ideas of teaching. The EU, operating at a supranational level, gains power to govern through agreements by its member states. Where the EU communicates policy expectations to its member nations (e.g., the Bologna Process), other supranational and regional organizations, such as APEC, can shape the construction of teaching and facilitate the flow of ideas through study reports, indicator efforts, and meetings (e.g., Darling-Hammond & Cobb, 1995).

**Nonstate actors, entrepreneurs, and academics.** Closely connected to, but playing a different role than, either policy makers or international organizations are entrepreneurs. One notable example is McKinsey: Its 2007 report (Barber & Moursched, 2007) received significant attention in both the popular media and policy discussions in many countries. A report that came not from a single country's ministry or a university, it reached audiences through popular (i.e., non-education-focused) media, such as the Economist, as well as many education outlets. The report claims that "the quality of an education system cannot exceed the quality of its teachers" (Barber & Moursheed, 2007, p. 13).
That phrase was widely used to justify reforms of teachers and teaching, and ministries from the United Kingdom to Singapore to South Africa, state departments of education in the United States, and many professional organizations around the world cited it (Paine & Zeichner, 2012).

Entrepreneurs have widely circulated ideas about how to improve teaching—whether via testing materials, professional development toolkits, or consultants for hire on the international lecture circuit. The apparent distance among school systems thus has "flattened" (Friedman, 2005) while perhaps masking the "spiky" (Florida, 2005) differences between centers of entrepreneurial activity and the production of authorized (and marketable) knowledge of teaching and teacher development.

Individuals and groups within national education associations, university faculty, research networks, and publishing (journals and books) also participate in shaping discourses of teaching; with the increasing flow of ideas across borders, actors participating in what might seem to be local or national discussions are also contributing to the development of practices held by larger collectivities. Although regional associations such as EARLI have existed since the 1980s, the foundation of the World Education Research Association (WERA) in 2009 was an indicator of a global development in education research. Twenty-two national, regional, and international research associations joined forces to advance education research "around the world" through meetings and networks, and to undertake initiatives "global in nature" (see http://www.weraonline.org/?page=WhoWeAre).

**Methodology**

Several objectives guide our methodological approach in this chapter. All were influenced by the scope of a chapter on teaching in the context of globalization, which encouraged us to understand teaching broadly (e.g., as practice, as profession, and as not limited to a single level of schooling or subject area) and to recognize globalization as a set of processes involving actors around the world. With that in mind, we attempt here to include both diverse research approaches and research from and about diverse regions. We want to be able to speak to theoretical and methodological limitations and research gaps in scholarship about teachers and teaching. We outline here the different approaches used to accomplish these objectives.

Given the breadth of our task and scope, we explicitly relied more on purposeful sampling than on attempting to provide a comprehensive review of all publications available around the world. Language-wise, we relied on our various language strengths in English, German, Russian, and Chinese to conduct extensive reviews of recent key scholarship on teachers and teaching. Having expertise in four languages and cultures allowed us to not be restricted to English-language publications, yet left obvious gaps by not including, for example, research in Spanish, Portuguese, French, Arabic, Hindi, Bengali, or Punjabi. We relied on colleagues to help us with literature in these and other languages, but recognize that we were limited in our ability to systematically review all these bodies of published work. Limited access to materials online was also a factor in the research available to us.

The selection of publications included in this chapter was based on a desire to review research since 2000 that meets widely shared standards for academic scholarship. The publications we considered underwent a peer-review process in a leading academic journal (such as *Comparative Education Review*), a major publishing house (such as Springer), or an international organization (such as the International Association for the Evaluation of Educational Achievement, IEA). We were committed to considering scholarship that reflects a large range of research approaches that include quantitative and qualitative studies as well as more philosophical approaches to educational research.

We recognize that these selection criteria potentially disadvantaged other types of research, research from some regions of the world, and work in languages other than English, German, Russian, and Chinese. For example, our review challenges were compounded by the relative lack of accessible international journals from some regions and limited library access, given that publications in these regions often are not available online or are available only as abstracts, not as full texts. These challenges existed especially in scholarship from African and Arab states. In a few cases, we decided to rely on publications not commonly included in chapters like ours that provide reviews of research.

We give significant attention to large-scale multinational/international studies on teachers and teaching, in particular to the Teacher Education and Development Study in Mathematics (TEDS-M) and the Teaching and Learning International Survey (TALIS). These studies are explicitly based on understanding teachers and teaching in a globalized world. While large scale assessments provide standard indicators and afford international benchmarking, they are not always comparative, and other studies seek comparison as their goal. Thus, in our review, we also pay significant attention to comparative studies for their analysis of education, teachers, and teaching within and across countries.

Although teaching is at the core of our chapter, we also consider teachers and their characteristics, in particular the development of their knowledge and expertise, as well as teacher education as a means to understand teaching, its construction, and teachers as actors. Our findings
on teaching may have substantial implications for what teachers should know and be able to do and how this can be accomplished. Other international studies, such as the Trends in International Mathematics and Science Study (TIMSS) and the Program for International Student Assessment (PISA) include teacher questionnaires from which information can be gained, albeit in reduced detail. Thus we draw on them as they provide additional insights into our topic.

TEDS-M and TALIS follow the methodological quality criteria of IEA and OECD: Their results are based on randomly drawn representative samples and expert judgments of the respective instruments so that the data are reliable and valid across countries. However, we recognize that these large-scale studies are limited. They cover a limited range of countries. And although there is variation in terms of the number of countries included, there is not great diversity in their economic characteristics. Twenty-four countries participated in TALIS, mainly highly developed OECD members from Europe and only two non-OECD countries from outside Europe (Brazil and Malaysia). Seventeen countries participated in TEDS-M, covering a broader range of regions and development, including less developed countries such as Botswana or Georgia, but these were still limited in number. Most important, the assumption of all international studies that the country level is the appropriate unit of analysis is debatable and, in the context of globalizing processes and transnational forces, ignores points we consider key. Furthermore, both studies are limited from a methodological point of view. TEDS-M is focused on prospective mathematics teachers, which raises the issue of generalizability across other subjects. TALIS reports on classroom practices but relies on self-reports only. Like most large-scale designs, they are restricted in their potential for textured understanding that more holistic, microfocused, or longitudinal analyses can offer.

With this in mind, we sought additional publications and consulted with peers in many other countries for nominations for literature. We also developed vignettes of teachers as a counterbalance to the rather disembodied results of the international studies. The vignettes were constructed by bringing together focus groups in the countries selected. Experts from universities together with experienced teachers were asked to construct a prototype (avoiding stereotypes) that reflects major job demands, recent changes, and distinctive assumptions of a middle-school mathematics teacher, including typical characteristics of the classroom practice and the school environment in that country. We include five such vignettes here, weaving them throughout the chapter. The idea for these vignettes came from the six-country study Mathematics Teaching in the 21 Century (MT21) (Schmidt, Blömeke, & Tato, 2011), a preparatory study for TEDS-M that included Bulgaria, Germany, South Korea, Taiwan, Mexico, and the United States. In the portraits of Lukas, Julius, Jamil, Fong, and Javier, we restricted descriptions to one subject, mathematics, and one level, middle school, so that the vignettes display cross-national differences. We interspersed them throughout the chapter, hoping that the vignette of a (prototypical) teacher helps the reader think about teaching in context, recognizing its holistic aspects and its diversity across the experience of individuals.

**Lukas Becker: A Middle School Mathematics Teacher in Germany**

Lukas Becker leaves home before 7 a.m. to catch the underground train to his school in southeast Dortmund. It is his second year of teaching in this realschule. He completed his practical training for Grades 5 through 10 at this school, and the principal asked him to apply for one of the few open positions. Lukas applied immediately because he feels respected by his colleagues and loves living in the area. Even with the general shortage of mathematics teachers in Germany, it is not always easy to find a position at a school of one's choosing.

His is an intermediate track of middle school. Students are evaluated by their primary teachers as being more intellectually talented than students who were sorted into the hauptschule but not qualified to go to a gymnasium. Usually a realschule teaches students with a weakness in one or two of the main subjects—mathematics or German—but who demonstrate good achievement in all other subjects.

Because only the gymnasium prepares students for university, students at the realschule usually aim for blue-collar jobs. The heterogeneity within classes is large because there is no tracking once students are sorted into the three-tiered middle school system.

Lukas teaches mathematics and English, two subjects for which he must do grading in addition to the typical teaching and preparation duties. He chose mathematics and English because he was interested in them; he did not think much about the burdens associated with teaching each subject.

Lukas teaches nine groups of students, for a total of 28 45-minute class periods each week. Because the average class size is 24 students, one of Lukas's challenges is to learn 200-240 student names every year and to provide the necessary attention to each student.

Lukas’s first class of the day is class 6d. Lukas is the head teacher and thus organizes extracurricular activities such as participation in the annual 5K city run. Collecting permission slips and arranging activities take up a portion of his class time.
This morning, four students are late. Lukas documents their tardiness in the class book; all teachers use this tool to summarize the main features of their classes (lesson content, number of students present, disciplinary problems, etc.). At the beginning of each mathematics class, Lukas collects homework before he presents that day’s problem. Sometimes students work on the problem in pairs and present their results at the end of the lesson. A short discussion follows in which the different groups’ approaches are evaluated.

Lukas is concerned about the level of anxiety and frustration felt by his Grade 10 mathematics students. Many German federal states have central exams, and Lukas’s state, North Rhine-Westphalia, follows this practice. Lukas already knows that many of his students will have trouble with this exam. Despite his efforts to accelerate their learning pace, he knows that he will not be able to make it through the whole curriculum this year.

Even though the German economy has improved, students from the realschule have a hard time finding high-quality vocational training positions. It is even more difficult to transfer to the gymnasium, because the knowledge gap between students who have attended the hauptschule or the realschule and students who have attended the gymnasium increases substantially during the middle-school years.

In the breaks between each class period, Lukas tries to go to the teachers’ room to talk to his colleagues and to stay in touch with what is going on at the school. He also uses this time to make phone calls to parents about disciplinary issues.

Lukas expects to be very busy this week. Thursday afternoon, he has a meeting with all teachers of 6a to discuss the unacceptable behavior of a group of students. That evening, there will be a meeting with the parents of his 6d class, for which he is the head teacher. The meeting promises to be well attended, and he plans to cover issues of curriculum, coursework trajectories, and increased homework load, as well as planned out-of-school activities. Friday is a periodic parent conference about student achievement.

The school is undergoing many changes. Although he likes some of them, Lukas is weary of the developments because it seems as if the government is trying, in one election cycle, to make up for decades of no change. The changes reward teachers who work hard and support collaborative learning approaches. One of the topics of Thursday evening’s meeting will be to extend the length of class periods from 45 to 60 minutes. Teachers and students feel increasingly uncomfortable with working in 45-minute segments. Lukas has heard that a nearby realschule plans to switch from half-day schooling to whole-day schooling. With the longer school day, the school’s administrators hope to give students more informal learning opportunities so that they will be at less of a disadvantage compared to students from wealthier areas of the town or from a gymnasium—which are often synonymous.

There is no lunch break, so at 1:15 p.m., the end of the school day, Lukas goes home to eat lunch and start preparations for the next day. He takes home two large bags. In one, he carries the assignments from classes 5a and 5b to review; in the other, he carries the textbooks and hands-on materials he intends to use in preparing tomorrow’s lessons. First, however, he plans to do some grocery shopping and go for a run. At about 10 p.m., Lukas finishes work for the day and heads to bed.

The State of Teaching Internationally

Any review of teaching in the context of globalization must recognize that teaching occurs in a world of enormous diversity. Because no single portrait — of Lukas or any other teacher — can represent a region, or all teachers within a country, we include the following reviews of statistical information on teachers by world region (using UNESCO definitions of region) to provide a more general picture. (Readers with strong familiarity with international diversity within teaching might skip to the next section, “Norms and Practices in the Construction of Teaching.”)

In 2004—the most recent year for which statistics are available — there were more than 54 million primary and secondary teachers in the world. More than half of these came from seven countries: “China (11.1 million), India (6.0 million), the United States (3.3 million), Indonesia (2.6 million), Brazil (2.3 million), the Russian Federation (1.7 million) and Mexico (1.1 million)” (UNESCO Institute for Statistics, 2006, p. 21).

The state of teachers and teaching varies greatly by region and country. Certain areas of the world have overall shortages of teachers, whereas others experience shortages only in certain subject areas, levels, or type of school, or have begun to have problems of surplus. In the attempt to achieve the goal of universal primary education, more than half the countries (114 of 208 reviewed) need additional primary teachers, and shortages of teachers are most acute in sub-Saharan African countries (UNESCO Institute for Statistics, 2012a, pp. 2–3). Estimates in 2011 were that an additional 2 million teachers would be needed to ensure that primary school access to all children (Chudgar, Chandra, & Razzaque, 2014, p. 150). Countries that face the greatest need for additional teachers are the ones with the least prepared teachers. For example, “in countries that consider about nine years of schooling as the absolute minimum qualification to teach, 43% of teachers...
in the Congo and 55% of teachers in Lao PDR fall short of this standard" (UNESCO Institute for Statistics, 2006, p. 3). Poor countries facing teacher shortages have increasingly turned to hiring "nonregular" (often labeled as contract or para) teachers through "alternative routes," which may include lowering entry requirements, reducing or eliminating teacher tenure, and lowering teacher salaries (Chudgar et al., 2014, p. 151). In many nations, the pattern of distribution of teachers to students finds "the most qualified or effective teachers . . . disproportionately concentrated in schools and classrooms of wealthier children. . . . Nowhere is this problem more acute than in developing countries" (Luschei, Chudgar, Devereaux, Pippin, & Fagioli, 2012, p. 3). Other countries may not face problems of shortage of teachers nationally, but do suffer from marked unevenness in teacher distribution or teacher quality within regions or between urban and rural communities. Some countries can anticipate or face an oversupply of teachers given demographic changes in the school-age population. China, Brazil, and India, for example, all anticipate reduced teaching stock in the years ahead (UNESCO Institute for Statistics, 2006, p. 3).

Within the teaching force, one sees similar patterns of variation. Many wealthier countries worry about an aging teaching corps and the possibility of future shortages (OECD, 2005). For example, "more than 60% of all primary teachers are over 40 years of age in Canada, Italy and the Netherlands; and more than 40% are over 50-years-old in Germany and Sweden," with even higher figures for upper secondary teachers (UNESCO Institute for Statistics, 2006, p. 34). In many low- and middle-income countries, the average age and experience of teachers are lower. In these countries, "teachers reflect a more youthful profile, with less than 20% aged 50 years or older. In Burkina Faso, Indonesia, and Jordan, more than one-half of primary teachers are under 30 years of age" (p. 34).

In terms of access to teachers (as measured by pupil-teacher ratios) within individual countries, there is considerable variation across countries. From 16 of the most populous nations, "at the primary level, Mexico reports the smallest gap, followed closely by Peru, Argentina, Brazil, and Indonesia" (UNESCO Institute for Statistics, 2006, p. 33). Four countries are in the middle: Bangladesh, China, Ecuador, and the United States; the greatest disparities exist in Nigeria, Pakistan, India, and Egypt.

At the secondary level, China, Indonesia, Mexico, and Peru have the smallest regional disparities in pupil–teacher ratios, followed by Brazil, Ecuador, and Nigeria in the middle-range. Disparities increased in Egypt and the United States but were significantly larger in Pakistan, Argentina, and India. (UNESCO Institute for Statistics, 2006, p. 33)

In terms of access to teachers for children marginalized by social origin, poverty, or location, Luschei et al. (2012) find a lack of "international evidence regarding the distribution of teachers across less advantaged and lower achieving students" (p. 9), but their review reveals:

two interlinked patterns that together paint a grim picture. First, we find systematic evidence of overall low teacher quality in developing countries, and second, a limited yet growing body of evidence suggests an inequitable distribution of teachers across schools and students (Govinda & Bandyopadhyay, 2008; McEwan, 1999; UNESCO, 2011). In other words, there is growing global evidence of a teacher quality gap between less and more advantaged children (Akiba, LéTendre, & Scribner, 2007). (Luschei et al., 2012, p. 18)

Similar variation exists with respect to recruitment and the relative status of the teaching profession. International studies such as TEDS-M and TALIS pay attention to these issues. There are real differences across contexts, particularly cross-nationally. Whether or not teachers feel rewarded for their efforts is a related but different issue, one also sometimes explored internationally. In TALIS, for example:

on average across countries, three-quarters of teachers report that they would receive no recognition for increasing the quality of their work or for being more innovative in their teaching. In fact, three-quarters of teachers say that, in their school, the most effective teachers do not receive the most recognition. (OECD, 2009, p. 138)

As these studies indicate, and as the vignettes presented throughout this chapter illustrate, regional differences are noteworthy. We thus now provide brief information about the state of teachers in several major regions. The reader

1Chudgar et al. (2014) report that on average, a 50% "reliance on non-regular teachers seems to be the norm in many African countries" (p. 151). Andrab, Das, and Khwaja (2008) indicate additional patterns of unequal distribution, as private schools in some countries (such as Pakistan) work to keep costs down by hiring untrained women teachers, who are hired at lower cost than male counterparts.

2Not all such countries reflect this pattern. In Kenya, Chile, and the Philippines, "51%, 47% and 43% of primary teachers, respectively, (are) 50 years or older" (UNESCO Institute for Statistics, 2006, p. 34).

3In discussing regions, we apply the definition used by UNESCO. UNESCO's 195 member states and 9 associate members are organized into five regional groups: Africa, Arab states, Asia and the
will note similarities and differences, some of which are of
cultural origin; others are more related to the development­
tal state of a country.

Africa

Teaching in Africa is characterized by discrepancies
depending on if, for example, a northern or a sub-Saharan
country is being described. Deciding to rely on one of
the large-scale assessments with the highest quality, we
restrict ourselves here to one region within Africa. The
Southern and Eastern Africa Consortium for Monitoring
Educational Quality (SACMEQ) regularly carries out com­
parative studies on student achievement in reading and
mathematics and factors affecting it across its 15 members:
Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozam­
bique, Namibia, Seychelles, South Africa, Swaziland, Tan­
zania, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe.

Colonialism has had a significant impact on schooling
and teachers in the region (Awasom, 2009). Education in
all but one SACMEQ country is founded on the British
tradition, with Mozambique following the Portuguese tra­
dition (Passos, 2009). All SACMEQ countries offer some
version of bilingual education, with the local languages
predominately used in the lower grades and English or
Portuguese introduced in middle school at the latest. To
enter the profession of teacher education in the major­
ity of SACMEQ countries, a person must complete high
school. Teacher education lasts for two years in most coun­
tries. The proportion of practicing teachers with a tertiary
background is very low—only 6% on average. The most
common background is having the equivalent of a senior
secondary education.

Teachers on average are quite young—35 to 36 years old
(Passos, 2009). The gender composition varies greatly by
subject and country: 99% of the reading teachers on the
Seychelles are female (the mean is 52%); only 8% of the
mathematics teachers in Uganda are female (the mean is
40%). Less than half the teachers have electricity in their
houses (ranging from about 10% in Uganda to 100% in
Mauritius and on the Seychelles). Not surprisingly, more
than half the teachers reported that they did not consider
their living conditions acceptable (ranging from about 5%
on the Seychelles to about 85% in Uganda).

SACMEQ achievement tests were taken by the teachers
as well as students. According to the results, reading
skills vary significantly across the SACMEQ countries
(Passos, 2009). A difference of more than one standard
development exists between teachers from the highest-per­
forming countries, Seychelles and Kenya (about 800 test
points), and from the lowest performing countries, Zanzi­
bar (654 test points) and Uganda and Tanzania (about 700
test points). The differences were even larger with respect to
teachers’ achievement in mathematics.

In several countries, schools are poorly equipped (Pas­
os, 2009). Almost 50% of the students in Malawi and Zan­
zibar and about 30% of the students in Mozambique have
no place to sit or write. Almost half the students do not
have a reading or mathematics textbook (ranging from
more than 90% in Tanzania and Zanzibar to less than 10%
in Mauritius). The majority of students in the 15 SACMEQ
countries are taught in classes with a class size between 30
and 45 students. Almost two-thirds of the students take
extra classes, for which half of them must pay an extra
fee—proportions were particularly high in Kenya, Malawi,
Mauritius, Tanzania, and Uganda (greater than 80%).

Arab States

According to UNESCO, teacher shortage is one of the
biggest challenges Arab states have to deal with because
the region faces an explosion in its school-age population
and a need for more subject-specific teachers and lon­
ger instruction time. To ensure universal education by
2030, thousands of new posts will have to be created, not
to mention the need for replacements. Disparities exist
among and within (e.g., between urban and rural areas)
the Arab states.

The Middle East and the Arab world are character­
ized by a tremendous diversity of educational systems,
which has for the most part received limited attention
in large-scale comparative studies. The region comprises
some well-established educational systems that are a leg­
acy of the colonial past, such as Egypt and Lebanon, and
systems that before World War II represented only emerg­
ent forms of state schooling, such as the United Arab
Emirates (UAE) and Qatar (Davidson, 2005). The chal­
enge lies not only in the diversity, but also in the rapidly
changing social and political circumstances that emerged
with start of the Arab Spring in 2010 (Mir, 2013).

Among the teachers at the primary school level,
males constituted 43% in 2004, whereas at the secondary
school level about 53% were male (UNESCO Institute for
Statistics, 2006). At both levels, most teachers met the min­
imum qualification requirements set by the governments

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*Teachers from Kenya showed remarkable performance (969 test
points), but the difference between teachers from the Seychelles
(873 test points) and most of the other countries was larger than
one standard deviation.
at postsecondary or tertiary levels (ISCED [International Standard Classification of Education] 4 and ISCED 5). However, UNESCO states that teachers represent a very vulnerable stratum of the society and often become first targets for violence (UNESCO Institute for Statistics, 2006). Drawing on data provided in UNICEF (2003) and UNESCO (2007) reports, the Arab Knowledge Report (UNDP 2009) underscores the drastic effects of violence on schools and teaching staff. For example, focusing on Iraq, it states that “over a period of not more than ten months between February and November 2006, 280 Iraqi teachers were killed, and that only 30 per cent of Iraq’s 3.5 million pupils attended classes in 2007, compared to 75 per cent in the previous school year” (p. 14). In Palestine, "many pupils, teachers, and support staff have been killed, over and above the continual danger of detention and abuse at the occupation’s barriers and checkpoints” (UNDP, 2009, p. 14).

In contrast to educational systems in struggling post-conflict systems, the educational systems of the countries in the Arabian peninsula and belonging to the Gulf Cooperation Council (GCC) represent a vivid case of globalization’s impact on the conception of a teacher and his or her work. Many of the GCC states that built their educational systems from the ground up in the 1970s relied on expatriate teacher labor in the 1980s and began introducing rapid educational modernization reforms in the 1990s and 2000s. The imbalances stemming from labor shortages in oil-rich states and tensions in conflict-ridden areas in other parts of the world have facilitated Arabic-language teacher migration from one part of the region to the other. The rapid transformations desired by the Gulf states rulers also have created conditions for relying on foreign expertise in such areas as school system management, classroom instruction, and teacher education (Kirk, 2013), and entrepreneurial institutions from around the world have stepped on stage to offer their products and services (Aydarova, 2012). These projects have not escaped controversy: In Abu Dhabi, the process of hiring expatriate teachers for public schools created cultural tensions and left many national teachers out of jobs, thus undermining years of Emiratization policies in national education.

Latin America and the Caribbean

According to UNESCO (www.uis.unesco.org), the Latin American and Caribbean countries have largely achieved universal education. Gender and regional discrepancies exist at the secondary level, with girls more likely to attend school than boys and urban children more likely to attend school than children from remote areas. With improvements in access, the quality of education has become a focus. Dropout rates and retention, as well as student achievement, are major concerns. Six Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico, and Uruguay) participated in the 2006 PISA study. Using the proficiency levels portrayed by the OECD, on average only 1.3% of the students in Latin America were at the top proficiency level in mathematics; 16.2% placed at levels 3 and 4; almost two-thirds were considered students at risk (below level 2). Only Chile was able to meet standards set by the international average, with 3.5% at the highest level and one-third of its students at levels 3 and 4. The picture is similar with respect to science and reading (UNESCO, Secretaría de Educación Pública de México, & Organization of American States, 2011).

The status of the teachers has been described as declining: "The profession long ago lost the prestige and social status it once enjoyed" (Navarro & Verdisco, 2010, p. x). One of the features blamed is the centralization of education systems. To address this issue, many Latin American educational systems have decentralized to improve social and technical efficiency (Winkler & Gershberg, 2000). Changes include the transfer of decision-making power for personnel and budgets from higher governmental levels to lower ones. A specific feature of Latin American countries, in contrast to others, seems to be that very strong teacher unions and regulatory prescriptions protect teacher salaries and teacher status. In many Latin American systems, the rules for how teachers are selected and assigned to schools are not clear or transparent, which leaves the process open to political influence.

Teacher compensation includes not only salary, but also nonsalary monetary compensation in the form of rewards or bonuses (e.g., for working in rural versus urban schools and for improved student performance) and nonsalary benefits such as health insurance, housing benefits, and pensions. However, regional variation exists: Teachers in

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3For more information on ISCED levels, the "International Standard Classification of Education" adopted by UNESCO to create uniform definitions that allow for the international comparison of educational statistics, see UNESCO Institute for Statistics 2012b.

4UNESCO reports regional universal primary enrollment with an adjusted net enrollment rate of 95%. The effective transition rate from primary to lower secondary education ranges from 88% (Granada and Uruguay) to 100% (Argentina and the Bahamas), with the exception of Suriname at 68%. In 25 countries in the region, lower secondary school is compulsory. The gross enrollment ratio for upper secondary steadily climbs toward 80%.

5In countries such as Chile or Nicaragua, local authorities or schools are responsible for these decisions, whereas in Argentina and Mexico, the province is in charge.
Argentina, Chile, and Peru, for example, are paid more than comparable workers in other occupations on average, whereas teachers in Nicaragua earn lower average wages than workers in other fields. Teacher salary scales are linked primarily to education and years of service, and teachers are rarely rewarded for excellence. However, some countries, such as Bolivia, Chile, and Mexico, have tried to improve teacher quality by establishing salary differentials, granting bonuses for teachers working in rural areas, or rewarding teachers with exemplary student performance.

A trend in the region is the reform of the teacher education system. Most countries have targeted raising quality by providing additional funding and other incentives. In addition, preservice and in-service education are increasingly classroom based, and the distinction between the two has blurred: Preservice now includes early immersion and has been reduced in duration, while in-service is increasingly connected to academic institutions and lasts longer than in the past. Applications of technology and lasts organization around work groups and networks reinforce this trend.

Asia and the Pacific

Comparative studies have focused extensively on teachers and teaching in several Asian nations, particularly those whose students performed at the top of international large-scale assessments such as TIMMS or PISA: China, Japan, Singapore, Hong Kong, and Korea. Other nations in the region have received attention from international organizations or development agencies seeking to fix educational problems in the area (e.g., Cambodia, Indonesia, Myanmar). Overall, the picture emerging from this region is diverse and often contradictory.

The school systems in the region are close to offering universal primary schooling and show gains in extending secondary schooling from 59% to 69% (UNESCO Institute for Statistics, 2006). The numbers of teachers have grown: East Asia currently has 36% of the world’s primary school teachers; the number of secondary teachers overtook the number of teachers in the countries that used to be leaders in this area. The number of female teachers at the primary and secondary school levels increased by 9% between 1991 and 2004; male teachers remained the majority at the secondary school level.

Most primary school teachers in the region meet the qualification levels set by their respective governments, which vary between ISCED 2 (lower secondary) in Lao PDR and ISCED 5 (tertiary) in Samoa, the Philippines, and Tonga. Although the variation in qualification requirements for secondary teachers is less severe because most countries require ISCED 4 or ISCED 5, the number of teachers possessing the required qualifications varies dramatically from 40% in Indonesia to 100% in Cambodia, Papua New Guinea, and the Philippines. In projecting teacher needs, UNESCO suggests that Asia and the Pacific will face a dramatic drop in the global teaching force to 7.4 million by 2015 (UNESCO Institute for Statistics, 2006). Even though new teachers must be prepared to compensate for high attrition rates in some of the countries, the number of available teaching posts in the region will decline by 2 million.

The countries of Confucian heritage and their high rankings on international assessments have received much international attention, yet we note some contradictions emerging from this area. On the one hand, the nations’ high rankings on international assessments captured the imagination of policy makers and researchers around the world. Lessons learned from ethnographic (Paine, 1990; Paine, Fang, & Wilson, 2003) and video studies (Stigler & Hiebert, 1999) show several important aspects of teachers’ work and teaching that are likely to contribute to these nations’ superior performance. These ethnographic and video studies suggest that teachers’ work in many East Asian contexts studied may include high-quality curriculum materials and textbooks that offer not only deep conceptual foundations for students, but also opportunities to learn for teachers; a collegial atmosphere in schools that support teachers’ pedagogical and content knowledge growth; the conceptualization of teachers’ competence as both technical knowledge of the text and mastery of teaching aesthetics; patterned and organized classroom behaviors and actions; a variations-based approach to problem and curriculum design; and a system-based approach to overall students’ and teachers’ learning (Fang & Gopinathan, 2009; Nguyen, Elliott, Tertlow, & Pilot, 2009). In the last 20 years, many nations in this region have pursued ambitious educational reforms intended to allow students greater freedom and creativity, to make teaching more active and student-centered, and to transform educational processes in the classrooms into resources for the knowledge economy and nation’s global competitiveness in the 21st century. The sheer multiplicity of reforms creates a bottleneck effect during which the implementation of parallel policies and initiatives is overlaid with teachers’ heavy workloads as they are required to receive and memorize the knowledge presented. Studies have shown that despite the superficial passivity, active learning does take place, and the classroom interaction that occurs fosters the deep learning of concepts central to the discipline under investigation (Fang & Gopinathan 2009; Gu, Huang, & Marton, 2004).

Even though an onsite observer might note that classroom instruction is teacher-centered and that learners remain passive as they are required to receive and memorize the knowledge presented, studies have shown that despite the superficial passivity, active learning does take place, and the classroom interaction that occurs fosters the deep learning of concepts central to the discipline under investigation (Fang & Gopinathan 2009; Gu, Huang, & Marton, 2004).
A change in the educational paradigm is not the only form of pressure that teachers experience. Many authors note the intensification of work expectations, growing amounts of stress and job dissatisfaction, and high levels of burnout and teacher turnover in many different systems. The neoliberalization of school governance and the deprofessionalization of the teaching profession (Davies & Bansel, 2007) seem to contribute to the growing number of teachers’ complaints about mental and emotional health (G. Li et al., 2010). Although in some Asian nations teachers continue to enjoy the high status of the teaching profession, in many others teachers acutely sense the loss of their professional autonomy, tighter control and atomization of their daily activities, and increased pressure to push students to perform well on national and international tests. Studies report that the educational paradigm shift “thwarts teaching desire” in New Zealand teachers (Watkins, 2007) and the neoliberal drive for higher achievement outcomes, competition, and control “subdues” new Singaporean teachers, forcing them to abandon the constructivist pedagogy for the sake of students’ high test scores (Loh & Hu, 2014). Such studies tend to disrupt the image of successful systems where enviable results on international tests come at no particular cost for the participants involved.

**Teachers as Actors in Globalization: The Example of Teacher Migration**

Although most international discussion of the state of teaching focuses either on an individual country or on a region, changes associated with globalization make the consideration of teaching as a transnational profession vital. International migration has opened possibilities for regarding teaching as a global profession and has fostered a new form of transnational networks. A relatively new line of research describes international teacher migration from South Africa to the United Kingdom (Appleton, Sives, & Morgan, 2006; Bertram, Wedekind, & Muthukrishna, 2007; B. Brown, 2008), from the Fiji Islands to Australia and New Zealand (Iredale, Voigt-Graf, & Khoo, 2009), from India and Romania to the United States (K. Brown & Stevick, 2014), and from the former USSR to Israel (Epstein & Kheimets, 2000; Michael, 2006; Tatar, Ben-Uri, & Horenczyk, 2011). This research challenges traditionally held notions of teaching as a national occupation and simultaneously reinforces them.

Official channels, such as the Commonwealth Teacher Recruitment Protocol in the United Kingdom (Miller, Ochs, & Mulvany, 2008) and the Teacher Program run by the U.S. Department of State (K. Brown & Stevick, 2014), were set up to remedy significant teacher shortages in hard-to-staff schools. Tellingly, the Teacher Program is advertised on the Department of State’s website in the following way:

**Benefits. Educational enrichment:** Participants learn United States teaching methods while also bringing an international perspective to U.S. classrooms. (U.S. Department of State, 2013)

Programs like this have opened windows of opportunity for teachers around the world who see international migration as a source of financial stability (Manik, 2009) or professional development (Bertram et al., 2007; Sharma, 2013). For example, teachers from Fiji and the Cook Islands may move to Australia or New Zealand in pursuit of better living and working conditions (Iredale et al., 2009). The impacts of out-migration include growing shortages (Voigt-Graf, Iredale, & Khoo, 2007) and a decrease in the quality of educational provision (B. Brown, 2008); they also undermine those countries’ opportunities to meet Millennium Development Goals (Sharma, 2013) as well as “creaming off” of the more able teachers” (Appleton, Morgan, & Sives, 2006, p. 773).

Multiple studies report cultural clashes experienced by migrating teachers, particularly in the areas of classroom management and student discipline (Hutchison, 2006). Moving from contexts in which teachers receive students’ respect based on their position, immigrant teachers find themselves in U.S. and UK classrooms where they are not granted that respect and are limited in ways of responding (Dunn, 2013; Manik, Maharaj, & Sookrajh, 2006). Many teachers undergo a process of identity restructuring as they attempt to adjust to the new contexts (Washington-Miller, 2009). Experiencing stress from racial and ethnic discrimination (De Villiers & De Villiers, 2007), culture shock, and loneliness, many teachers decide to return home (Manik et al., 2006).

When teachers return to their countries of origin, either forced by fixed-term contracts or voluntarily, they often implement the strategies learned abroad and share their experiences with their colleagues (K. Brown & Stevick, 2014). Such exchanges contribute to the global diffusion of educational principles.

An example from Israel sheds light on the theme of global diffusion through professional migration. Immigrants from the former USSR do not come to Israel necessarily to teach in schools; they move to settle (Michael, 2006). Israeli schools based on assimilationist ideology set the transmission of the dominant culture as teachers’ primary responsibility. Because of this ideology, even highly qualified immigrant teachers face obstacles when they apply for and obtain jobs in schools. Immigrant teachers rarely receive the opportunity to be homeroom teachers or subject leaders, although—when they do not follow...
assimilationist ideology—they exhibit higher self-efficacy (Tatar et al., 2011) and are more effective in working with immigrant students, particularly from the former USSR, who experience higher failure and drop-out rates in Israeli schools than Israeli-born students do (Epstein & Kheimets, 2000).

This example illustrates the concept that the diffusion of knowledge is potentially unidirectional. Immigrant teachers in Israel use their expertise to assist immigrant students, but their expertise is rarely tapped into in regular school contexts (Michael, 2006); migrant teachers in the United States share the lessons they learned in their home countries, but are not asked to share their experience in American schools (K. Brown & Stevick, 2014). Immigrant teachers' experiences demonstrate that vectors of power and privilege determine the directions of the knowledge flows.

Julius Makwasa: A Junior Secondary School Mathematics Teacher in Tanzania

Julius teaches at Nyrere School, a state-run "ordinary secondary school" (i.e., serving students in Forms 1 through 4 who have completed their primary education) in a middle-sized town. A graduate of a teachers college that supports a vision of constructivist teaching, he is committed to trying to teach in ways that help his students learn. Still, as he heads each morning for the first crowded classroom period of the day, he is very aware of how unenthusiastic his students are about learning mathematics and how challenging it feels to face 70 students each period and try to engage them all. He arrives at school long before the first class at 8 a.m. to collaborate with the student prefects he is responsible for in overseeing the cleaning of the classrooms and school grounds.

Julius's colleagues tend to rely on a "chalk and talk" approach to teaching mathematics, but he has been educated to engage in reformist teaching. No teacher asked Julius what he thought until he was in his teacher preparation program, and he knows that even today, his style is unusual, as few of his teaching colleagues have chosen this pedagogical approach.

Julius arrives at school today excited about the possibility of the new teaching aid he developed last night in hopes of sparking his students' interest. But his friend Arthur, who also is a math teacher, feels such efforts are not worth the time. "We aren't paid enough to take time to do this," Arthur has told Julius more than once.

Pay is indeed a concern, even for idealistic Julius. Living expenses have doubled in recent years, and his salary does not cover his monthly expenses. The pressure to pay rent, food, electricity, and now his eldest child's school fees has pushed him to take on outside work at the end of the school day. He feels fortunate that his principal is supportive of the staff, and Julius has been able to find work tutoring students after school. Some of his colleagues work in small shops and others sell commodities or farm produce. But all are aware that they face less dire resource constraints than their colleagues in smaller and more remote communities. Julius has a cousin who teaches in a rural school, and although the cousin's class size is only about half of Julius's, his cousin and other rural teachers must contend with a limited number of textbooks and inferior school facilities. Pressure on town and city teachers like Julius comes from the families who believe their children can get a better education in these areas.

Julius works with the national curriculum and a textbook that all teachers—urban, rural, and remote—use. Thanks to his school's location, he has both the textbook and a "syllabus book" to help him design his lessons. His interest in constructivist teaching, something the international and Tanzanian faculty at his college encouraged, requires him to rethink the textbook, however, and bring additional ideas to his teaching.

His classes last 40 minutes each. Julius's school, a relatively well-resourced one, allows him to concentrate his teaching in mathematics: He has three mathematics classes, two Form 1 and one Form 4, and one chemistry class. At his cousin's school, where it is much harder to recruit qualified teachers, teachers must teach more sections and straddle more subjects.

In his first-period class today, Julius divides students into groups to work collaboratively to solve a problem. As each group reports their work, he asks them to explain their thinking. The classroom is noisy; he finds—as he has on many prior occasions—that it is difficult to get such a large class fully engaged in small groups without generating lots of noise, something his colleagues down the hall have complained about. In their classrooms, math class chiefly means students copying down what the teacher writes on the board.

As his class ends, Julius does not give homework; he counts on students working on the problems he assigns in class—his students board at school, as is common for many public schools. Between the first period and his next class, Julius looks forward to a tea break in the common staff room before going to his shared office to work on his lessons. Julius is grateful that his principal has been resourceful in using funds to buy fruit for the teachers as motivation. Teaching these days in Tanzania, even in a reasonably strong school like Nyrere, is so demanding that it is difficult to retain teachers.
Counting Teachers, and What Counts as a Teacher?

There are vast differences in the contexts in which teachers work, the backgrounds teachers bring to their practices, what constitutes teachers’ work and workloads, and how teachers are viewed. The vignettes illustrate, teachers today in different regions of the world are asked to reform their teaching in response to some widely encouraged norms and to show their results in ways that invite or respond to comparison. The remainder of this chapter focuses on these two observations.

Norms and Practices in the Construction of Teaching

Teachers work in a world shaped by forces that connect individuals across borders; that increase the movement of capital, people, and ideas; that rely increasingly on technology; and, some would argue, that challenge the importance of the nation-state as the category most central to defining (and controlling) the practice of teaching. Teachers work in a world shaped by forces that connect individuals across borders; that increase the movement of capital, people, and ideas; that rely increasingly on technology; and, some would argue, that challenge the importance of the nation-state as the category most central to defining (and controlling) the practice of teaching. Teachers work in a world shaped by forces that connect individuals across borders; that increase the movement of capital, people, and ideas; that rely increasingly on technology; and, some would argue, that challenge the importance of the nation-state as the category most central to defining (and controlling) the practice of teaching. Teachers work in a world shaped by forces that connect individuals across borders; that increase the movement of capital, people, and ideas; that rely increasingly on technology; and, some would argue, that challenge the importance of the nation-state as the category most central to defining (and controlling) the practice of teaching.
Comparative Research on Teaching

There is more extensive international comparative research on teachers than on teaching. In fact, in many international comparative studies, "teaching" is treated as a black box or teachers are treated as a proxy for teaching. Of course, the methodological challenge of comparing pedagogy across countries is enormous (Schleicher, 2011, p. 213). Not surprisingly, of the large cross-national studies of teaching, relatively few shine direct light on practice. Nevertheless, a diverse set of international studies on teaching points to the same picture: Despite similarities in the nature of teaching as an enterprise directed toward instructing large groups of students at about roughly the same age in core content such as mother tongue and mathematics, there is much variation in pedagogical approaches within and particularly across countries.

Perhaps one of the significant findings from international research on teaching is the ways in which—across many studies, focusing on different levels of schooling, subject areas, dimensions, and settings of teaching—comparative work brings to the surface the ways in which teaching is powerfully shaped by contextual factors, including material conditions, institutional norms, and cultural practices and beliefs. Vavrus and Bartlett (2012) introduce the notion of contingent pedagogy to capture this notion. Studies like this help clarify the ways in which teaching is a form of culture and a set of practices, tied closely to other practices (of social organization, social stratification, political control, childrearing, family life, and so on). Indeed, one argument for the comparative analysis of pedagogy is its ability to allow us to "make the familiar strange," a case Alexander (2000) argues in his comparison of primary school teaching in five countries.

The TIMSS video studies, both the initial one on teaching middle school mathematics in three countries (Stigler & Hiebert, 1999) and the second study of seven countries in mathematics and science (Givvin, Hiebert, Jacobs, Hollingsworth, & Gallimore, 2005; Hiebert et al., 2003; Roth et al., 2006) provide a clear and well-documented analysis of how, despite common features and structural demands, teachers enact very different pedagogies. In analyzing science teaching in five countries, Roth et al. (2006) observe characteristic patterns in each country, despite commonalities across countries. In an analysis of mathematics teaching, Givvin et al. (2005) suggest that with a wide-angle lens, one can note similarities within countries (and differences across countries) in teaching approaches, but when the vantage point is closer up, variability (within countries) stands out.

The TIMSS video analyses have influenced related work that tends to point to national-level differences. Santagata (2005) compares Italian and U.S. mathematics teaching and takes a more fine-grained look at one aspect of teaching—how teachers handle student errors. Like the larger TIMSS, Santagata uncovers both (surface) similarities and deeper differences. Leung (2005) examines mathematics teaching in Hong Kong and Japan, two different national contexts within one region often assumed (by outsiders) to share many cultural features. Clarke and Xu (2008) do not use the national random sampling approach of TIMSS and caution scholars to avoid simplistically linking "national" and "cultural." Yet in a design informed by and complementing the approach of the TIMSS, they nonetheless conclude that "similarities in the practices of teachers from the same country suggest the existence of national norms of practice that may reflect cultural or national pedagogies indicative of specific local assumptions about learning and teaching" (p. 972).

These findings of difference are echoed, albeit with different data and research approaches, in other significant comparative and international work since 2000. Tobin, Hsueh, and Karasawa (2009), using multivocal ethnographic work, drawing on video-cued discussions with educators, and incorporating a historical dimension, argue that, despite developments toward more similarity through global exchanges that are affecting teachers in each of the three national settings they studied (Japan, China, and the United States), pedagogies of early childhood have distinct inflections of what Tobin et al. call "cultural logic."

Alexander (2000), writing after Tobin and colleagues' first analysis (Tobin, Wu, & Davidson, 1989) and before their further exploration of these issues (Tobin et al., 2009), sees the interaction of culture and pedagogy as central in understanding teaching in primary schooling in England, France, India, Russia, and the United States. In his cases, the cultural dimension of teaching infuses the organization of classroom space, the use of time, classroom interactions, discourse and the use of language, classroom activities, and the decisions teachers make about how and what to teach when to whom.

Osborn, Broadfoot, and McNess (2003), drawing on prior work in the United Kingdom and France, designed a three-country study that examined teaching and learning in secondary schools in Denmark, England, and France. They too portray teaching as varying within particular school contexts yet shaped in ways that reflect more broadly shared national approaches.

Anderson-Levitt (2002) makes the claim that in this regard, one can talk about teaching cultures, with national professional cultures that may be shared across national boundaries, as well as national classroom cultures: "bodies of knowledge and values held more or less in common among teachers and nonteachers from the same country" (p. 71) and national teaching cultures, what Anderson-Levitt calls a "national professional culture."
Confucian heritage, or the so-called “East Asian” region? Out the Chinese diaspora, countries that are seen as contexts of the Chinese culture, should the reader assume this represents “Chinese culture” found throughout the world? This approach raises the question of whether countries are, in fact, representing a context or region of several countries that share some cultural characteristics. For example, if a study draws on data from China refers to Chinese culture, should the analyst attend primarily to the observables and the ideas underlying it, what Alexander (2006; 2010) takes issue with the fact that many researchers, such as Stevenson and Stigler (1994) and Stigler and Stevenson (1991), create categories of countries around certain cultural patterns. Within the body of work that offers small sets of multicountry comparative analyses of teaching, some authors focus on national boundaries as distinctions, whereas others mark off “Western” and “non-Western” or create other dichotomies around history, tradition, or assumed cultural links (Fang & Gopinathan, 2009). However researchers slice the pie for comparison, contrasts among approaches to teaching tend to become salient.

A related aspect that emerges across these varied comparative studies of teaching is culture. International comparisons of teaching consistently point to the ways in which teaching is a cultural practice. Stigler and Hiebert’s (1999) claim that middle school mathematics teaching in the United States as a bin for framing the practice of teaching as relational unproblematic, and invite comparisons that focus on national boundaries. Yet LeTendre, Baker, Akiba, Goesling, and Wiseman, in a debate with Anderson-Levitt (Anderson-Levitt, 2002; LeTendre, Baker, Akiba, Goesling, & Wiseman, 2001, 2002), suggest that the differences may be less important than the growing similarities researchers observe (see also Baker & LeTendre, 2005). This discrepancy leads us to the conclusion that what researchers actually perceive—similarities rather than differences or vice versa—might depend on the focus and the level of detail they are choosing as their unit of analysis. Givvin et al’s (2005) point about wide and zoom lenses may be relevant here.

From a global perspective that focuses on interconnection, the lens taken might tend to highlight similarities. In contrast, an international perspective tends to bring focus to variations in teaching, to shed light on how teaching is different in different national or regional contexts. Alexander (2006; 2010) takes issue with the fact that many researchers, such as Stevenson and Stigler (1994) and Stigler and Stevenson (1991), create categories of countries around certain cultural patterns. Within the body of work that offers small sets of multicountry comparative analyses of teaching, some authors focus on national boundaries as distinctions, whereas others mark off “Western” and “non-Western” or create other dichotomies around history, tradition, or assumed cultural links (Fang & Gopinathan, 2009). However researchers slice the pie for comparison, contrasts among approaches to teaching tend to become salient.

A related aspect that emerges across these varied comparative studies of teaching is culture. International comparisons of teaching consistently point to the ways in which teaching is a cultural practice. Stigler and Hiebert’s (1999) claim that middle school mathematics teaching in the TIMSS video study revealed “cultural scripts,” a phrase that is now widely used. This claim is based on their analysis of teaching behaviors—the types of teaching activity chosen, the sequencing of activities, and so on. Their analysis treats teaching as that which is observable. For many others engaged in such comparative work, teaching entails both the observable and the ideas underlying it, what Alexander (2000) calls “both act and discourse. Pedagogy encompasses the performance of teaching together with the theories, beliefs, policies and controversies that inform and shape it” (p. 540). Whether analysts attend primarily to the observable acts of teaching or consider the discourse informing and surrounding it, culture emerges as a powerful factor. International research suggests, with confirmation from divergent research studies, that there are indeed distinctive teaching cultures across contexts. Much of the international, especially the cross-national, work on teaching thus portrays heterogeneity in the cultures of teaching. However, when the researcher lens is focused on the global, the argument often shifts to noticing tendencies toward homogenization of culture or the creation of hybrid cultures.

In the midst of reviewing literature about teaching around the world, it is important to heed a caution about the danger of overemphasizing the national due to the tradition of “methodological nationalism” (Shahjahan & Kezar, 2013). Such methodological conventions inform virtually all the large-scale cross-national studies, international indicator reports, policy documents, and small-scale comparative research. These conventions treat the nation-state as a bin for framing the practice of teaching as relatively unproblematic, and invite comparisons that focus on differences and, to a lesser degree, similarities.

Jamil Ahmed: A Middle School Mathematics Teacher in Pakistan

Thirty-year-old Jamil Ahmed, like 60% of teachers in Pakistan, works in a rural school. As he has for the past 5 years, he gets up around 7 a.m. to take his 4-year-old son to preschool. They leave his wife and their younger child at home and hop onto his motorbike. Jamil drops off his son on the way to his own school, which is about a mile away. He arrives at Government Middle School Nasirabad by 7:30 a.m., finding most teachers already there. Outside, the small park at the front of the school and the side grounds, where students play cricket, are empty. Inside, the building is bustling with students and teachers. Jamil stops briefly by the staff room to greet his colleagues, but he soon leaves to get ready for the daily assembly. Boys and girls line up in separate lines, with teachers in front. The day usually begins with the recitation of the holy Koran led by students. A brief message is given by two students, one boy and one girl, followed by the singing of the national anthem and an announcement by the head teacher. Today, the head teacher has asked Jamil to speak in his stead, and Jamil briefly reminds students of an upcoming visit by the district officer. All students are then dismissed to their classes.

School is held Monday through Saturday until 2 p.m., except on Friday, when school ends at 12:30 p.m. to allow for Friday prayers. The school day consists of four periods, then a 30-minute recess, followed by four periods. Students study mathematics, general science, English, social studies, Sindhi (the local language), and

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Urdu (the national language) as main subjects. Each main subject is taught in a 45-minute class period, whereas electives—including physical training, art, music, or computer—have 30-minute class periods.

Many schools now teach boys and girls together, but in this rural community, the parents prefer a separate arrangement. Most years, Jamil teaches mathematics for seven of the eight periods. But this year, due to a teacher shortage, Jamil teaches math all eight periods: five classes of boys (two sixth grade, two seventh grade, one eighth grade) and three classes of girls (two seventh grade, one eighth grade).

After assembly, Jamil heads to the classroom to teach. He will be able to visit the staff room again only in between classes. In addition to the staff room and classrooms, the school has offices for the head teacher and the assistant head teacher, a computer lab, and a science lab. Jamil's cousin Fozia, who teaches in an urban English-medium school, has access to a teacher resource room in her building, something typical of wealthier schools, especially in urban areas. He is envious about the resources that Fozia's school offers, but he knows that as a rural teacher, he must make do with limited facilities.

Today's lesson, like most of Jamil's lessons, connects closely with the textbook. The book is published by the provincial government and follows the federal government's curriculum guidelines. It was published in Sindhi, the local language, although textbooks are published in all three languages: English, Urdu, and Sindhi. Unlike Fozia's private school, Jamil's is a Sindhi-medium government school. English is taught as a subject from kindergarten on, but his students have the majority of their instruction in Sindhi. As a student, Jamil was educated in both Sindhi and English, receiving a B.Sc. in mathematics and, later, a B.Ed, from the government college of education, completed while he was teaching.

Jamil's class has 40 students, seated in paired rows facing the chalkboard. Jamil stands, textbook in hand, by his table and chair, looking out at the students. For perhaps a fifth of his class, today's exercises come easily. The majority find it harder but still manage, and 15–20% struggle with the content. Students in his school tend to have more years of schooling than their parents did; most of the parents completed only primary school and work in farming, as daily laborers, or in low-grade government jobs. Jamil's department and school expect him to complete the text by the end of the year, so he can't stop or slow the class pace to help struggling students. After completing his B.Ed, where he learned about cooperative learning, he began to ask students to work in pairs. Today, as higher-achieving students work with lower-achieving students, Jamil circulates around the room to see how they are doing, especially students who find the problem difficult, and to try to give individual help. Sometimes he works at his desk with a group of struggling students.

Once most of the class has solved a problem, he writes the next problem on the board. Typically, students might solve three to four problems on their own in one session; occasionally, he will ask a student to go to the board to demonstrate a solution. When the class ends, he announces that he will continue the topic tomorrow.

The exercises the class works on typically come from the textbook. Students also have an exercise book, which they use each week. The head teacher checks these exercise books as part of his inspection of Jamil's teaching, out of concern that teachers keep pace and manage coverage adequately. Jamil decides when to give tests, and must record all test results. For the sixth- and seventh-grade classes, the tests are not high stakes. But as he teaches eighth graders, Jamil feels greater pressure. For them, the end-of-the-year department examination, a standardized test given throughout the district, is very important. For eighth graders, failing a core course like mathematics means the student fails middle school. If many of Jamil's students fail, he will get a bad report and may not receive benefits. Because government teachers receive medical, housing, and inflation allowance as benefits, benefits make teaching appealing as a career.

Jamil is relatively satisfied with how his students solve today's exercises, so he thinks that tomorrow, in addition to the weekly check of their exercise books, he will give them some problems that he created, ones more clearly related to their daily lives and for which he will not give guidance on how to solve. These kinds of approaches to teaching, like the colorful charts he has been trying to find time—not very successfully—to
elements of the argument are made in disparate settings. For example, China's "Notwithstanding their origins, commonalities and differences, all systems of teacher preparation have to rethink their core assumptions and processes in the new global context" (Gopinathan, Tan, Fang, Devi, Ramos, & Chao, 2008, p. 14). So states a report of teacher education researchers from nine countries that argues that, despite differences across countries, all teacher education is challenged by the new global context. For these and other resources readily available to her, Fozia can accomplish much more in her classroom than Jamil. Yet he is sometimes glad he does not have to contend with the pressure that her students' parents and her head teacher put on her. In this regard, Jamil believes that he can try his best to make changes, but he can be the one to decide when and how much to vary his teaching. As he leaves his first-period class, facing a steady stream of seven more classes, he knows that managing to make it through each period is demanding enough.

Emerging Visions of Good Teaching as (Partially) Shared Frames

"Notwithstanding their origins, commonalities and differences, all systems of teacher preparation have to rethink their core assumptions and processes in the new global context" (Gopinathan, Tan, Fang, Devi, Ramos, & Chao, 2008, p. 14). So states a report of teacher education researchers from nine countries that argues that, despite differences across countries, all teacher education is challenged by the need to develop a "high-quality teacher force" as a way of improving student learning and "educational quality" (p. 14). That report, Transforming Teacher Education, points to changes wrought by globalization that both alter the skills needed for the next generation and introduce economic and market pressures on teaching and teacher education as institutional practices. The result is new expectations for teaching, as well as new accountability demands. The vision of teaching that Jamil brings to his work, as well as his evaluation of it, reflects these ideas of what teachers should be supporting in and for student learning.

On the surface, similarities are striking, as familiar elements of the argument are made in disparate settings. For example, China's Guidelines for National Programs for Medium- and Long-Term Educational Reform and Development proposes:

The world today is witnessing massive economic development as well as disturbances. The inevitable trends of multi-polarizations in the world economic and political order, and globalization in economic development, coupled with the rapid development of technology, has increasingly intensified the competition of human resources and talents. Our country is now at a critical stage. . . . With the development of industry, information technology, urbanization, marketization, and globalization, we now face huge challenges from the population on resources and environment, and the modes of economic development is also shifting, which foregrounds the importance and urgency of improving the quality of our people and raising a new generation of creative talents. Human resource is the key to China's future economic development and the rejuvenation of our nation, and education is the answer. (Ministry of Education, People's Republic of China, 2010)

The rationale of this argument, couched in terms of economic changes and globalization, is not unique to the Chinese reform plan, nor is the claim that human resource development, as carried out through "quality education," is the solution to the demands of economic and national development. As reviews of international research suggest, national systems of education approach teaching—defining goals, measuring quality, and organizing supports and professional education—influenced by their perceptions of global competition and a new global knowledge economy.

Analysts argue that an emphasis on the role of education to support economic growth and competitiveness, and the increased attention to teachers as key players in this process, is a hallmark of education discourse at the end of the 20th and in the first decades of the 21st centuries. The 1990 World Conference on Education for All in Jomtien was a watershed in crystallizing many arguments about education around the world. Since then, teachers have emerged as both key players and key objects of policy efforts.

While Jomtien mentions teachers more or less in passing, later international documents and country policy statements deal with teachers either as a subject of criticism for their role in the non-achievement

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\*The term "quality education" is one that has come to have prominence in Chinese education reform discussions and is discussed in more detail later in this chapter.
of educational objectives or, paradoxically, as persons with whom educational systems and processes cannot dispense (Avalos, 2002, p. 182).

Jamil, for example, recognizes that the Millennium Development Goals put pressure on Pakistani education and directly on teachers.

The concept that quality schooling relies on strong teachers—taking teachers as "necessary" companions in the road to improving education" (Avalos, 2002, p. 182)—has become a mantra in conversations about teaching and teacher education (Adamson, 2012; Akiba and LeTendre, 2009; Avalos, 2011). This development has in turn supported the circulation of a particular image of good teaching, with elements that appear as themes in the literature: learner-focused pedagogy and responsiveness to diversity brought forward by professional development. Such visions are not uniformly enacted or embraced, research suggests. But the power of this concept of a good teacher has significance at policy levels as well as in teacher education and teacher development. Emerging from international and comparative research on teaching as well as from international policy texts, these themes construct teaching and inform discourses about it in terms of practice, policy, and research.

**Framing "good teaching" as learner-focused.** Around the world, particularly with the help of donor agencies and international reports that call for uniform standards and metrics for teaching, the push has been to discuss teaching in terms of learning. Over time the calls have been to understand—even to measure and evaluate—teaching through outcomes for learners (Robertson, 2012a). At the same time, the vision of good teaching increasingly has become a vision of teaching that is learner-centered, focused on active learning, and moving away from traditions of what is typically described as teacher-centered, transmissive instruction. Jamil, based in rural Pakistan, has been exposed to such ideas in his professional development and is trying to find ways to incorporate them into his teaching. Julius and Lukas have been similarly encouraged. That there are individual efforts in so many places to implement or support this transformed image of teaching is noteworthy. Ginsburg (2009) suggests that there has been an "explosion" of such calls (p. 2). "Teaching for learner autonomy has been promoted across many parts of the world, gaining currency as a pedagogical buzzword in educational policy and practice" (Ahn et al., 2013, p. 2).

**Circulating notions of learner-centered pedagogy.** Those (including reformers, policy makers, and researchers) making the case for this image of good teaching do not all use the same terms to describe this vision (Schweisfurth, 2011). It is referred to as learner-centered pedagogy (O'Sullivan, 2004), active-learning pedagogy (Clarke, 2001; Ginsberg, 2009), constructivist teaching (Tatto, 1999), child-centered teaching (Sripakash, 2010), and education for quality (Kipnis, 2006). But there is much shared across these different terms. In particular, the terms used in the category we call "learner-centered pedagogy" are consistently described as being in contrast to and as an effort to move away from a teacher-led, teacher-centered, teacher-directed form of pedagogy. A review of articles published in the *International Journal of Educational Development* during the first decade of the 21st century found striking evidence of the frequency and currency of this general theme (Schweisfurth, 2011). Over 10 years, 44 articles focused on the experience of learner-centered pedagogy. (Of 72 publications in the journal from 1981 to 2010, 44 were published in the last decade of this time period.) It is clear that this vision of teaching is central in the reform of instruction in many countries. Schweisfurth (2011) reviews studies that report on 34 individual countries as well as other articles that analyze teaching at the level of regions. (Her review finds studies examining four different regions.) Together, these country- and regionally-focused studies represent all regions of the world.

TALIS confirms that, at least at a surface level, there are widely shared ideas about what teaching should look like: it should be constructivist and oriented toward supporting students' active learning (Schleicher, 2011). Indeed, a familiar refrain in literature from many countries is the emphasis on learner-centered pedagogy—as a goal toward which dominant practice should shift, as a direction of current reform, or as a vision of good teaching.

Other comparative work reveals the wide reach of these ideas. One of the surprising findings of the MT21 six-country study (Bulgaria, Germany, Mexico, South Korea, Taiwan, and the United States) is that when the future teachers were asked to project themselves into the classroom and describe the types of activities in which they would engage or how they might organize their classroom, more similarities than differences were found (Schmidt et al., 2011). In visions of classroom management, most future teachers believed the best way to manage a classroom is by rules and having a good and motivating learning environment, not by threatening punishment. Similarly, most future teachers favored assuming responsibility for a student having problems in their class as opposed to shifting the problem to someone else (parents, principal, colleagues). There were strong similarities across the six countries in terms of how the future teachers envisioned instructional organization and lesson structure. Virtually no differences existed across the countries on the use of traditional instructional activities, which would receive a modest degree of emphasis. The future teachers from all six countries mostly
believed in the importance of problem solving and encouraging students who are having difficulty in mathematics by emphasizing that mathematics is enjoyable. (There were some differences, although in general not large.)

Such similarities are true even at the point of education where student learning occurs—the lesson structure. Examining prior knowledge occurs early on in a lesson, as does the lesson overview, the consideration of a simple task, and work on new content. Solving the task becomes a focal point midway into the lesson structure, as does discussion and practice. The lesson ends with reflection, a summary, and assessment, except in Bulgaria, where future teachers tended to place reflection near the beginning. Although the greatest difference in terms of lesson components was in where a complex task would be included, the future teachers across the six countries envisioned teaching broadly as learner-centered.

Learner-centered pedagogy has been called a “traveling policy” (see P. Thompson, 2013), due to the extent to which it has been spread through the combination of aid and assistance and scholarly interaction and exchange.

The interest of aid agencies in learner centered pedagogy is unprecedented. . . . Current curricular reforms in many African countries (e.g., Botswana, Namibia, South Africa) emphasize a learner centered pedagogy as the official pedagogy in schools. However, analysis shows that the pedagogy has partly come as a “prescription” from aid agencies through educational projects and consultancies funded by the aid agencies. (Tabulawa, 2003, p. 9)

Tabulawa (2003) cites the experience of Botswana, where learner-centered pedagogy was strongly encouraged in both primary and junior secondary educational improvement projects funded by USAID.

The mechanisms of a widely circulating vision of reform appear to differ by region and country. For example, in sub-Saharan Africa one finds “the introduction of a ‘learner-centered’ pedagogy sponsored by international aid agencies (Anderson, 2002; Tabulawa, 2003; O’Sullivan, 2004)” (Hardman, Abd-Kadir, & Smith, 2008). In East Asian Sinic cultures, “reforms are all aimed at moving from a traditional teacher-centered teaching approach to a more student-centered, competence-based pedagogy” (G. Li et al., 2010, p. 73), and there is corresponding emphasis in teacher education and professional development. The push for these does not uniformly come from international donor agencies; both wealthy Singapore and poorer Vietnam describe such efforts.

The rationale for this pedagogical shift is not uniform. Some researchers argue its relationship to broader social change (de la Sabbloniere, Taylor, & Sadykova, 2009). Aid agencies have expressly made a link between reforming teaching and fostering democratization. One Overseas Development Administration (ODA) document from the United Kingdom states:

[C]itizens who have been exposed to learning styles which require the questioning assumptions, and empirical styles of studying and the exploration of alternatives are seen as likely to have more chance of participating fruitfully in a pluralistic political process than those who have not. (Overseas Development Administration, 1994, p. 3, cited in Tabulawa, 2003, p. 8)

Calls for this kind of teaching are often justified by economic arguments: the need to produce creative workers who can solve problems in a knowledge-based economy—the need for adults who have the skills to adapt and to work collaboratively. This framing is often used by international organizations such as the World Bank and UNESCO and by national governments.

In reviewing comparative and international research that discusses learner-centered pedagogy, we have observed that much of it is focused on documenting efforts to teach in this way. Regardless of the actors or the motivations for introducing learner-centered pedagogy, struggles with its implementation persist. One reviewer suggests, for example, that “despite . . . efforts to reform its educational systems, teaching in the Sinic countries and regions is still reported to be teacher-centered due to the largely unchanged test-driven examination systems” (G. Li et al., 2010, p. 73). Similarly,

in Sub-Saharan Africa, Arthur (2001) argues that end-of-primary examinations also exert a powerful influence on instruction and the patterning of
classroom interaction by encouraging a transmissive pedagogy in which there is a one-way transfer of knowledge as observed in the current study. (Hardman et al., 2008, p. 66)

Schweisfurth (2011) found that the majority of the 72 articles she reviewed focused on the challenges of implementation of such reform in teaching; the articles analyzed challenges that reflect historical conditions, material limitations, and institutional barriers. Other researchers (e.g., Srirpaksh, 2010) argue about the problem of cultural framing.

What is often overlooked in calls for the implementation of this pedagogy or descriptions of teachers' unsuccessful attempts to implement it is the ideological and political nature of this approach and its circulation through global networks. "The pedagogy is often presented as if it were value-free and merely technical. Its implementation is often informed by the ideology of technical rationality with its stress on value neutrality" (Tabulawa, 2003, p. 9). Critics argue that this pedagogy is often presented as a "one-size-fits-all pedagogical approach ([De La Luz] Reyes, 1992). . . a universal pedagogy, one that works with equal effectiveness irrespective of the context" (Tabulawa, 2003, p. 9). In his more recent work, Tabulawa (2013) argues that this

[1] lack of cultural sensitivity in the treatment of teaching and learning has led to the pervasive view that these are generic activities. This in turn has led to the generation of generic "principles of teaching and learning" (presented as universals) whose application has tended to be oblivious to the context in which they are being applied. (p. xiv)

He writes, "I now not only lament the failure of efforts to implement learner-centered pedagogy in sub-Saharan Africa, I also question the desirability of this form of pedagogy in the sub-region" (p. xvi). Certainly, for Tabulawa and others, the press for learner-centered pedagogy, widely distributed as it is, is seen as something coming from particular centers of power with particular agendas.

Research on teacher beliefs as a window into (shared or shifting) frames. Relatively few studies provide the opportunity to examine cross-nationally the practices of teachers, although the qualitative evidence cited above indicates a general trend to recast traditional teaching that is teacher-directed toward a learner-centered pedagogy. There is far more research, however, on teacher beliefs, and this research provides supporting evidence for claims about a circulating vision of good teaching as learner-centered pedagogy. Teacher beliefs are given attention in many of the large cross-national studies of teaching (e.g., TIMSS, TALIS, TEDS-M). According to TALIS, teachers from all countries examined support a constructivist view of teaching with the teacher as facilitator, in contrast to a transmission view with the teacher as a direct transmitter of knowledge. Constructivist beliefs are particularly strong in northern and western Europe and less so in Malaysia (OECD, 2009).

Although these reports indicate some convergence in terms of beliefs, they also confirm the gap between learner-centered pedagogy-oriented beliefs and what teachers are practicing. According to TALIS, teachers are most likely to adopt a teaching style that focuses on structuring the lessons, followed by student-oriented practices and enhanced learning activities such as project work. This order applies in every country, although enhanced activities are more frequent in the humanities than in mathematics.

Evidence from future lower-secondary mathematics teachers in Germany, Norway, Singapore, and Taiwan confirms the preference for dynamic rather than static beliefs about the nature of mathematics and constructivist instead of transmissive beliefs about the teaching of mathematics (Blomeke & Kaiser, 2014a). The patterns appear surprisingly similar, at least across four countries with different educational traditions—two East Asian with a Confucian heritage and two Western European. Blomeke and Kaiser (2015) extend this beliefs network further, finding that the motivation for becoming a teacher is related to how future teachers envision good teaching. [12]

What does this "shared" vision of learner-centered pedagogy mean? The idea of learner-centered pedagogy is understood and taken up and enacted differently by teachers in different contexts. In a comparison of five country case studies from different regions of the world, Ginsburg (2009) notes that teachers in different countries bring different interpretations to what learner-centered pedagogy means. In Egypt, Kyrgyzstan, and Malawi teachers "emphasized the behavioral dimensions (e.g., learning to take turns, express oneself, and listen during group work) and cognitive dimensions (e.g., discovering knowledge, going beyond rote learning and memorization) of such methods".

[12]For example, the more extrinsically motivated future teachers from Germany, Norway, Taiwan, and Singapore were, the more they believed in a transmission-oriented teaching style. In contrast, intrinsic academic job motives had differential effects on future teachers' beliefs. Future lower-secondary mathematics teachers from Germany and (marginally) Norway who were more strongly motivated in an intrinsic-academic way believed less strongly in a transmission-oriented teaching style. In contrast, future teachers from Taiwan (and Singapore) tended to believe more in a transmission-oriented teaching style if they were more academically motivated (Blomeke & Kaiser, 2015).
In a study based on five Western countries, Harkness et al. (2007) examined teachers and teaching in countries that on the surface might seem to share broad Western cultural notions. Although they found some shared themes of a vision of learner-centered teaching, the researchers also identified distinctive differences in how the teachers envisioned good teaching and learning.

with the Italian and Dutch teachers emphasizing the creation of a positive, even intimate emotional climate while the Spanish teacher emphasized learning good manners in the classroom. The U.S. teachers talked about directly confronting students’ fears and encouraging students to challenge themselves; in contrast, the Dutch teachers were more inclined to adapt their own demands to the comfort level of the child (e.g., a child who was afraid to go to the blackboard could show the teacher his answer at his desk). The Polish teachers... seemed to maintain classroom practices more expressive of traditional group cohesion, even while espousing the new individualistic qualities as developmental goals for children. (p. 132)

Where there appears to be some shared valuing of notions of teaching that support the developmental growth of socioemotional as well as cognitive qualities, and the teachers “all described ideas that are familiar in Western theories of education,” the ways in which their ideas diverge suggest that even within the apparently shared framework, they differ by “the expression of particular cultural ideas and practices” (Harkness et al., 2007, pp. 132-133). What might on appear to be a common pedagogy—for example, the use of circle time in primary school classrooms—can in fact reflect very different assumptions and goals. For Dutch teachers, circle time is valued for helping children “learn how to listen to each other,” whereas American teachers describe its main function as teaching children “to share their own stories with others” (Harkness et al., 2007, p. 133).

A different understanding of learning-centered pedagogy appears in a study in Vietnam (Vu, 1999). Against the background of educational policies aimed at producing active learning and creative thinking, Vu “simultaneously illustrates a willingness and an inability on the part of teachers to comply” (Avalos, 2002, p. 192). The teachers in the study were able to describe their teaching with reform-minded language, but their vocabulary did not match their understanding or appropriation of the reform ideas. They believed a learner-centered pedagogy is appropriate for only certain kinds of learners. They continued to see their role as teachers as working to “pass on knowledge and be responsible for molding students into good people and citizens.” And they continued to carry out the kind of teaching that involves “traditional methods of repeating information to make sure pupils have grasped the facts” (Avalos, 2002, p. 192).

Finally, material conditions may contradict learner-centered pedagogy in some countries. In Singapore, for example, intense exam pressures constrain possibilities for the national learner-centered policy reform of “teach less learn more.” Sriprakash (2010), analyzing efforts to reform pedagogy in a rural Indian school context, observes tensions between a learner-centered pedagogical model and issues of interaction in a classroom. The vision of “child-centered education with child-friendly, democratic language to reform school processes in the name of ‘quality’ education for all” (p. 304) that is supported by aid and development agencies, global reports, and the rhetoric of research discourses is often promoted without accompanying consideration of the requirements and costs, especially to teachers, of such pedagogical shifts. Sriprakash details the costs, often hidden, of time and resources, and the expectation of individual commitments from teachers to develop materials and new forms of evaluation, to engage in new interactive patterns with students, and to educate and work with parents in order to sustain such a pedagogical reform.

Global echoes locally experienced: The case of China. Few systematic cross-national data offer a systematic, representative picture of learner-centered reform efforts and practices across settings. Nevertheless, within a single country there are multiple research efforts to understand teaching practices, and these can offer routes to explore the argument that, at least at a rhetorical level, there is a growing emphasis to envision “good teaching” as learner-centered pedagogy.

Research on efforts to introduce or implement learner-centered pedagogy in China offers just such a rich set of studies. This research includes studies from different methodological perspectives (including survey based, interview based, policy analysis, ethnographic and/or participant observation, case study, multivocal video based, and mixed method),13 focusing on different levels of education (higher education, secondary education, elementary, and preschool) and different regions of the countries, both urban (Tobin et al., 2009; Woronov 2008) and rural (Kipnis, 2011; Sargent, 2009; D. Wang, 2011, 2013). It includes research by Chinese scholars as well as outsiders. Such diversity is important

13See as examples, respectively, the work of An, Hannum, & Sargent (2007); K. Cheng (2011); Dai, Gerbino & Daley (2011); Hannum & Adams (2008); Hu & Roberts (2013); Jiang (2015); Liu & Dunne (2009); Ouyang (2003); Paine, Fang, & Jiang (2015); Sargent (2009); Tobin, Hsueh, & Karasawa (2009); D. Wang (2011); H. Wang (2015); Woronov (2008).
to note, because the general pattern of observations and findings is remarkably similar: There is widespread policy focus on making teaching more "learner-centered" (K. Cheng, 2011; Paine et al., 2015); there is also much research about the difficulties of shifting pedagogical practices (H. Jiang, 2015; Q. Li & Ni, 2011; D. Wang, 2011; Woronov, 2008; Zhu & Han, 2006).

In terms of the circulating images of good teaching, in policy documents and researcher accounts, the notion of a good teacher is one who is clearly rejecting or acting in contrast to what is seen as "teacher-directed" teaching. Traditional teaching is typically portrayed as transmission focused (chuanshou jiaoyu), examination oriented, and encouraging passive learning. A popular idiom likens this type of teaching to stuffing a Peking duck—the "duck stuffing method of teaching" refers to the "old" approach to teaching, one held up for scorn. In contrast, when recommendations are made for change, certain key words become code for the reform vision of good teaching: student-centered (often literally "student as central role, teacher in guiding role"), fostering creativity and problem-solving, and involving active learning on the part of the student. This dichotomy—old/bad/transmission model of teaching juxtaposed with the new/good/interactive model—is not new in Chinese education discourse. In fact, by the early 1980s education journals regularly made such distinctions. But in more recent years, this framing links the "new" approach to teaching to the larger constellation of ideas that—whether in Kyrgyzstan, the United States, or Belize—are characterized as important to good teaching: images of teaching as organizing students working sometimes collaboratively and actively, engaged in learning that connects to their lives, to develop conceptual understanding.

This image of good teaching in China is associated with a major national curriculum reform—to reduce the conventionally intense pace and fast coverage, to allow students to think conceptually, to see relevance to daily life and practical contexts—implemented in 2001. Justification for the broad reform of curriculum and teaching comes from both economic arguments and external validation. That is, the reforms of teaching are seen as vital to creating a new kind of worker, one able to support a knowledge-based, globally competitive economy. As Peng et al. (2013) explain, "this idea is . . . linked to the broader need to develop active citizens as the foundation for a prosperous society able to sustain the economic growth required of the new China" (p. 3). The shorthand name for the direction of reform—curricular, pedagogical, and in Alexander's (2000) sense about both the act of teaching and the ideas undergirding it—is suzhi jiaoyu, translated as "education for quality" (Kipnis, 2006) or "quality education" (Lou, 2011; Naftali, 2010).

The term suzhi jiaoyu entered Chinese discussion in the late 1980s and formally became part of educational policy in 1999. It was created in part to challenge exam-oriented education, referred to as shengxue jiaoyu ("education for the purpose of passing on to the next level") or yingshi jiaoyu ("education for the purpose of passing exams") (Kipnis, 2006, p. 298). The term suzhi jiaoyu eludes easy translation into English; one study found 32 different English translations just for the first part of the term, suzhi (T. Jiang, 1999, cited in Kipnis, 2006). The term's importance is not unrelated to the fact that it is used for a wide, and not always coherent, set of ideas and arguments. This breadth means it can "work in both liberal and authoritarian discourses" (Kipnis, 2006, p. 303). Its breadth also allows it to be linked to foreign, particularly Western, educational reform ideas (D. Wu, 2009). Many of the initial advocates for suzhi jiaoyu, readers of Western educational research and theories, translated the term as "competence education," a "North American notion [that] was particularly popular [among Chinese reformers], as it emphasized training students in specific competencies rather than exam success" (Kipnis, 2006, p. 299).

Teachers, education reformers, and researchers may stress the foreign links or origins of ideas of "quality education" (or what, elsewhere, may be called learner-centered pedagogy) (see Ouyang, 2003). But as the reform movement has continued, and the Chinese domestic political climate and its geopolitical positioning internationally continue to change, there is an equally clear tendency to argue for the indigenous features of "quality education"—linking it to Confucian tradition, for example, in which the moral aspects of teaching and learning are salient (Jin, 2010; Ren, 2009; Tang, 2010). Both these tendencies—what Schriewer and Martinez (2004) describe as externalization through references to the world or to history—are present in policy and research documents.

China's push toward learner-centered pedagogy, according to Zhou and Zhu (2007), involves changes in both the content and the process of learning. Teachers are mandated to facilitate active and independent learning, to interact actively with pupils and develop along with them, and to recognize differences in students' personalities and learning needs (p. 45). In mathematics, for example, the aim of curriculum reform is to strengthen the role of applications, to help students see connections conceptually, and to reduce an overreliance on drill and routine practice. This reform naturally creates new expectations for teachers (Ministry of Education, People's Republic of China, 2001). For example, in Shanghai's school mathematics curriculum, in addition [Such a finding is not unique to research on educational reform in China. Case study work in Cambodia (Ogisu, 2014) and Tanzania (Vavrus & Bartlett, 2013) provides similar insights into the broadly divergent meanings, within a national context, given to this idea.]
to the types of mathematics lessons in the prior curriculum, teachers are now expected to conduct two new types of lessons— inquiry-based lessons (tan jiu ke) and expansion lessons (tuo zhan ke)—to train students' thinking and problem-solving abilities. The accompanying teaching materials have become open ended to leave teachers space to innovate, incorporate their own thinking, and be creative in planning and teaching (Paine et al., 2015).

In terms of how these goals have taken shape in practice, there is clear evidence from the varied research on teaching in China in the early 21st century: Studies report on the difficulties posed by "structural impediments" (Woronov, 2008), especially the examination system and its effects on parental expectations, teachers' workload, and the evaluation of teachers' "quality." Despite calls for supporting all students' learning and reducing the role of tests in directing education, teachers and students still acutely feel the pressures of test performance. H. Jiang (2015) describes how this pressure trains a teacher's gaze and focuses the activities and substance of teachers' conversation in one rural school. Her case study, as well as work by D. Wang (2011) and Liu and Dunne (2009), among others, highlights the continued gap between the rhetoric of "quality education" and teachers' ability to enact it and support all students' powerful learning in the face of structural pressures, incentives, and constraints in both rural and urban areas.

Global echoes locally experienced: The case of Germany.

In contrast to China, learner-centered pedagogy has a long tradition in Germany. More than 100 years ago, core ideas were developed in critical response to the then-existing instructional practice, which was characterized by strict teacher-centrism and corporal punishment as a common practice. Renowned creator of learner-centered pedagogy (reformpädagogik) Peter Petersen's "Jenaplan" included joint learning of different age cohorts and learning in small groups using real-world problems with mutual exchange and support among students as a recurrent principle; Georg Kerschensteiner proposed organizing teaching around workplace demands and thus around complex and meaningful problems; Maria Montessori set forth a child-oriented pedagogy that relied on learning materials freely chosen and worked on by students; and Georg Lietz focused self-regulated learning. These innovative approaches, which dominated the educational debate between 1890 and 1930, shared the concept that learning was supposed to happen through activities by addressing cognitive, social-emotional, and practical skills at the same time and through large student autonomy with flat hierarchies between teachers and students. Instead of organizing instruction in time-limited lessons and slicing content into small pieces, a holistic approach that connected several disciplines was stressed by almost all reformers (Blomeke, 2006).

After 1930, educational policy experienced fast and substantial swings connected to the different political regimes before, during, and after World War II as well as in Western and Eastern Germany. The vision of learner-centered pedagogy moved to the background. The power of learner-centered pedagogy rematerialized after PISA. The shock generated by PISA's large-scale international assessment created such a break in educational policy that efforts of reform-oriented educators with interests in learner-centered pedagogy were joined by policy makers' efforts directed at creating greater efficiency in the school system. To focus educational efforts more on "useful" knowledge and to weaken the strong correlation between socioeconomic status and student achievement, unified pedagogical innovation and efficiency-approaches were taken, although for different motives. Reform-oriented educators, with interests in reforming teachers' pedagogical approach, hoped for more meaningful learning and equity, the policy makers wanted to enhance students' capability to apply knowledge to everyday tasks and thus to make them ready for the labor market.

The result of these conjoined reforms was, for example, the reduction of tracking during lower secondary school in almost all federal states by closing the lowest track (hauptschule) and combining it with the medium track (realschule). Flexible modes of going through the first years of schooling were developed by combining the first two grades and deciding whether a student needs one, two, or three years to complete these grades based on his or her abilities (Götz & Krenig, 2011). National competence-oriented standards were introduced that describe the intended outcomes of schooling across Germany's 16 federal states and at different grades in terms of knowledge and skills instead of prescribing the content to be taught.

There was a brief reappearance during the 1970s' reform movement, forced by political discussions about the quality of the German school system during the Cold War. Picht's (1964) warning of an educational catastrophe if school quality was not improved was heard widely because of the technological success of the former Soviet Union. That the USSR—as the leading nation in the Eastern bloc—was able to send a satellite into space raised doubts about the level of technical knowledge in the Western world. In Germany, this led to inquiries on the quality of the school system. Robinsohn (1967)—influenced by discussions in the United States and Scandinavia—proposed that the school system train pupils for real-world situations representing professional, social, and political challenges. Although many commissions during the 1970s tried to implement such reforms, they failed due to highly ideologized and controversial debates between different political camps.
The surprising agreement of advocates for learner-centered pedagogy with a focus on children's needs and classroom climate and those focusing on efficiency and cognitive skills can be traced to shared ideals. One of these shared ideals is the rejection of a centralized and state-controlled school system. Both parties favor far-reaching autonomy of single schools. Reformers envision full autonomy of students, teachers, and schools so that schools can decide what type of, when, and how teaching and learning are implemented instead of following prescribed curricula. Both sides assume that "local wisdom" is more likely to promote educational improvement.

A second shared idea is the connection of school content to real-world examples, as a means both to engage students and to prepare them for the world of work. Finally, the two groups agree on inquiry learning or self-regulated learning, with teachers serving as facilitators of the learning environment. It is assumed that these approaches to learning are linked to an engaged citizenry and better preconditions for job demands.

Of crucial importance for this alliance is a small but decisive change in the meaning of the term learner-centered pedagogy in the early 20th century: the introduction of "cognitive activation" (Klieme & Rakoczy, 2008) as a quality characteristic. A century ago, the psychological foundation of learner-centered pedagogy was weak and the mechanism for how its different approaches should lead to student achievement was largely unexplored. During the 1990s, a sharp theoretical debate took place in Germany that characterized certain elements of learner-centered pedagogy, such as group work versus whole-class work, as "surface characteristics" (sichtstrukturen) that do not really matter because they do not address the "fundamental principles" (tiefenstrukturen) necessary for learning.

The reform-oriented group derived "cognitive activation" as a crucial characteristic of learner-centered pedagogy from constructivist learning theories, with individual construction as well as the co-construction of knowledge being vital (Reusser, 2006). The efficiency-oriented group derived the notion of quality learning from instructional research that points to demanding tasks and cognitive complexity as quality characteristics (Seidel & Shavelson, 2007). Cognitive activation enhances not only the level of motivational and self-related outcomes such as self-efficacy, but also the nature of cognitive outcomes by enhancing their applicability (De Corte, Verschaffel, Entwistle, & van Merriënboer, 2003; Stein, Boaler, & Silver, 2003) and conceptual understanding (Hiebert & Grouws, 2007; Lipowsky et al., 2005).

This movement presented great challenges for teachers. They were supposed to adjust their teaching routines, to diagnose achievement in increasingly heterogeneous classrooms, and to provide individual learning support—demands not typical for their work only a few years before. The German states invested large amounts of funding into professional development oriented toward this version of cognitively activating learner-centered pedagogy. And whereas studies demonstrate on the one hand that it is difficult for teachers to change, on the other hand the evidence supports the overall success of these reforms. Instruction in German classrooms looks different today than a decade ago.

These new expectations have made teachers' work more visible to those outside the classroom and strengthened their professional status. The media began to portray the delivery of pure content as less demanding than teachers' new role as classroom managers. The teacher's image has improved significantly over the last two decades, from the portrayal of teaching as a high-paying profession with too much leisure time to one that is doing an important and almost overwhelming job. The only negative connotation left is that it is predisposed to early burnout (Blomeke, 2005).

These examples of China and Germany demonstrate that widely shared notions of learner-centered pedagogy interact with the history and local context as well as with other widely circulating notions of what good education and good teaching looks like. The notion of "learner centered" has been appropriated, hybridized, and interpreted to mean different things across countries and within the same country. These cases remind us of how "learner-centered pedagogy" has become a staple in the global discourse on teaching and educational quality.

**Framing “good teaching” to mean teaching all students.**

An emerging aspect of globally circulating ideas of good teaching is the need for teachers to take into account and be responsive to student diversity. In part, this trend may reflect the movement of ideas that are already a dominant chord in the United States and the global North as they are transplanted to other contexts through assistance and aid programs, networks of scholars, and policy makers. Of course, teachers always must, at some level, attend to all their students. Yet the notion of teaching that makes "all students" central is, we argue, part of the larger reframing that is shaping discourses of teaching in countries around the world. What counts as "all" is important to consider when framing a vision of good teaching.

Discourses of research on teaching and policy reform aimed at teaching internationally have brought more visibility to diversity among students in terms of student ability and achievement level, disadvantaged background and/or marginalized status, and developmental issues and special needs. OECD's PISA studies, for example, focus attention on the strong correlation between socioeconomic status and student achievement. The emphasis on special needs learners in international and global policy discussions
(Education for All Global Monitoring Report Team, 2014, p. 30, p. 5) and research (Peters, 2003) is evidence of this refocus on the kinds of diversity that have always existed. The Comparative and International Education Society’s establishment of a special interest group (SIG) focused on inclusive education reflects a desire to support international communication and research that focuses on teaching for inclusive education. In 2014, that SIG comprised 40 scholars from 16 countries (http://www.cies.us/new_sig/inclusive_ed.shtml).

These patterns may suggest that the discourse of diversity is not so much a response to new diversity as to new flows of information and connections among researchers. But the focus on teaching that attends to “all students” also reflects a newer feature of globalization that affects many countries—the increasing movement of peoples. The increase in cultural, racial/ethnic, linguistic, and national diversity within classrooms is a feature of globalization. Observing drastic transformations of the immigrant communities in the United Kingdom, Vertovec (2007) proposes a notion of superdiversity that captures the dramatic variations in immigrants’ language abilities, social and cultural capital, religious backgrounds, employability, and legal status in the country, as well as immigration paths. The interplay among these factors creates divergent outcomes even for members of the same ethnic groups or people of the same national origin. New categories of students, new patterns of schooling, and new demands facing teachers all provide new areas for research on teaching, both within and across countries.

In much research and policy discourse, “teaching all students” is now constructed as a salient feature that defines “good teaching.” In this section, we examine the frictions between the global scripts for teaching all students and national variations of this type of teaching. The reports and studies reviewed demonstrate that what constitutes diversity is changing, and how much priority, and what kind, diversity receives in the discourse of teaching varies across countries. Whereas two decades ago U.S.-based scholars such as James Banks were focused on describing diversity and arguing for the need for teachers to respond, today Banks (and many of his counterparts) are directly engaged in discussions of diversity and multicultural education in other settings. The journal Multicultural Education Review, by the Korean Association for Multicultural Education, illustrates both the influence of scholars in one setting on another and the growing interest in multicultural education and racial/ethnic, cultural, and linguistic difference globally.

Constructing teaching as a response to diversity: New priorities and problems. A drastic increase in the number of immigrants and the nature of migration in the last 20 or 30 years caught many nations by surprise and left teachers poorly prepared for the changed composition of their classes. Countries with historically large inflows of immigrants (such as the United States and the United Kingdom) and countries that have been historically considered “homogenous” (such as Germany, Korea, Sweden, and Ireland) now regularly engage in debates about immigration and its effects on their economies, their social fabric, and the provision of education. Educational policies adopted to meet the needs of immigrant students—policies that often represent various forms of multiculturalism—reflect an interaction between the “bottom-up influence of globalization” (Okano, 2006, p. 476) and the top-down effects of transnational policies and agreements. The former captures the process by which immigrant students, their families, and their teachers “respond to specific effects of globalization that concern them directly” (p. 476), which include transnational mobility and education amidst cultural and linguistic diversity. The latter reflects the effects of international organizations’ monitoring of immigrant students’ progress in education, replicated in reports such as those by the OECD (2006, 2010a), and recommendations for changing educational systems and practices to allow immigrants to integrate into the host societies (Council of Europe, 1978, 1984; UNESCO, 1999).

What counts as diversity, and how it becomes framed as an issue for teaching, is interestingly different across countries. Whereas in the United States diversity in institutional contexts is most commonly constructed in terms of racial/(ized) categories, in Europe the focus is placed predominantly on immigrant status. “Minority” in this case can become equated with “(im)migrant,” rendering indigenous minority groups invisible in policy conversations. In South Korea, the term diversity is applied to children from families in which only one spouse is Korean; in the United Arab Emirates, where migrants constitute 80% to 88% of the total population, diversity is perceived as irrelevant because nationally run schools accept only children of Emirati citizens. Although issues of inequality are prominent policy concerns and research topics in many settings, what is prioritized varies in ways that reveal historical and demographic

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16For example, the Salamanca Declaration (UNESCO, 1994) defines inclusive education as “[a] developmental approach seeking to address the learning needs of all children, youth and adults with a specific focus on those who are vulnerable to marginalization and exclusion.” The creation of an internationally agreed-on term (inclusive education) brings visibility and framing to definitions of teaching all students.

17There was diversity in earlier generations, but there may be both new kinds and greater amounts of diversity today, as well as a new perspective on it, that have relevance for teaching and study.
patterns, as well as social and cultural conceptions (e.g., Shamim, 2008).

Among many factors feeding into these conversations is research focused on immigrant students’ experiences in new schools and on the interactions between immigrant families and schools. Academic studies and international organizations’ reports focus on the analysis of factors that affect immigrant students’ educational achievement, noting that on average immigrant students tend to perform worse than “native” students (OECD, 2006, 2010a). Students’ proficiency in the dominant language of the receiving society is a major and much discussed factor affecting students’ performance in new schools. Additionally, prior educational experiences contribute to widening gaps between immigrant students and native students, leading to lower educational attainment and higher dropout rates for immigrants. Research studies report that racism, prejudice, discrimination, exclusion, rejection, marginalization, and indifference have shaped immigrant students’ experiences in host countries (Adams & Kirova, 2007).

Among the factors that affect immigrant students’ educational experiences, teachers are believed to play an important role. Their influence is often examined through such indicators as teacher expectations, teacher beliefs, teacher behaviors, teacher morale, teacher support, and teacher-student relationships. The OECD (2006) report on immigrant students’ performance offers examples of how teacher-related school factors vary across national contexts:

In Luxembourg and Macao-China, immigrant students tend to experience more favorable conditions in terms of teacher support in their mathematics lessons. In addition, teacher morale in Luxembourg is relatively high in schools attended by immigrant students. In Belgium, however, the opposite is true. Here, immigrant students tend to attend schools with lower teacher morale and with less positive teacher-related factors affecting school climate. (p. 78)

Teachers’ beliefs about, perceptions of, and perspectives on immigrant students that affect their learning in schools have received some attention in research literature. Through an ethnographic study, Theodorou (2011) shows how Greek-Cypriot teachers who adhere to a conception of equal opportunity nevertheless draw a boundary between “our students” and “foreign students.” Such perceptions translate into classroom practices, which are more oriented toward Greek-Cypriot students, with rare accommodations for the needs of immigrant students or the incorporation of multicultural content into the curriculum. When racial incidents occur in a school, teachers tend to “deracialize” the events, and when segregation by ethnicity occurs, they tend to explain it by the natural order of how friendships form.

Unintentionally, teachers adhere to “difference-blind” approaches, and when immigrant students underperform, their lack of achievement is ascribed to students’ limited Greek proficiency, the family’s lack of involvement, or their socioeconomic status. Horst and Holmen (2007) observe a similar tendency in Denmark, where teachers identify family background, social differences, children’s language, and their intellectual abilities as more decisive factors in immigrant students’ educational attainment than teachers’ instruction or expectations. Various researchers draw a conclusion similar to Theodorou’s that the construction of a dichotomy of “us versus them” shapes teachers’ perceptions, expectations, and behaviors toward immigrant students (see Breton-Carboneau, Cleghorn, Evans, & Pesco, 2012; Janssen, Bakker, Bosman, Rosenberg, & Leseman, 2012; Limage, 2000). By drawing on discourses of “normal” children, teachers construct immigrant students’ identities as weak, delinquent, incapable, unwilling, and slow in France (Vasquez & Proux, 1984), the Netherlands (Spotti, 2006), Hong Kong (Chong, 2011), and other parts of the world.

Teachers’ perceptions of high-achieving immigrant students present a contrast to and surprising continuity of this theme. Even though studies conducted in Israel reported that teachers more often experience burnout when working with immigrant student populations than with native students (Tatar & Horenczyk, 2003), Eiskovits (2008) presents a variation in teachers’ perspectives of high-achieving students from the former USSR attending Israeli schools. She discovered that teachers who taught literature had low expectations and negative stereotypes of immigrant students before they started teaching them, but were pleasantly surprised by students’ interest, hard work, and desire to learn. The most surprising findings came from teachers’ assessments of their students’ social life. Despite teachers’ effort to build relationships with immigrant students and include them in school activities, they received a cold response—a manifestation of what was called students’ “separatist” attitudes. Ultimately, teachers’ observations about these attitudes point to a common tendency occurring in multicultural contexts: students’ transnational orientations (toward their home countries or toward global culture) clash with teachers’ nation-building orientation and commitment to develop a sense of commitment to the host country among their students.

The growing diversity in schools, coupled with the attention to the challenges immigrant students and their teachers face, are reflected in a strand of research that examines teacher preparation for such diversity. Implicit, and sometimes explicit, in this research is the framing of “good teachers” as teachers who are ready and able to
deal with and attend to student diversity. However, teachers report that they are often unprepared for working with linguistically and culturally diverse students. In Denmark, Horst and Holeman (2007) discovered that only one in four teachers, in a sample of 268 teachers, encountered a course on multicultural education in their preservice education, yet fully 88% of them worked with immigrant students in their classes. Similarly, according to Bravo-Moreno (2009), Spanish teachers whose education was primarily academically oriented were “educated on the assumption of a homogenous classroom” and therefore “not well-prepared to deal with the challenges of immigration” (p. 425). A significant influx of migrant workers and foreign brides to South Korea since 2000 has destabilized a sense of national homogeneity in that country, leaving teachers poorly prepared to implement multicultural education, holding negative stereotypes about multicultural youth’s performance, and “having difficulty understanding cultural differences of the minority students, leading to a kind of cultural ignorance even as they earnestly attempt to help minority students achieve academic success” (Kim & Kim, 2012, p. 248). Cross-cultural evaluation studies about teacher training (Kalekin-Fishman, Pitkanen, & Verma, 2002) reveal the gaps and the challenges of preparing preservice teachers to work with immigrant students in Finland, the United Kingdom, France, Israel, Germany, and Greece.

Even in countries with a historical orientation toward immigrant intake, such as Israel and Canada, teachers feel unprepared to work with diverse students and complain that they need more multicultural training (Eisikovits, 2008). Viguier (2006) reports on the growing cultural divide between French high school teachers and their students in diverse neighborhoods. Teachers’ loss of authority and control and their diminishing status contribute to a feeling of crisis, dissatisfaction, and desire to leave the profession. To meet the needs of diverse student populations, Russian teachers are urged to leave behind authoritative classroom instruction and seek ways to integrate disengaged migrant students into the classroom learning and school culture (Zakharchenko, 2003). The influx of linguistically and culturally diverse students creates a bottom-up pressure to transform the teaching profession.

Various policy recommendations and projects aim to remedy teachers’ unpreparedness and equip them with tools for teaching diverse students. The OECD (2010b) identifies the need to provide teachers with courses on “dealing with diversity in the classroom” and professional development “related to teaching in a multicultural setting”: “Specific training in intercultural education can help teachers to become more aware of diverse student needs, to focus on potentials and opportunities rather than deficits, and to develop didactic skills to support second language learners” (p. 57).

Of the four OECD (2006, 2010a, 2010b, 2012) reports or research briefs that focus on immigrant students, only one proposes solutions in terms of social justice and antiracist pedagogy (OECD, 2010a). Even in that report—an edited collection of papers—the boundaries between the OECD experts and educational researchers are clearly drawn. The terms social justice and antiracist pedagogy appear in chapters written by Geneva Gay, Richard Milner IV, Blake Tenor, Bruce Garnett, Mikael Luciak, and Claire McGlynn, but not in the executive summary, the introduction, or the concluding chapter, all written by the OECD researchers. In another report that claims “to be a practical guide [that] focuses on actions rather than theories or ideologies and presents concrete examples of country practices on key policy issues” (OECD, 2010b, p. 3), the term social justice appears only once in the entire 109 pages.

In the academic community, it is more common to frame studies and to provide recommendations based on the constructs of social justice and empowerment (Planas & Civil, 2009), antiracist pedagogy, equity, or global and empathic consciousness (Schrottner, 2012). Planas and Civil (2009), for example, report a study examining the work of a teacher study group, the goal of which was to support mathematics teachers working with immigrant students. The group had conversations that challenged teachers’ perspectives of students’ limitations and failures; used “critical mathematics tasks” that were designed to “reduce immigrant students’ powerlessness in the local school system” (p. 400); and created opportunities to incorporate students’ experiences in the classroom. The teachers’ perspectives changed when they witnessed students’ creative engagement with such a “critical mathematics task.” Evaluation Studies in Cross-Cultural Teacher Training (Kalekin et al., 2002) correspondingly reveals the gaps and the challenges of preparing preservice teachers to work with immigrant students in Finland, the UK, France, Israel, Germany, and Greece.

Fong Wang: A Middle School Mathematics Teacher in Taiwan

Fong Wang rises at 6:45 a.m., gets ready for the day, and drives to his job at Lucky Middle School, which houses Grades 7 through 9. Fong arrives in the eighth-grade teachers’ office, where he has his own desk but shares the room with 15 teachers. Teachers arrive before 7:30 a.m. to check on their students during the students’ self-study period. Upon entering the classroom, Fong notes that all 34 students are present and the student discipline officer is doing a good job keeping the class in order. He wanders through the class several times before returning to his desk in the teachers’ office.
Fong moves to his next classroom at 8:20 a.m. After the opening ceremony, he starts the 45-minute class at the chalkboard. His teaching typically involves lecturing and questioning. Occasionally, he uses teaching aids such as posters, models, and manipulative teaching tools. He asks students if they understand his teaching and, after he teaches how to solve example questions, asks them to do one or two practice problems. Twice a month, he gives his students written tests.

During breaks, Fong rushes back to the teachers' office to see if the principal or his colleagues have left him a message, and then he moves to his next class. Students are assigned classrooms at the start of seventh grade and stay with the same group of classmates for three years. The group moves to a different classroom only for subjects that require specially designed spaces, such as physical education, music, and arts.

Designated teachers are responsible not only for the subject they are teaching, but also for handling students' disciplinary and family issues. Sometimes they are responsible for addressing questions regarding subjects they do not teach. Mathematics is an emphasized subject in this school, so mathematics teachers are likely to become designated teachers. Fong takes on the role of a designated teacher almost every year. Even though he finds it mentally and physically draining, the benefits are worthwhile. Designated teachers teach four fewer periods per week than other subject teachers and receive an additional stipend every month. Designated teachers have a greater opportunity to build relationships with students. Alumni often come back to visit their designated teachers for years after they graduate.

Today, Fong has third and fourth periods free. During free periods, designated class teachers usually stay at school and use the time to grade homework and tests and review teacher-parent communication booklets. Some teachers prepare for their subsequent classes; others counsel students. When necessary, teachers hold teacher-parent conferences. Of course, teachers can also utilize this time to socialize. Every Friday, mathematics teachers meet in the conference room for 3 hours of professional development, with one of the teachers leading the meeting. The lead teacher prepares an intriguing question raised by students or a classroom situation. The teachers discuss the problem or situation and try to come up with solutions.

Fong eats lunch in the classroom with his students. The school lunch provider delivers lunch to each classroom. Afterwards there is a 15-minute break, during which students clean the classroom and the campus field. Fong supervises his students' cleaning. After the cleaning break, it is time for a midday rest period. The students lay their heads on their desks for 30 minutes and Fong goes back to his office.

The first period in the afternoon is a class meeting attended by the designated teacher. This is a period for student leaders to discuss class issues and activities. Class meeting is Fong's favorite period; this is the only class where he gets to see his students learn something other than mathematics.

Although seventh- and eighth-grade students are dismissed at 3:50 p.m., ninth-graders must stay. It is the beginning of the semester, and the ninth-grade math teachers have begun preparing their students for the national high school entrance exam. Most students are assigned to a high school based on the results of the entrance exam, and emphasis is placed on the subject of mathematics. The pressure on the teachers and the students is tremendous, and ninth graders spend an extra period in school each day to prepare for the exam. A small subset of students can be admitted to the high school of their choice through the recommendation of their schools.

Fong has been teaching at Lucky Middle School for 15 years and has a good salary compared to the average teacher in Taiwan. In terms of social status, the teaching profession is one of the best government jobs. Yet, some of his colleagues tutor to bring in additional income. Tutoring is a profitable business; the hourly wage for tutoring is two to six times higher than the hourly teacher's wage. About one-third of the students in Fong's class have private tutors or attend after-school classes at tutoring institutions. These students usually get home by 8 or 9 p.m. Although tutoring is not required, Lucky Middle School mandates that students attend school for four to six weeks during summer break and one to two weeks during winter break, increasing both teachers' teaching load and students' learning opportunities.

Framing "Good Teaching" as Based on Professional Development

The global spotlight that positions teachers as central to national hopes for improved student learning and enhanced national development has made the issue of teacher learning more visible. In particular, comparative research and global exchange contribute to a framing of the problem of teaching being, in part, a problem of teacher learning. There is great variation internationally in how systems make assumptions about and create opportunities for teacher learning. Studies demonstrate that, although some form of a teacher learning continuum with preservice teacher education and continuous professional development exists in all systems, national teaching forces rely
on very different assumptions and structural arrangements to support that learning (Auguste, Kihn, & Miller, 2010; Barber & Mourshed, 2007; Ingersoll, 2007; OECD, 2011; Tattoo et al., 2012; A. Wang, Coleman, Coley, & Phelps, 2003). Fong Wang’s weekly school-based, department-based professional development, for example, contrasts markedly with the more limited opportunities available to Jamil. What is expected of preservice teacher education in some countries would be seen as only the beginning, and potentially the less significant phase, of teacher learning in others (see Paine, Fang, & Wilson, 2003).

The vision of good teaching that emphasizes learner-centered pedagogy and student diversity places significant demands on teachers. It asks teachers to transform their practices, practices that often reflect longstanding traditions of what have been locally seen as norms of good teaching. It expects teachers to carry out a new kind of instructional approach and possess an orientation to teaching that may have little material support in the school or community, as the examples of Jamil and Julius suggest. Yet even with the little support a teacher like Jamil gets in rural Tanzania, and in many other contexts around the world, the idea of “new” teaching has received policy attention. The new emphasis leads to a heightened attention to teacher development (both preservice and continuing education), a theme evident in the rising visibility of this topic in international research studies. We argue that this aspect of a vision of good teaching reflects globalization because the increased connection among scholars, the technology that supports penetration across borders and between policy centers and schools, the rise of international monitoring of educational achievement, and the growth of media and corporate discourses of teaching all make teacher development something that is now seen as appropriately understood internationally, cross-nationally, and/or globally. Correspondingly, after more than three decades of international assessments of student achievement, IEA decided to undertake a large cross-national comparative study of teacher education and development (TEDS-M). And, after launching large-scale comparisons of student learning in 1997, OECD introduced a line of research on teacher development/teacher learning (TALIS) in 2008.

Growing international interest in teacher learning and professional development. “Across the educational systems of the world, few issues have received more attention in recent years than the problem of ensuring that elementary and secondary-school classrooms are all staffed with adequately qualified teachers (Mullis et al., 2000; OECD, 1994, 2005; A. Wang et al., 2003)” (Ingersoll, 2007). The calls for new types of teaching tend to support calls for new types of teacher learning. Although some documentation suggests that learner-centered teacher development work supports teacher transformation, research also provides much evidence for how uneven teacher development practice is and how limited its impact is (Ginsburg, 2009). Surveying research on teacher development in the context of these globally circulating norms of good teaching, we uncovered three strands of inquiry and argument.

First, an increasing number of policy reports and empirical studies focus on the importance of teacher development, teacher education, or professional development in the construction of a strong teaching force. In these discourses, the issue of teacher learning has increasingly been constructed by and through comparison—in particular, in relation to “high-achieving” countries; see, for example, How High Achieving Countries Develop Great Teachers by Darling-Hammond, Wie, and Andree (2010):

The highest-achieving countries on international measures such as Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) have been particularly present in international and national policy documents as well as in policy-oriented research.

A second, related pattern in the discourse on teacher learning is to situate it within a discussion of teaching for the knowledge society (Hargreaves, 2003), with the implication that teachers need support to be able to gain the capacities and knowledge needed to teach in a “new” kind of situation. As Hargreaves (2003) argues, being clear about the (particular) vision of teacher learning is important because orientations to and practices of teacher learning vary across contexts. These studies envision and construct teacher learning as professional learning in community. Often, researchers turn to selected international experience (such as lesson study in Japan or the Learning Community Project in Mexico; see Rincon-Gallardo & Elmore, 2012) as an example of or to argue for such a course of action.

A third strand in international research constructs teacher learning as part of an argument about how to respond to the problem of teacher shortages and/or poor quality teachers. Although literature from the first two strands tends to come from the global North, more writing from or about the global South focuses on this third issue. Many researchers comment on the poor quality of teacher...

The rise of Teach for All, modeled on Teach for America, which brings college graduates without teaching credentials to low-income and underachieving schools, reverses the trend of selection rather than training. Teach for All, which is the international network located in 34 countries, is based on the principle that extensive teacher preparation is not essential (Beck, 2010). Yet many global reports refer to findings that suggest that “top-performing” countries achieve their educational outcomes by having “quality” teachers. They advocate recruiting and retaining the “best” teachers (Auguste et al., 2010). Correspondingly, a 2010 McKinsey report focuses on the issue of attracting teachers and pays little attention to their preparation (Paine & Zeichner, 2012).

Yet the international construction of good teaching found in much of the research literature and in documents from international organizations points to the need for teacher education. In fact, the Global Monitoring Report includes issues of teacher development as central foci. The World Bank lists two of eight priority goals as related to teacher improvement (one focused on preservice, one on in-service teacher improvement).

Framing teacher learning through identifying patterns of similarity and difference. Recent academic scholarship has often examined teacher development in terms of its response to global pressures. Fewer, but some, studies have explored differences in local implementation (“glocalization”) or local alternative approaches (J. Li, 2011; Suzuki & Howe, 2010). Case studies have dominated; salient themes include Europeanization, traditionalism, modernity, international aid relations, neoliberal economic policies, and preparation for a knowledge society (Kubow, 2011). Gardinier (2012) offers a microview of two teachers and their practice in Albania, one example of what is often portrayed as a tension between change and continuity. These studies often frame issues of teacher development in terms of tensions: between local and global forces, modern or reform-minded and traditional practices, attention to theory and practice.

International research allows the research and the policy communities to recognize wide variation in approaches to support teacher learning (Britton, Paine, Pimm, & Raizen, 2003; Darling-Hammond & Lieberman, 2012). The spread of research on teacher development across national settings also creates possibilities for ideas to be taken up elsewhere. For example, lesson study is a traveling idea, although not one formally mandated by states. Research by scholars in the West (Fernandez & Yoshida, 2004; Lewis, Perry, & Murata, 2006; Lewis & Tsuchida, 1998; Stigler & Hiebert, 1999) introduced to the United States a practice widely known in Japan. Now Germany, Sweden, Singapore, Indonesia, and other countries have growing communities of practitioners engaged in and researchers studying lesson study as a tool for teacher learning. Its movement/circulation, as well as its transformation in individual places, illustrates patterns that Appadurai’s (1996) frame suggests. Hong Kong researchers, collaborating with Swedish ones, proposed a modification and coined the term learning studies. An international organization (the World Association of Lesson Studies, or WALS) was created in 2006, and by 2013 it included more than 1,100 members from more than 20 countries. WALS holds annual conferences and publishes a journal (The International Journal for Lesson and Learning Studies) that serve as platforms to support exchange of ideas. WALS is supporting the translation of key lesson study texts in Japanese into English (such as studies by Manabu Sato and Kiyomi Akita).

The global (“world”) quality of WALS’s identity also gives force to local educators who see an international association’s presence as adding energy or legitimacy to the work they are attempting, an example of “externalization” supporting local initiatives (Schriewer & Martinez, 2004). When conferences were held in Sweden, Singapore, Brunei, and Hong Kong, not only did host organizers want international participants to “see” local lesson study work, they also made efforts to bring in local policy leaders, academics, professional developers, and teachers to witness international “experts” argue about good teaching and teacher learning.

The WALS example reminds us that although there are many approaches to teacher learning, global connections work in ways that can validate or give visibility to some more than others. Discussions of teacher education and teacher learning are often constructed through a particular, U.S.-dominated lens. In a review of recent publications in the International Journal of Teaching and Teacher Education (TATE) for which they served as editors, Hamilton and Pinnegar (2013) found:

The research literature that informs teacher education appears to be dominated by ideas from American researchers and therefore the language and concepts and ideas about teaching and teacher education that are taken up by other countries and cultures and appear in the discourse of teacher education within those other countries and cultures. However, meanings vary and shift and become part of the discourse about teacher education within that culture. Clearly,
other international communities produce relevant and interesting research that is potentially applicable to the education context within the United States. However, American researchers do not routinely take up the concepts and ideas that emerge from such research and therefore it does not become part of the discourse on teaching and teacher education within the United States. (p.113)

Although that problem is not insignificant (and one to which we return in the final section of this chapter), the recent period of research on teaching and teacher education has produced a rise in ambitious international efforts to discuss and make sense of teacher learning as well as an increased interest in teacher learning.

International research on teacher education; teacher education as a "global" concern. The increased interest in teacher education and teacher learning as a key aspect of the norms of good teaching links to the need for more international scholarly focus on teacher development. In 2001, Baumert critiqued work that is international yet ignores teacher learning, what he describes as "conceptual gaps" in the program of PISA inquiry: "No account is taken of teachers' professional background, declarative knowledge, belief systems or motivation, or indeed of their procedural knowledge and professional action" (p. 8).

The development of the IEA study TEDS-M, focusing on education of primary and lower-secondary mathematics teachers, reflects the growing effort to study teacher education internationally. The role of TEDS-M can be seen as a reflection of the growing multicountry research construction of teacher education as a subject of study. Note how the study's final report explains the motivation for the study:

The impetus for TEDS-M, conducted in 17 countries\(^\text{10}\) under the aegis of the International Association for the Evaluation of Educational Achievement (IEA), was recognition that teaching mathematics in primary and secondary schools has become more challenging worldwide as knowledge demands change and large numbers of teachers reach retirement age. It has also become increasingly clear that effectively responding to demands for teacher preparation reform will remain difficult while there is lack of consensus on what such reform should encompass and the range of alternatives continues to be poorly understood, let alone based on evidence of what works. In the absence of empirical data, efforts to reform and improve educational provision in this highly contested arena continue to be undermined by tradition and implicit assumptions. TEDS-M accordingly focused on collecting, from the varied national and cultural settings represented by the participating countries, empirical data that could inform policy and practice related to recruiting and preparing a new generation of teachers capable of teaching increasingly demanding mathematics curricula. (Tatto et al., 2012, p. 17)

The study emerged from what is seen as new "worldwide" vision and changing demands on teachers (of mathematics); the solution to the challenge this vision poses is gathering data that allows the education community to look not only within, but also across countries:

Two particular purposes underpinned this work. The first was to identify how the countries participating in TEDS-M prepare teachers to teach mathematics in primary and lower-secondary schools. The second was to study variation in the nature and impact of teacher education programs on mathematics teaching and learning within and across the participating countries. (Tatto et al., 2012, p. 17)

TEDS-M's creation illustrates the importance that researchers, international organizations, and policy makers now give to comparison in the discourse of teaching and improving and developing teaching.

TEDS-M is a landmark effort to discuss teacher education internationally using shared language and empirical data based on nationally representative samples. The findings speak to a range of issues—teacher knowledge, teacher beliefs, and the policies of and curriculum for teacher preparation. In this section, we summarize the results to display the variability of teacher education outcomes across countries.

Prospective primary teachers from Taiwan achieved the most favorable mathematics content knowledge (MCK) result of all of the countries participating in the TEDS-M primary study (Blömeke, Suhl, & Kaiser, 2011). The difference from the international mean was large—more than one standard deviation, which, according to Cohen (1988), is a highly relevant difference. The achievement of primary teachers from the United States was slightly above the international mean and roughly on the same level as the achievement of teachers in Germany and Norway. These groups of future teachers reached significantly lower performance levels than Swiss and Thai future teachers. If we take into account the Human Development Index used by the United Nations in order to indicate the social,
economic, and educational developmental state of a country, the high performance of teachers from Russia and Thailand is striking.

Regarding mathematics pedagogical content knowledge (MPCK), the achievement of prospective primary teachers from the United States was roughly on the same level as the achievement of teachers in Norway, which was significantly above the international mean. Future teachers from Singapore and Taiwan outperformed their U.S. peers. Whereas Singapore was behind Taiwan in the case of MCK, these countries were on the same level in the case of MPCK. Regarding MPCK, Norway and the United States were only half of a standard deviation behind the two East Asian countries, whereas this difference reached one standard deviation with MCK.

Prospective lower-secondary teachers from Taiwan, Russia, Singapore, Poland, and Switzerland significantly outperformed teachers from the other countries regarding MCK (Blömeke, Suhl, Kaiser, & Döhrmann, 2012). If we take into account the Human Development Index, the performance of lower-secondary mathematics teachers from Russia and Poland is remarkable. Regarding MPCK, the achievement of future Taiwanese and Russian teachers was outstanding. The achievement of teachers from Singapore, Switzerland, and Russia was well above the international mean. The ranking of countries in TEDS-M was very similar to the ranking of countries in TIMSS (Mullis, Martin, & Foy, 2008), which allows a preliminary tentative conclusion that there is a cyclic relationship—with the option to improve student achievement by increasing mathematics teachers' professional knowledge.

Based on the TEDS-M results, countries differ with respect to the demographic background of their prospective teachers and the opportunities to learn they receive during teacher training (Tatto et al., 2012). Both the individual and the institutional characteristics levels influenced the acquisition of teachers' professional knowledge and thus explain the large differences among countries (Blömeke et al., 2012; Schmidt, Houang, & Cogan, 2012; Wong, Boey, Lim-Teo, & Dindyal, 2013).

**Gender effects.** Pronounced gender gaps existed by the end of teacher training in most countries, in particular with respect to MCK (Blömeke et al., 2011). However, the gender effect did not apply to all countries and not to the same extent with the MCK as with the MPCK; in Malaysia, female teachers outperformed male teachers. The MCK differences between male and female teachers were the largest in Poland. That several countries were able to avoid gender inequalities indicates that teacher achievement may reflect cultural patterns. Whether it is possible to generalize these findings to other kinds of teachers is an open question.

**Language effects.** Another background characteristic associated with prospective teachers' professional knowledge in some countries is their language background (Blömeke et al., 2011). In Germany, the United States, and Thailand, differences of high practical relevance occurred in MCK as well as in MPCK. The differences were always in favor of teachers whose first language matched the official language of instruction in teacher training. Thus, students with a minority background, speaking a different language at home from the language of instruction, were at a disadvantage. Nevertheless, the findings suggest that several countries (e.g., Spain) have been successful in avoiding differential language effects.

**Effects of opportunities to learn.** For primary teacher preparation and lower secondary teacher preparation, Blömeke and Kaiser (2014a) and Blömeke (2012), respectively, found no comprehensive core curriculum in either mathematics pedagogy or mathematics in use by any TEDS-M country. At the same time, these authors conclude that there was more homogeneity than they expected. In mathematics and mathematics pedagogy, certain topics were studied by most prospective teachers across the countries. Furthermore, a few profiles of opportunities to learn (OTL) in mathematics and mathematics pedagogy were sufficient to describe appropriately the curriculum across the participating countries. The dominant curricular philosophy across the TEDS-M countries was to provide OTL in basic university mathematics and a broad mathematics pedagogy curriculum that covered theoretical and practical topics of mathematics instruction.

The common topics and the low number of profiles may reflect internationally shared visions of what primary and lower-secondary teachers are supposed to know before they enter the profession. This result confirms a prior result from a comparative study on lower-secondary mathematics teacher training in six countries (Blömeke, Kaiser, & Lehmann, 2008; Schmidt et al., 2011). Its data indicate that specific OTL profiles may exist and that these may have been influenced by culture: in five countries, the multiple institutions where teacher training took place tended to cluster together with respect to the OTL offered, suggesting country-level agreement reflecting a cultural effect (Schmidt et al., 2008).

The OTL patterns were clearly associated with the knowledge level achieved at the end of teacher education across the TEDS-M countries. The level of OTL in mathematics and the emphasis of mathematics teaching practice were significantly related to higher MCK and MPCK (Hsieh, Lin, & Wang, 2012; Schmidt, Houang, and Cogan (2012) confirm these aggregated country-level results using within-country evidence. They show a significant relationship between teacher training and both MCK and MPCK. The
largest single effect produced by OTL was closely related to experiences with mathematics instruction. The importance of knowledge outcomes is revealed when we look at its relationship to further teacher characteristics (Blömeke & Kaiser, 2014a). Higher MCK and MPCK are in many countries positively related to an epistemological belief that the nature of mathematics is dynamic and that the teaching and learning of mathematics should happen in a learner-centered way.

TEDS-M, as a cross-national study of teacher education, reinforces a shared frame for viewing teaching, teacher knowledge, and teacher development. Its 17-country survey of teacher education programs, curricula, and teacher candidates' knowledge, beliefs, and opportunities to learn assumed that there is common agreement on crucial aspects and that this agreement could be validated through several procedures. National expert panels in all participating countries confirmed the content validity of the instruments for their specific context. In addition, measurement invariance was examined empirically and could be confirmed. This agreement influenced subsequent discussion of teacher education. The results of the study, and subsequent follow-up projects, spin-offs, and critiques of it, have been framed by these terms.

Teaching and teacher learning understood internationally through knowledge frames. TEDS-M was the first effort to assess preservice teacher knowledge (in this case, of MCK and MPCK) across countries (Tatto et al., 2012). As an international study, TEDS-M allowed researchers to examine teacher knowledge as influenced by OTL, where OTL included teacher preparation programs as well as national policy context. National program choices in this sense reflect particular visions of what teachers are supposed to know and be able to do in class, and how teacher education and professional development should be organized in order to provide the knowledge and skills necessary for the successful accomplishment of their professional tasks.

TEDS-M is but one illustration of the ways in which the global framing of a vision of teaching puts a spotlight on particular issues as well as ways teaching is understood in research and policy discussions. This body of work, and its movement across places, illustrates a growing interest in teacher knowledge. Correspondingly, a second major approach, the Knowledge for Mathematics Teaching (MKT) approach and framework (but not the measures) were used as the basis of research into teacher knowledge by scholars in settings as diverse as New Zealand (Burgess, 2009) and South Africa (Adler & Davis, 2006; Kazima & Adler, 2006), although this approach initially was not intended to serve as a cross-national approach. In addition to studies of practicing teachers, the framework has been used in studies of mathematical knowledge among Australian and Canadian preservice teachers (Butterfield & Chinnappan, 2010, 2011). Similarly, Forrester and Chinnappan (2011) studied 224 preservice teachers in a year 1 subject in for a Bachelor of Education Primary, drawing on the work of D. Ball and Bass (2003).

The growth of research on teacher knowledge and the influence of research (being taken up outside their original location) is evidence of how teaching can be constructed globally. Researchers worldwide pick research up, evaluate it on its usefulness in their local contexts, and apply it. In contrast to studies on student achievement such as PISA, where national policy makers typically are a driving force at the beginning, a large number of researchers pushed for TEDS-M to solicit information about how to support teacher learning (and through this, in the long run, student achievement); the impetus for TEDS-M came from the research community rather than via ministry-level policy discussions. The group of investigators leading the international study team included researchers based in the United States and Australia, but the study involved researchers from each participating country, connected through IEA. The growing tradition of research within one aspect of teaching (knowledge) speaks to the power of measures and the interest of the scientific community in them.

Yet we also note friction in different meanings given to what appears to be shared in understanding teacher knowledge and teacher education. Whereas only some differences exist across countries in how precisely to define MCK, for example, more differences are seen with respect to MPCK and to general pedagogical knowledge (GPK) or noncognitive teacher characteristics. How researchers frame the desired vision of teaching and what needs to be learned to be a competent teacher does vary. Not surprisingly, the TEDS-M test construction was highly controversial.

International studies thus reflect traditions of difference, despite the powerful influence of some models (such as MKT). For example, affective-motivational characteristics such as orientations and goals or metacognitive characteristics like self-regulation are in some studies supposed to be decisive teacher characteristics, whereas they do not get recognized in others. These differences in research methodology reflect differences in views on teacher outcomes, whether they are long term or short term, and whether they are focused on factual student knowledge or complex cognitive skills such as problem solving and student motivation.

As one Chinese scholar explains, the theoretical orientations toward pedagogy in China, although influenced of late by foreign (Western) ideas, especially trends from the United States, have developed largely within the qualification and socialization domains, with a primary concern for helping
students acquire disciplinary knowledge, skills, abilities, and attitudes deemed necessary for the political and economic needs of the country (Deng, 2012). A concern for person-making—in terms of the formation of the self or cultivation of the individual—is largely neglected or undermined in current theory and discourse on didactics. (Deng, 2013, p. 563)

Deng (2013) argues for more attention to the German didaktik tradition, but he, like Hopmann (2007), points out that this approach is both little understood in the English-speaking world and "under severe challenge... in the context of globalization, standards and accountability" (Deng, 2013, p. 572).19

The role of research in the construction of globalized norms of teaching. Research has played a significant role in shaping internationally the norms in and about teaching. Assessing teacher knowledge from a comparative perspective presents a methodological challenge. Research perspectives must be adjusted across borders and educational traditions. As the example of TEDS-M illustrates, international studies help make teaching and teacher education a "global" subject. But not only cross-national studies contribute to the shaping of global norms of teaching. To understand how teaching in the context of globalization has the unique patterns it does—in terms of convergence and divergence of norms—one must consider the role of research and researchers.

Globalization has intensified links among some communities, and this is certainly the case for the scientific community as a whole. The increasing flow of international graduate students to certain countries creates networks of institutional and personal connections.

Professional research associations serve as international networks, and some (such as AERA) have a powerful reach far beyond the national community they were initially designed to serve. Thanks to changes in transportation and technology, international conferences now further support the circulation of ideas. In addition, external funding for educational research provides the impetus for international collaboration—around research projects, workshops, book projects, and consultations. Step by step, certain ideas about education converge. The creation of World Education Research Association (WERA) in 2009 is one example of the increasing connection of researchers across boundaries. As its website (http://www.weraonline.org/) explains:

The World Education Research Association (WERA) is an association of major national, regional, and international specialty research associations dedicated to advancing education research as a scientific and scholarly field. WERA undertakes initiatives that are global in nature and thus transcend what any one association can accomplish in its own country, region, or area of specialization. Member associations work together to address such issues as building capacity and interest in education research, advancing education research policies and practices, and promoting the use and application of education research around the world." (emphasis added)

We note the significance of WERA's statement asserting the role of global initiatives, ones that include not only research, but also the promotion of particular ideas, policies, and practices as part of a global imaginary.

Conceptualizing educational research as including comparative perspectives is one dimension of this globalizing thrust. The rise, expansion, and increased interconnection of comparative education research societies worldwide are evidence of this. The World Council of Comparative Education Societies (WCCES), established in 1970, originally brought together five groups (four national societies and one regional one); by 2007 it comprised 36 member societies (Masemann, Bray, & Manzon, 2007; Ramirez, Meyer, & Lerch, 2014). Such a rise in the number of comparative education societies in countries and regions suggests the growing acceptance of comparative perspectives in educational research.

Not only broad education research communities, such as WERA, or ones that are explicitly comparative but not narrowly focused on teaching, such as WCCES, have strengthened ties between researchers engaged in research on teaching and teacher education. International journals and the World Association of Lesson Studies (WALS) illustrate that even within the smaller (but still large) set of education researchers focused on teaching, research exchange, collaboration, and connections across national boundaries and domestic policy, there is growing sense that there are visions of teaching and teacher learning that are shared internationally.

The "flattened" world allows more frequent contact among researchers based in different regions of the world. One potential problem of international networking is that it tends to be asymmetrical. Power relations and global flows

19The traditions of didaktik and didactique discussed in the English-language literature on teaching reflect, as Deng suggests, different conceptualizations of teaching and teacher knowledge than "pedagogy," "instruction," or "methods"—terms more frequently found in English language research on teaching. Each concept has boundaries that vary in the scope and breadth of what is within the focus. See Westbury, Hopmann, and Riquarts (2000) and Alexander (2000) for examples of efforts to characterize these evolving concepts in relation to Anglo or Anglo-American traditions of studying teaching.
result in certain ideas being circulated, certain sources of knowledge being validated, and certain framing of issues being authorized. Language is one issue, as English has become the lingua franca in much—but certainly not all—of the international education research community. Many education researchers around the world are publishing in English, often strongly encouraged by their governments and university presidents through institutional expectations and incentives systems. The Spanish-, French-, and Arab-speaking academic worlds and continental Europe are under pressure to adjust to this development; many small language groups and countries such as Scandinavia have already turned to the new model and are publishing in English. The dominance of English-language citation indexing mechanisms is an important factor here.

The TATE editors noted in their systematic review of manuscripts that regardless of country of origin, authors of research on teaching published in TATE most frequently cite American authors (Hamilton & Pinnegar, 2013). In a recent "global summit" on teacher education supported by the Chinese Ministry of Education, conference organizers invited editors from major U.S. and UK journals focusing on teaching and teacher education and arranged a meeting at which emerging Chinese scholars could present their work and seek help in finding ways to publish "internationally."

Chapman, Stolz, and Glushko (2011) argue that the U.S. and European pattern of dominance in research is changing in a way that reflects tilts in the geopolitical strength and role of other countries and regions: "While these countries remain dominant, . . . [rapidly] emerging economies, particularly in Asia, are increasingly the producers of scientific research" (p. 35).

Our review of research does not challenge this observation, but we do note that the institutions producing educational researchers still heavily skew toward the locations dominant before this development, and involve networks—personal and professional—developed over the past two decades. The power of dominant conceptual frames and language, and the authority of internationally recognized research, lead to a flow that means research, particularly from the United States and some parts of Europe, often is the referent, external warrant, or assumed starting point. This paradigm leads to international collaboration that may involve individual participants bringing different meanings to key ideas or terms in teaching (Vavrus & Bartlett, 2013).

Many researchers who write about globalization note the ways in which connectivity increases collaboration and shared understanding. Yet as Bartlett et al. (2013) document, a range of issues, material and political, affects the nature and interactions in the process of collaboration, and hence the knowledge and research constructed through that process. Whether it is a matter of access to a reliable Internet connection that affects email correspondence, familiarity with academic English and conventions of publishing in English, or assumptions about research, partners working in research studies that involve international collaboration may encounter challenges that affect the nature, intensity, and possibilities for jointly constructing knowledge. For their binational research teams of Tanzanian and U.S. researchers, Bartlett et al. (2013) argue that the mobility of the research team and funding posed constraints on the work, . . . [as did] challenges of timing, writing and communication, and power relations. These challenges do not diminish the benefits of collaborative research . . . rather, they indicate that research is profoundly social and thus reflects material and cultural differences that create tensions. (p. 177)

The educational research community internationally is not monolithic, and even within any national research community there is diversity. Analysis of research reminds us, however, that there are norms like the ones discussed in this chapter—reinforced by how research is organized and conducted—that connect the discourses of teaching across countries and that skew toward particular researcher communities, research approaches, and policy perspectives.

The tradition of "international" studies and publications that treat issues of teaching as national-level phenomena continues to dominate, whether in cross-national studies, which tend to have the nation-state as the major “bin,” or in handbooks on teaching or teacher education that are organized at the level of individual countries. The limitation with such resources is the tendency to see teaching as nested within national policy communities that are independent in constructing what teaching is. But teaching today is actually constructed through transnational and international discourses.

Researchers have played a crucial role in shaping the discourse about teaching due to their participation in transnational communication on the one hand and their confirmation of the high quality of research studies on the other. Researchers take part in international expert networks, with the exchanges resulting in a change and assimilation of various beliefs and value systems. The researchers then bring home ideas adopted from other countries. At the same time, researchers are able to analyze their domestic educational system with "fresh eyes" (Blömeke & Paine, 2008).

As renowned domestic actors, these researchers certify PISA, for example, as a highly sophisticated study so that it can be recognized by policy makers and the media as "approved scientific work" (Bieber & Martens, 2011).
Grek et al. (2009a) conclude—based on interview data from European and national policy makers—that even the OECD policy recommendations “are accepted as valid by politicians and scholars alike” (p. 25). In fact, with heightened communication among researchers, the blurred boundaries of research and policy, the commodification of education (and educational research products), and the rise of public–private partnerships, the possibilities for well-positioned individual actors to influence global conversations on teaching has increased (Steiner-Khamsi, 2013). Whether it is James Banks launching the Asian distribution of The Encyclopedia of Diversity in Education (to parallel the U.S. launch at Teachers College and the European launch at London’s Institute of Education) at a fall 2014 Hong Kong conference on multicultural education in East Asia, or Andreas Schleicher presenting PISA research findings in an effort to convince state school officers to learn from the experience of Singapore or Finland, research brings currency to transnational arguments about the world of teaching.

S. Ball (2012) demonstrates the powerful ways that such transnational networks of ideas and actors inform the policies, regulation, and control of educational activity within individual countries. Ball’s analysis of networking explores the ways educational research reaches internationally to shape arguments and provide justifications for the array of reform ideas found virtually worldwide. Although this analysis is not restricted to research on teaching, Ball’s work identifies the connections among and movements of key players (or significant voices) across platforms that blur educational research, policy, and entrepreneurial activity.

For our discussion here, the role of Sir Michael Barber in circulating what has become an often unquestioned set of arguments internationally is a particularly salient one: he believes that focusing on teaching (and investing in its quality) is central to national development and efforts at educational improvement (one key element of the oft-cited McKinsey reports on teaching). Barber has moved from educational policy in the United Kingdom to consulting (at McKinsey) to edu-business (at Pearson); at each step, he has used references to research produced in one place to support claims made from the newer platform. Pearson operates globally, combining the development and sale of curriculum and textbooks, assessment, professional development, and more. Upon his 2011 appointment as chief education advisor, Barber was described as leading Pearson’s world-wide research programme into education policy and efficacy, advising on and supporting the development of products and services that build on the research findings, and playing a particular role in Pearson’s strategy for education in the poorest parts of the world. (quoted in S. Ball, 2012, p. 127)

S. Ball (2012) and others see the ways in which research has come to fuel “transnational standardization” in international reforms, policies, and practices of teaching, part of a process of what Ball calls “Westernization” and “the wholesale commodification of education and educational processes” (p. 127).

Global informational flows encompass educational research. A company such as Pearson deals directly with national governments (such as China) and multinational agencies (such as UNICEF). Nonprofit agencies and non-governmental organizations (NGOs) infuse those flows with reports, publications, and briefs. An analysis of gray or fugitive literature suggests that the lines between research, advocacy, and business endeavors have become blurred.

Even though reports produced by the World Bank, Save the Children, and other NGOs suggest that their claims are based on data, data collection, and data analysis are rarely discussed, and these organizations rarely cite sources from academic literature, tending to rely on reports by other organizations. Even when reports are presented as research studies, questions arise as to whether their purpose is to advance knowledge or to defend a particular intervention that the agency specializes in. To justify their activity to funders, organizations must demonstrate the effectiveness and efficiency of their operations, and thus failures or unintended consequences are often downplayed or not discussed at all.

The blurring of research and policy becomes more evident as one examines discourses of governing teaching, in particular, the role of international assessment and standardized comparison. Research, argue Nóvoa and Yariv-Marshal (2003), contributes to governing through processes of “international spectacle” and “mutual accountability” (quoted in Grek et al., 2009a, p. 8).

Discourses of Governance and Accountability: (Re)constructing Teaching

A second major theme emerges in the review of teaching in the context of globalization that is parallel to the ways in which international discourses have converged toward shared norms. A dominant topic of research and policy talk about teaching worldwide focuses on viewing teaching through the lens of governance. Although this theme might be familiar within individual countries, international connections and transnational conversations give rise to a new understanding of accountability and governance.

In this section, we consider the pressures for accountability in teaching as a feature of globalization, consider standardization as a dominant trope, and explore the importance of comparison in that effort and the influence of research and dissemination in shaping teaching. We close by discussing how international teaching...
discourses involve "governance by numbers" (Fenwick, Mangez, & Ozga, 2014; Ozga, 2009) and the ways in which international actors participate in that discourse.

**Accountability and Standards**

One common pattern that emerges in looking at research on teaching in the context of globalization is a strong emphasis on accountability. Policy reforms are related to the broader idea—commonly shared by politicians and the public—that countries are competing internationally in an economic sense. Associated with that notion, and reinforced by neoliberal frames for understanding "quality," is a discursive shift from inputs to outcomes, where the measured "value" of the outcome is key.

Traditionally, countries used "input" indicators (what was put into the education system), such as financial investments, teacher salaries, and the content of school curricula or textbooks, to compare educational quality. They were not able to compare actual learning results other than using very distal indicators such as export success. When OECD launched PISA in 2000, the developed world (and, over time, many less-developed countries) could for the first time compare the "outcomes" of financial investments—producing a backlash in how policy makers view teachers and teaching. Once problems with K–12 student achievement were identified, countries wanted to address these problems—and the most effective way to do so was to look at predictors of student achievement that could be influenced by policy makers, preferably quickly. Policy makers may have only a limited chance to resolve the relationship of student achievement to social class (which is of utmost importance in many countries), but affecting "teaching quality" could be within their reach. It thus became a logical next step to look at teachers, teaching, and teacher education. According to the World Bank:

> [m]aking schools and teachers more accountable for results, especially student learning outcomes, has become a central challenge for education policy makers in both developed and developing countries. The quantity and variety of policy innovations in this area has increased significantly over the past decade, with an especially striking increase in the developing world. (Bruns, Filmer, & Patiños, 2011)

The World Bank has been a significant actor in the international accountability movement. Using research reports, it defines problems and offers solutions. Consider, for example, Vegas and Umansky’s (2005) report, pointedly titled Improving Teaching and Learning through Effective Incentives: What Can We Learn from Education Reforms in Latin America? The authors suggest that "the majority of Latin American teachers are not accountable for what they do in the classroom or, more important, for their own students’ learning progress" (pp. 9–10). They analyze different approaches to reform and kinds of incentives and assess implications of reform experiences in Latin America to make recommendations about increasing accountability. These authors consider the mixed record of unions in support of teacher incentives, the importance of nonsalary benefits, and the need for the evaluation of performance-based systems to inform policy design.

International organizations and independent researchers alike have noted the significant rise in attention to issues of teacher accountability. Patrinos, Veles, and Wang (2013) argue that accountability is a key aspect of a new framework to support educational quality and that central to the idea of accountability are teachers. "Accountability reform also involves developing corresponding incentives and disincentives. The incentive schemes, when appropriately designed, ensure the fulfillment of the rearranged roles and responsibilities. Central to such schemes are incentives that link pay and/or tenure directly with performance" (pp. 11–12).

Considering a diverse set of national-level reform measures aimed at increasing teacher accountability, Tato and Plank (2007) identify patterns in Bulgaria, Canada, Chile, China, Germany, Mexico, the Philippines, and the United States that involve tightening control over teaching through curricular specification (instructional inputs) or accountability for specific student learning objectives (instructional outputs). Although Tato and Plank’s review points to the rising prominence of accountability agendas, no single vision of accountability emerges.

**Standards and Standardization**

As the theme of emerging commonalities on vision of good teaching might predict, the focus of standards has moved from standards for curriculum to standards in teaching focused on student outcomes. For example, there has been a shift in the evaluation of teaching in Argentina. Approaches for more than 100 years had focused on regulating teaching methods through the control of the curriculum and the role of principals and supervisors. Since national curriculum reform in the 1990s, the focus has shifted to evaluating schools and teachers based on pupil assessment (Gvirtz & Beech, 2008, p. 25). Across countries there is much policy talk and growing research focus on this issue, sometimes framed as a solution, sometimes framed as a problem.

In Jamaica, for example, a 2001 white paper produced by parliament sets its goal to "devise and implement systems of accountability and performance management in order to improve performance and win public confidence and trust" (Gulpers, 2013, p. 41). One outcome has been the creation...
of a national inspectorate to assess education quality, including reporting on student tests and learning outcomes and “the effectiveness of teaching in supporting student learning” (p. 44). Student test scores as well as observations are considered. School improvement plans include defining targets for each teacher, with consequences (“corrective action”) for underperforming teachers and schools. Another dimension of the accountability-oriented reform direction is the creation of a licensing system. The approach involves the use of data from the national inspection, as well as teacher self-report, to ascertain whether a teacher should in fact be licensed, with the possibility for targeted support for underperforming teachers and, if there is continued lack of improvement, the removal of a teacher’s license.

The Argentinian and Jamaican reforms, although unique to their particular contexts, reflect some widely shared aspects: identifying and setting standards for teaching, holding teachers accountable to those standards, and doing so in ways that take student learning—often relying on standardized assessments—as key indicators of teaching quality. Such efforts involve an increased level of information to be gathered, more state interaction with teachers, and greater state control of teaching. Accountability includes consequences for teaching “success” and “failure.”

Research from many countries reflects the importance of standardization—both as a national policy effort and as a global trope. To understand the development of research on teaching and teacher education, we analyzed articles published in the Zeitschrift für Pädagogik, a leading education German research journal that publishes empirical studies as well as theoretical, historical, and reflective papers on teaching and teacher education. Our analysis reveals that in the first half of the first decade of the 21st century, empirical and reflective papers were published with about equal weight. Given that the Zeitschrift für Pädagogik self-identifies as a purely philosophical journal, this is a surprising result that may indicate a change in the journal’s identity. The trend in articles during the period examined reflects an increase from reflective-oriented to empirical papers (including a historical approach).20

Of course, an increase in the number of empirical studies is in itself not an indicator of the increasing importance of standardization. But within the area of empirical studies, the focus shifted over time from qualitative studies on teaching methods or peer interaction to quantitative large-scale studies on the relationship between teaching characteristics and outcomes (at the K–12 level as well as during teacher education). This increase in the number of studies using standardized assessments may be related to the larger discussion about education in Germany; during years examined, educational standards were implemented for the first time.

Similarly, in reviewing the Russian educational research journal Questions of Education (Voprosy Obrazovaniya, issued by the Higher School of Economics since 2004), we observed a recurrent and increasing attention to matters of standards and standardization. There was recurring discussion and debate about the importance of international tests and standards. Over the years reviewed, a rising number of articles were direct translations of international reports, including McKinsey & Co. reports, OECD studies, a World Bank report, and references to TIMSS studies’ link to teacher effects on student learning. In this sense, the discussion of standards connected directly to larger international efforts to create standards and standardized metrics for assessing and analyzing teacher effects on student learning and teacher quality.

Such discussions of standards and quality, as the review of Russian research suggests, does not occur only at a national level. Reports from the World Bank, OECD, UNESCO, foundations, corporations, and think tanks play a significant role in laying out a framework organized by the goal of creating metrics that make it possible to consider holding teachers accountable for the quality of their work and their impact on student learning. Bilateral organizations and NGOs also contribute to this trend (Ginsburg & Megahed, 2008).

The importance and use of standardized comparison. Since 1959, large-scale comparative studies on educational achievement have been carried out by countries all over the world. The IEA, a nongovernmental research organization with member institutions in 69 countries and a close relationship with UNESCO, was the first to introduce this idea. The objective of its studies on reading, mathematics, science, civics and citizenship, information literacy, and teacher education was to understand the effects of policies and practices within and across systems of education. The OECD (34 countries), the SACMEQ (15 countries), the Latin American Laboratory for Assessment of the Quality of Education (LLECE; 13 countries), and the Programme on the Analysis of Education Systems (PASEC; 15 Francophone countries in sub-Saharan Africa) regularly compare the educational achievement of their member countries. Such international studies have come to play a significant role in constructing teaching and in governing it through standardized comparison.

Indeed, standardized comparison, notes Steiner-Khamsi (2013), has become “the preferred mode of comparison in policy studies” (p. 1). But such comparisons do not necessarily lead to the same conclusions: research using

20The nomination of new editors with more empirical perspectives on educational research may reflect the same tendency in German education.
standardized comparisons is used to support widely different local arguments. The way in which PISA results, and the rise of Finnish education and its teaching, have been used by Japanese policy makers and reformers is a fascinating case in point (Takayama, 2010; Waldow, 2010). Conservatives and liberals may use the very same results as arguments for opposite decisions.

Although large-scale assessments have come to play an increasingly influential role in education policy debates, IEA’s long-term director, Wagemaker, stresses increasing role in education policy debates, the emergence of international assessments is reflected in a South-East African study on educational quality coordinators’ reasoning (Murimba, 2005), in which the expectations of policy makers did not match what can be done, based on prior studies such as TIMSS. A review of 54 high-quality empirical studies (out of 1,325 studies, including grey literature) revealed that policy objectives of international studies can vary from addressing concerns with respect to quality (most of leverage for policy measures (much less frequent). Nonetheless used by national actors—both policy makers and researchers—looking for simple relationships between research findings and particular policy outcomes can lead to misunderstandings about the nature of the research-policy linkage. Major policy initiatives or reforms are more likely to be the outcome of a wide variety of inputs and influences, while research is more likely to provide a heuristic for policy intervention or development. (2003, p. 4)

This difference between policy making and the results of large-scale assessment is reflected in a South-East African study on educational quality coordinators’ reasoning (Murimba, 2005), in which the expectations of policy makers did not match what can be done, based on prior studies such as TIMSS. A review of 54 high-quality empirical studies (out of 1,325 studies, including grey literature) revealed that regardless of whether an assessment is subnational, national, regional or international, data are used slightly more in policy agenda setting, policy implementation and monitoring and evaluation than in the creation of policies. This means that large-scale assessments have the least impact on the ways in which analytical and political options and strategies for education policies are constructed (i.e., policy formulation). (Best et al., 2013, p. 47)

The policy objectives of international studies can vary from addressing concerns with respect to quality (most prominent) or equity and accountability to the provision of leverage for policy measures (much less frequent). Comparative large-scale assessments such as PISA are nonetheless used by national actors—both policy makers and researchers.

Javier Lopez: A Middle School Mathematics Teacher in Mexico

Yucatán’s largest middle school is in Mérida. It houses Grades 7 through 9; Javier Lopez has been teaching there for 2 years. He also teaches in another middle school. Both are public schools, so he is employed by the state. The teachers’ union has extensive rights to participate in the selection process but, because Javier is a member of the union, he is unconcerned about this.

Javier has an employment contract for 42 hours per week. Of the 42 hours, 40 are spent in the classroom teaching; the remaining 2 hours are devoted to class preparation and grading. His day at Mérida typically begins at 7:30 a.m.; he teaches four afternoons and Wednesday evenings at the other middle school. There are no resources to build new schools and hire more teachers, so existing school buildings must be used to their maximum capacity. Teaching in two shifts makes Javier’s day long: he teaches eight periods a day and must drive quite a distance from one school to the other. He does not particularly enjoy the late shifts, as students are much less able to concentrate later in the day, but he needs to earn an adequate salary.

In the mornings, Javier teaches four eighth-grade classes in a row. He does not teach between 10:50 a.m. and noon, which is the lunch break, but there are other duties he needs to perform during that time. Today he supervises the student cafeteria. After lunch, he teaches one class of eighth graders. That period ends at 12:50 p.m., and then it is time for him to make the 30-minute drive to the other middle school for the afternoon shift, which begins at 2 p.m.

In the afternoons, Javier teaches all three grades of the middle school. On most days, he is finished at 4:30 p.m., except for Wednesdays, when his day ends after 8 p.m. The final period of each afternoon is devoted to the ninth-grade students, which presents some challenges. Because ninth grade is the last year of compulsory education, some ninth graders feel pressure to prepare for the national examination that will assess their achievement in Spanish and mathematics. Good results on the national examination are important if students want to continue schooling, and this exam will determine whether they will attend general upper-secondary, vocational upper-secondary, or technical secondary school. About half the students plan to complete their schooling at the end of ninth grade and are not really concerned about learning or the exam. Good results do not matter only to the students. Javier and his colleagues are encouraged to focus on student improvement, as Mexico has been working to increase its student achievement. At his school, teachers like Javier are aware that the PISA scores for Mexico improved greatly between 2003 and 2009 and that the policies of incentives are increasingly reflecting OECD and international discussions.
forms of governance. Among countries, resulting in recommendations. OECD late 1980s, cross-country studies did not receive much suggested eight strategies that countries should focus on OECD and IEA studies that have influenced research and economic development increased. At the same time the dimension of the studies is the way they have contributed conceptually by—again, in contrast to the IEA—suggesting inferences about the causes of some variations costs for the public sector in general and for education in educational developments led to a change during the particular grew, and requests for more accountability for public expenditures emerged. Launching PISA, the OECD created—in contrast to the IEA studies—a climate of competition among countries and started to frame the debate conceptually by—again, in contrast to the IEA—suggesting problem-solving strategies to policy makers and the public using what Knodel, Martens, and Niemann (2013) call "soft forms of governance.”

The OECD not only reported the pure "numbers"—as IEA had been doing for decades—but also made, in contrast to IEA, inferences about the causes of some variations among countries, resulting in recommendations. OECD suggested eight strategies that countries should focus on to improve their students' achievement (Bieber & Martens, 2011). These strategies include a focus on social and gender equity, and specific strategies such as decentralized school management (e.g., freedom of school with respect to teacher hiring and salaries) and a cooperative school structure rather than centralized control over resources and content (Schleicher, 2006). In addition, OECD recommended combining this freedom with centralized assessments systems and accountability measures (e.g., educational standards) and claimed that—as revealed by countries like Sweden or Finland—issues with larger within-country disparity could be resolved (Schleicher, 2006). Finally, OECD recommended strengthening educational research. No matter how meaningful these recommendations were, they exceeded the nature of statements possible based on cross-sectional studies such as PISA.

Subsequent studies carried out by OECD reveal that this strategy turned out to be very influential. Interviews with 548 stakeholders from the countries participating in PISA, with national representatives from 37 participating countries and 5 in-depth case studies in Canada, Hong Kong, Norway, Poland, and Spain, provided evidence that the impact of PISA had increased over time. In 2012, 31 out of 37 national representatives reported that PISA was at least "moderately" influential in their countries (Breakspear, 2012).

Policy makers at the national level were crucial in the increasing impact of PISA (Hopkins, Pennock, Ritzen, Ahtariou, & Zimmer, 2008). They requested more frequent use of the PISA framework and of its instruments in national assessments. Twenty-nine out of 37 national representatives described OECD's conclusions about accountability and national assessments as important lessons for policy makers, and 24 representatives indicated a direct impact of these conclusions on the country's educational strategy (Breakspear, 2012). Which parts precisely were implemented and how this happened differed by country.

The media covered PISA extensively. According to databases, 12,000 articles that mentioned PISA were published between December 2007 and October 2008 (Figazzolo, 2009). Twenty-eight percent of these articles used PISA as a reference to advocate reforms, whether the reforms were launched by conservative or liberal governments. The reactions to PISA differed by country (Linnakyla, 2006). Although many countries gave moderate coverages to PISA 2000, the media in Germany extensively

21The extent of how the representatives rated the national influence was not related to where the country came out on the PISA scale. Australia, the United States, and South Korea gave somewhat lower coverage (20–50 pages), whereas Switzerland, the United Kingdom, and Japan gave somewhat higher coverage (80–150 pages).
covered the country's mediocre performance (687 pages), while the media in Finland was barely interested in the country's superior performance (8 pages).

In a study based on 30 interviews with policy makers and stakeholders in England and Germany, Knodel et al. (2013) conclude that the difference between educational philosophies in Germany and certain OECD countries paved the way for PISA to have a stronger impact in Germany than in England. Whereas human capital had already come to be seen as decisive for economic prosperity in England and was the main objective of education (similar to the OECD paradigm), education in Germany had a long tradition of focusing on individual development by holistic education and social cohesion. The contrast between national and international educational paradigms was not sufficient to change educational policy, though. Policy makers and the media had to perceive the problem and pressure to address it as high. In this sense, the role of the OECD was "decisive" in revealing the weaknesses in student achievement and by framing the debate on the weaknesses of the German education system (Knodel et al., 2013).

A series of policy reforms followed the introduction of PISA, culminating in national standards and evaluation measures and increased support of language learning, all of which affect teachers and teaching (Ertl, 2006). Four major developments in Germany are indicators of the tendency to centralize education: (1) the introduction of national standards for student achievement as well as for teacher education (modeled on examples from the United States); (2) the introduction at certain grades of achievement tests common across federal states (modeled on tests in the Netherlands, Belgium, and Scandinavia); (3) the introduction of school inspections directed toward teaching quality and school administration (initially developed in the UK); and (4) the introduction of state-level centralized exams at the end of lower- and upper-secondary school.

Astonishingly, the recommendations of the OECD thus even managed to bypass potential vetoes by the otherwise very vocal states. Knodel and colleagues (2013) explain: "The replacement of the old ideas was a rather abrupt and rapid process" (p. 8). Denmark and Norway reported similar developments with the implementation of national quality assessment systems, including standardized tests and curricula (Baird et al., 2011; Egelund, 2008). Accountability and assessment mechanisms had been implemented in England a decade earlier. There, PISA was just another test, and the media did not give it significant play. The situation in the United States was similar: Six out of eight OECD recommendations had been in place before PISA, so the study did not provide new information and received no major echo in the media (Bieber & Martens, 2011).

The Finnish Ministry of Education and the Finnish media energetically downplayed (Linnakylä, 2006) its strong PISA results—in contrast to the overwhelmingly positive reaction all over the world to the country's achievement. Finnish policy makers had recently implemented a reform in which the number of lesson hours for mathematics, Finnish, and health education were increased, and they did not want to be challenged by evidence of the alleged quality of the recently reformed system. Reactions to PISA were subdued in Asia. Shanghai and South Korea used a reflective approach for learning from large-scale assessments such as PISA for decision making (Baird et al., 2011). But they nevertheless reported step-by-step changes as a result of PISA, as did Japan (Takayama, 2008).

Overall, many countries reported the implementation of national standards and accountability mechanisms for teaching during the five years following the debut of PISA. Systematic surveys reveal that policy makers justified these changes with reference to studies such as PISA. However, to what extent this relationship in fact existed is hard to say. In France, for example, the country had undergone educational "shock" in the 1990s in the context of the International Adult Literacy Survey (IALS). Baird et al. (2011) provide evidence that PISA results were used in France only for policy rhetoric to justify and drive reforms, for example, on grade repetition. Similarly, Takayama's (2010) study of Japan's response to PISA reminds us that the international study's rhetorical power may be more important than its link to particular reforms. Indeed, in Japan's case, reformers advocating different positions used PISA to justify their arguments.

With respect to highly regionalized countries such as Canada, Germany, and Switzerland, participation in PISA seemed to be linked to a strong national pressure for convergence (Baird et al., 2011) no matter how closely their educational philosophies were linked to OECD's philosophy. Defining the country as the unit of analysis implies a predefined norm of what is regarded an appropriate decision level. It puts pressure on regions and federal states, as well as on stratified school systems with different types of schools existing in parallel.

International comparisons have contributed to the movement away from local control to regional and even national control of teaching outcomes and educational monitoring in another way. The outcome assessments reveal great variations within countries—variations that negatively affect children (and their parents) from regions that are behind. The public, fueled by the media, often takes up this issue with requests to centralize the education system, as happened in Germany and some other countries. Canada, for example, introduced harmonized indicators for educational quality across provinces. In Switzerland, which exhibited a high level of interest in the PISA results, references to PISA led to an accelerated harmonization of structures, curricula, and standards across cantons, even
though the country included many who could have vetoed reforms (Bieber & Martens, 2011). Of the eight OECD recommendations, four were actively implemented with reference to PISA and only two were not addressed. In general, PISA provided legitimization for overdue reforms that had not been possible in the decentralized structure of countries like these.

Surveying the impact of PISA, researchers argue that the flow of data and conversations creates new (regional and larger) policy spaces (Grek, Lawn, Lingard, & Varjo, 2009b). Although international research affects national discourses of teaching, it also has the capacity to realign the boundaries of the "places" of teaching.

**TIMSS-IEA impact and the role of other large-scale assessments.** Compared to the impact of PISA and OECD, the impact of the IEA and its studies such as TIMSS and, later, PIRLS, CIVED is a different story. Whereas a major objective of the OECD studies is to ensure competitiveness of highly developed countries regarding basic cognitive skills, IEA—an organization with tight links to UNESCO—focuses on global equity and on complex measures such as civic education and attitudes, nonverbal reasoning, foreign languages, early childhood education and life skills, and context conditions such as the classroom environment, opportunities to learn, the use of computers in the classroom, video studies of classroom practices, and teacher education. In developing studies, IEA follows a bottom-up approach: Each country has a say in constructing the instruments. The cultural and developmental diversity of IEA studies is much greater than any of the OECD studies, and thus the need to reach consensus is a more sensitive and more difficult objective to accomplish. IEA intends to support evidence-based policy making, but puts more weight on its studies as research enterprises, enlightenment efforts, and understanding than on describing, benchmarking, and monitoring educational systems, as the OECD does.

Nonetheless, IEA studies contribute to the power of standardized comparison in the discourses and governing of teaching. If anything, that IEA historically has positioned itself as different from PISA means that the combined presence of both lines of studies—with different methods, different foci, and different reach and scope, but both speaking to teaching—normalizes the use of comparison through standardization as a means to achieve equity.

The first IEA research studies took place around 1960. IEA developed much of the methodological expertise necessary to carry out such studies, in particular in less-developed regions of the world, and continues to be a role mode. IEA work ranges from developing influential instruments, for example, with respect to background data, to developing advanced methods on how to scale and analyze data.

IEA studies affect different regions of the world than OECD studies. TIMSS has had a strong impact in Australia in terms of providing a new key index for educational outcomes (retention rates), the acknowledgement of a strong relationship between social class and gender and student achievement, and the effects of time invested on learning (Keeves, 1995), while in the United States, in terms of increased public awareness, its impact is seen in standard-setting or program changes (Raizen, 2002). Less developed countries were also influenced by TIMSS. Most of these countries received financial support through the Development Grant Facility of the World Bank to participate in IEA studies (Elley, 2002; Gilmore, 2005). Participation in such large-scale assessments requires huge investments to fund the international offices coordinating the study development and implementation and travel costs and meetings of the national research coordinators, as well as the national implementation of the studies. The World Bank awarded 18 countries grants to participate in TIMSS-Repeat between 1998 and 2001, including Bulgaria, Lithuania, Indonesia, the Philippines, Morocco, and South Africa (Elley, 2002).

IEA studies have influenced teaching through curriculum reform, rebalancing content, and encouraging changes in teaching methods. These studies attempt to align the outcome assessments with what is taught in schools. The target population of IEA studies is often the grade level, in contrast to the age group target of the OECD, and IEA analyses often take place in the national context by examining to what extent a country's intended curriculum is attained by students (Howie & Plomp, 2005). The outcome of these studies is often related to an increased likelihood that policy makers will "listen to those supporting new ideas for curriculum change and reform of teaching methods" (Howie & Plomp, 2005, p. 87), resulting in changes such as more precise descriptions of learning outcomes targeted, an increased focus on links of the curriculum to real-world situations, and the introduction of topics not well covered in the curricula such as probability and data. Changes often follow quickly after IEA studies in very diverse countries, and often the study produces an increased focus on mathematics and science teaching. TIMSS and TIMSS-Repeat, for example, have resulted in curriculum changes in almost every country immediately after a country took part the first time. Elley (2002) concludes that "it is unlikely that such reforms would have occurred without the galvanizing effect of the results of the survey" (p. 1). A large literature review indicates that most

2Wagemaker (2003) explains, "In countries as different as Iceland, Kuwait, New Zealand, Norway, Romania, and South Africa, TIMSS served as a catalyst for curricular review and change."
of the resources allocated after such international studies concern professional development, teacher education, and teacher recruitment and retention (Best et al., 2013).

IEA outcomes have made researchers aware of the need to take context into account because the nature of relations may be different in less developed countries as compared to OECD countries (Heyneman, 1986; Theisen, Achola, & Boakari, 1986). IEA features benchmarking with other countries on the same level of development, differences in student achievement related to the language of instruction, the group of students for whom the language of the test is not their mother tongue, and the reading achievement of minority groups (Gilmore, 2005). In Africa, for example, the results of studies following the IEA model, in particular SACMEQ, have revealed that problems found in less developed countries, such as teacher absenteeism or lack of classroom facilities, are almost non-existent in OECD countries (Nzomo & Makuwa, 2006).

IEA has been accused of colonializing less developed countries with methods appropriate in the developed world. The organization has responded by partnering with consortia from less developed countries and by implementing a systematic training approach specifically designed to enhance the assessment capacity in, for example, African and Latin American countries for which the World Bank provided grants totaling U.S. $7.5 million between 2005 and 2009 (Lockheed, 2010). A major impact of this expansion of international research has been the capacity building to evaluate educational quality, including the quality of teachers and teaching. UNESCO, IEA, and SACMEQ countries now provide extensive trainings in how to do large-scale assessments and consult with policy makers to disseminate the studies’ results. Murimba (2005) calls these trainings “the most potent” “form of policy development” (p. 95). Subsequently, the implementation of advanced technology and the request for accuracy in the process of designing and carrying out SACMEQ studies resulted in “a shift in organizational culture, with ministries’ policy makers placing greater emphasis on the role of information and its efficient management” (Murimba, 2005, p. 97).

A downside of this capacity building has been a significant brain-drain from the public to the private sector or to other countries.

How international studies help create the “world” of teaching: TALIS. Although PISA and, to a lesser degree, IEA studies such as TIMSS, PIRLS, and CIVICS have made possible comparison that has facilitated accountability reform in education, teaching has not necessarily been a significant focus of these assessments. Instead, teaching is one variable. With the OECD’s Teaching and Learning International Survey (TALIS), however, teaching is front and center. How TALIS defines teaching shapes much of the contemporary global discourse on the subject. TALIS highlights administrative and managerial issues in teaching, and with TALIS, teaching in effect becomes a problem to be managed.

TALIS collected self-reported data from 70,000 lower-secondary teachers and their principals in 23 countries (OECD, 2009, 2010c). Most of the countries participating in TALIS are members of the European Union. In addition, two American (Brazil and Mexico) and two Asian countries (Malaysia and South Korea), as well as Australia and Turkey, took part in TALIS. TALIS closed a research gap by examining how practicing teachers were trained, how they perceived their school environments, and how these characteristics affected their teaching quality. The objective was to identify typical relationships among teacher education, the school environment, and the teachers’ beliefs and instructional strategies. Teacher education and school environment characteristics were hypothesized to have effects on teacher beliefs that, in turn, may have differential effects on teaching practices (OECD, 2009, p. 163).

TALIS modeled the relationship among school management, teacher support, and teaching quality as perceived by lower-secondary mathematics teachers as a hierarchical model, assuming that the quality of school management significantly predicts the level of teacher support, which in turn significantly predicts teaching quality. The model was a good fit to the data (OECD, 2009). Thus, TALIS was able to support its leading hypotheses, which has considerable implications for the discourse on teacher quality: Administrative and instructional leadership of principals is important for high teacher quality. Teachers should not be regarded as individuals, but as part of an organization in which environmental characteristics are as crucial as teacher education outcomes.

In particular, TALIS shows that international data that support measures such as appraisal and feedback significantly contribute to the development of teachers and their job satisfaction (OECD, 2009). In addition, not only do teachers consider appraisal a fair assessment of their work, but appraisal has a positive influence on teacher satisfaction, how they perceive the quality of their work, and their development as teachers. Schools with pronounced instructional leadership tend to link teacher appraisals with teachers’ participation in professional development. Furthermore, various aspects of school leadership are significantly associated with teaching beliefs and practices that in turn are significantly associated with classroom disciplinary climate and teachers’ reported self-efficacy. Teachers report that the greater the emphasis placed on a specific aspect of their teaching in their appraisal and feedback, the greater the resultant changes in that aspect of their teaching.
This research may be regarded as a game changer in the sense that it suggests that the burden of improving education and student achievement is not solely on the teachers, but is a shared responsibility of school communities. TALIS recognizes the social dimension of teaching, appreciation, and support and places weight on the quality of leadership personnel. The focus of accountability and governance changes with this new notion—it is less on individual teachers and more on the institutional level of management of teachers and teaching.

**Reasons behind the growth of international studies.**

Studies such as TIMSS, PIRLS, and PISA are applied regularly every three or four years and in many countries all over the world. This stunning rise of international studies leads to the question of why this growth happened. Wiseman (2010b) provides different explanations for this, all related to the massive expansion of education systems. Whereas governments in the past were mostly concerned with compulsory education, now high-quality education has become "a fundamental indicator of national and systemic educational legitimacy" (p. xii) and even further an indicator of the level of "development and sociopolitical legitimacy" (p. xiii):

High and pervasive enrolment throughout a nation's school system is no longer enough to warrant status as an educationally legitimate and competitive nation. Instead, the advent of a global mass-educated community makes it symbolically important for national education systems to have high-performing students as well as universal enrolment. (p. xiii)

Although the focus on teaching—in both OECD and IEA studies—has been a relative latecomer to the topics explored in large cross-national studies, following initial work on student achievement and curriculum, teaching is now squarely within the purview of large-scale international assessments. And, although we believe that we must be cautious about ascribing direct links between such assessments and particular policy construction, as rhetorical tools that buttress arguments, inform policy debate, and help foster a global imaginary, these studies—and the presence of multiple and growing numbers of such studies—powerfully contribute to the governing of teaching.

An important actor in the context of international studies' impact on policy makers is the public media (Wiseman, 2010a). The coverage of rankings and the pressure media puts on policy makers is an underinvestigated factor that may affect "the perception and use of international test results more than any research or policy agenda from a university-based research group or national ministry of education" (p. xvii).

Studies and their use of international standardized comparisons, and the policy and media buzz around them, influence the funding and steering of research—in particular, the funding that comes top-down through research programs from governmental organizations and large philanthropic foundations, and less so the funding that is distributed bottom-up by research associations such as the National Science Foundation and its counterparts in other countries. It is important to note that even within the research that speaks back to these comparisons, the focus remains on international standardized comparison, rather than some other topic. In that sense, these cross-national comparisons frame the discourse.

**Participating in Global Discourse**

Actors such as philanthropists or policy entrepreneurs circulate global norms, discourses, and policy packages. These actors ride the wave of national anxieties over international assessment results and provide analytics, educational services, and policy recommendations. In international testing regimes, they often play an important role of transforming performance assessments into performance expectations and transpose systems of measurements into modes of governance. Although cross-country studies on student achievement certainly attract more attention from policy makers and the public than teacher studies do, there are examples of globally influential studies in this respect. In this section, we provide an example of one such actor who played a role in influencing educational policy making.

John Hattie is a psychometrician and professor of education from New Zealand who works in Australia. He specializes in summarizing educational research on what predicts student achievement through meta-analyses. The *Times Education Supplement* characterized Hattie as "the world's most influential education academic" who "has the ear of governments everywhere" (Evans, 2012). In his 2008 meta-analysis on teacher and teaching characteristics that influence student achievement, Hattie summarizes the effects of different classroom interventions. The *Times Education Supplement* claimed that Hattie had found "teaching's Holy Grail" (Mansell, 2008). Given this enthusiastic description and the global attention paid to Hattie's study, one must wonder how it has framed teaching and how it had impacted student learning.

Based on a sample of about 800 meta-analyses that included more than 50,000 studies and 80 million students, Hattie (2008) identified the impact of 138 school,
teacher, student, home, curricula, and teaching characteristics on student learning. Improving teacher–student interaction by providing feedback from and toward teachers and students, as well as using formative assessments and promoting students' self-assessment, were the most important predictors of student learning (besides a Piagetian teaching approach). Only 4 of the 138 characteristics had a negative impact on teacher–student interaction.

A 2015 Google search for "John Hattie" resulted in more than 10 million hits and a search for "visible learning" resulted in 300 million hits. In using a league-table type approach to present his results, Hattie (2008) addressed the media's need for easily accessible information. That he is not shy of devaluing others working in the field—for example, those who conduct teacher education, which he characterizes as "the most bankrupt institution I know" (Evans, 2012)—makes him even more attractive to the media. Furthermore, because he focuses on characteristics that can be changed, policy makers refer to Hattie's study because its recommendations provide a chance to do "something."

An often overlooked limitation of the study was that the model did not include a search for the family's demographic characteristics, such as socioeconomic background; it included only characteristics close to educational purposes, such as parental engagement or encouragement. Hattie provides a reasonable argument for this decision: "Those things are critically important but I can't do much about them" (Evans, 2012). Thus, he focuses on teaching characteristics that can be changed, for example, by training teachers differently.

Policy makers appreciate this approach because they can use the results to act in an evidence-based way and to work on situations where they can exert positive action. A meta-analysis can bring robustness to a finding by generalizing it across studies and thus across contexts. Hattie's (2008) main conclusion that, as a single measure, feedback in the classroom is a robust finding with respect to the cognitive achievement of students, particularly in mathematics. Still, it is astonishing how widely Hattie's results have been absorbed by policy makers and how widely he recommends this result to policy makers around the world, although he points out in his book that only studies published in English were included in his meta-analysis. One can easily imagine that the cultural context in non-English speaking countries may be so different that his findings are of limited validity.

In fact, Hattie points to such a limitation with respect to the role of school structure or stratification respectively. This characteristic has a negligible effect in the studies included in his meta-analysis, but Hattie provides a cautionary note by pointing to the limits of his country selection (Berger, 2012): Comprehensive school systems dominate in English-speaking countries, with the natural consequence that most of the variance in achievement exists within a school. The larger the differences among schools, the more impact structural characteristics of schools may have. Hattie is not sure that Germany fits into his model. He points to Poland as a case similar to Germany, where changes in the school structure, namely the removal of stratification, led to significant improvements in student achievement. However, the German media and German policy makers ignored that Hattie was not considering non-English-speaking countries or the effects of stratification, and jumped instead to the initial result that differing student outcomes must be the result of inadequate teacher training. Even well-respected journals concluded that the type of school does not matter much for student achievement (Spiewak & Rośniska, 2013) if at all.

Finally, Hattie's approach was to generate a single measure, the importance of "feedback in the classroom," across all the studies that could account for students' cognitive differences. For policy makers and the media, such an approach certainly eases the understanding of educational processes. The approach is described by Mansell (2008, n.p.) in this way: "If you could change one thing about the way our school system is run, what would it be?" However, confounding factors actually causing the effects found or interaction effects having the power to lead to higher improvements get overlooked. Examples of such confounding factors were the differential effects of student-centered teaching on student achievement according to differences in the level of cognitive ability, in the content taught, or in the class size—all of which we have evidence for from smaller intervention studies (see Brophy & Good, 1986; Desimone, Smith, Baker, & Ueno, 2005; Scheerens, 2001).

Another perspective that sheds light on the development of such simple minded solutions is the involvement of private companies, which contributed to the dissemination and influence of Hattie's (2008) argument. Education has grown into a lucrative market, as the numerous support materials for teachers and students witness and popular bestsellers such as Amy Chua's Battle Hymn of the Tiger Mother indicate. Private companies quickly set up websites around Hattie's work. In Germany alone, two were created that provide information on the core results of Hattie's studies, including news, interviews and discussions with him, additional materials, and other resources (http://visible-learning.org/ and www.visiblelearning.de). Hattie himself turned the results of his study into a program for professional development, creating Visible Learning Plus, a company that offers curricular products to ministries of education, schools, and other institutions worldwide. Hattie's career reflects the trend, described by Mahony, Hextall, and Menter (2004), of increasing private sector involvement.
in education even in core activities such as school management and supervision.

The example of Hattie suggests that comparative educational research has more of an indirect than a direct impact on policy by influencing how people think about certain concepts, providing alternatives, and challenging taking-for-granted assumptions (Ross & Genevois, 2006). Such comparative research can create pressure through the countries’ willingness to be involved in the race to the top and to undertake mutual adjustments. Bieber and Martens (2011) call this trend “voluntary convergence” through regulatory competition. According to this and other studies, researchers played a crucial role in fostering voluntary convergence because of their participation in transnational communication and their confirmation of the value of such studies.

**Governing beyond the single state.** Nation states are not the only governing actors. Researchers such as Hattie, no matter how influential, represent actors who can “govern” through ideas, supranational actors who have the power to directly influence a range of countries. “Europeanization” can be regarded as a subprocess of globalization. The Bologna Process is an example of governing teaching through norm-setting by supranational actors that demonstrates flows of ideas and how contestation and disjunctures are created by the growing influence of transnational policy processes.

Started in 1999, the Bologna Process provides a blueprint for higher education reform. The original goals of the process were to create a knowledge economy in Europe by 2010 and to increase the competitiveness of European higher education (European Ministers of Education, 1999), which would lead to an increase in fee-paying international students. The process started with six common objectives set for the participating countries and morphed into a sophisticated web of policies. The original principles introduced a common qualifications framework, the use of credit hours, a two-tiered system of degrees (bachelors and masters), and a diploma supplement recognizable across national borders. With each meeting, communiqués added layers to the process, identifying new priorities, such as market orientation (Fairclough & Wodak, 2008; Robertson, 2008) and student-centered approaches. Participation in the process is voluntary, but the “open method of coordination” along with mechanisms such as national reports and the work of the Bologna Follow-Up Group, ensures that Bologna policies are implemented and followed by the participants (Ravinet, 2008).

The Bologna Process is aimed primarily at higher education, but it intersects with teacher and teacher education policies in significant ways. It creates a field or a shared space where certain visions of “good teacher” and “good teaching” acquire a normative status. Teaching is constructed as a practice premised on universal values—the underlying assumption of the Bologna Process is that there are universal problems that have universal solutions. Addressing the impact of the Bologna Process on teacher education, Pavel Zgaga (2008), a signatory of the 1999 Bologna Declaration and one of its active proponents, noted the transformations required by the growing need for mobility and the changes in the global market:

In the modern period, the specific troubles people can encounter as they try to gain recognition of their qualifications in another system have provided ample evidence that the national character of education systems in principle contradicts the “universal” character of human knowledge, understanding and skills. On the other hand, today it seems that it also contradicts the “global” character of the economy. (p. 18, emphasis added)

In his review of the impact on the Bologna Process on European teacher education, Zgaga argues that participation in the process allows teacher education programs in many European countries to be upgraded to university status. He further suggests that the process has created possibilities for the professionalization of teacher education and the teaching force in many European countries. Zgaga's points resemble the assumptions that underlie the European Commission’s reports on teacher education (Commission of the European Communities, 2007) and on teacher competences and qualifications (Commission of the European Communities, 2005). Both reports promote greater professionalism in regard to teachers and teacher preparation. We must note, however, that, like other globally circulated reports, these reports suggest teachers carry the responsibility for student performance (Barber & Mourshed, 2007).

The push for teacher professionalism that the European Commission’s reports represent intersects and interacts with transformations in teacher education engendered by the Bologna Process. The Bologna Process creates “pores” in national boundaries for external influences on education. With its introduction, more educational spheres have become subject to a common European imaginary and governance. Research reports on teacher education in Europe often use the European Commission’s statement on quality teacher education (Commission of the European Communities, 2007) and its Framework of Teacher Competences (Commission of the European Communities, 2005) as reference points. The Bologna Process did not set out to transform K–12 schooling or the teaching profession, but it inadvertently kindled the imagination of actors to transform this sphere to serve the knowledge
The spread of the Bologna paradigm has facilitated the work of various professional networks and associations such as the European Teacher Education Network, the European Network for Teacher Education Policy (ENTEP), and the Association for European Teacher Education, as well as international cooperative projects, such as Identifying-Quality-Teachers (http://www.teach-qualitytoolbox.eu/home). The groups provide a point of diffusion of transnational knowledge and create a shared language about teachers, teaching, and teacher education. In addition, by facilitating common research projects and annual meetings, these groups contribute to generating consensus around transnational agendas. For example, ENTEP describes its vision as the formation of a European Teacher Education Area, a construct parallel to the European Higher Education Area envisioned by the Bologna Process, and the production of publications that identify ways to allow greater convergence of teacher education programs.

The role of these organizations and the research they produce is particularly significant in creating and circulating discourses of a "European teacher":

A European Teacher experiences the benefits of the European Union in part through easy mobility. This mobility encompasses studying abroad and learning languages as well as getting acquainted with other EU countries' cultures. He/she may seek employment in other countries and use exchange programmes offered by the European Union. This contributes towards the creation of a Europe of different languages and cultures, and nurtures cultural diversity as a vision for living together in the future. (Schratz, 2005, p. 5, quoted in Schratz, 2010, p. 21)

Schratz (2010) describes a European teacher as one who possesses competences necessary for teaching in the 21st century, knows current research, attends to social changes, and supports students in "becoming future generations of European citizens" (p. 99). Among frequently mentioned social changes is the growing diversity of European societies: Teachers' responsibilities in the changing world include meeting the needs of a heterogeneous student body. Apart from calling for teachers to take on social and cultural roles, these constructions identify teachers' responsibilities in the current economic climate: Teachers must provide high-quality teaching that will increase the human capital of the nation. Teacher responsibilities for the preservation of national identity or ethnic cultures are included in some of the writing, but they are often relegated to a secondary position. Discourses of care, value, ethics, spirituality, and critical consciousness are gradually disappearing from the construct of the European teacher.

This construct has developed in tandem with the Bologna Process calls for competence-based, research-based, and academically oriented teacher education. This trend has significant implications for transformations in national approaches to preparing teachers. Garm and Karlsen (2004) describe the impact of the Bologna Process on teacher education in Norway:

The strengthening of the academic tradition can in many ways be perceived as an impact from the new global economy. What is needed, according to this argumentation, are not more critical, reflective teacher students with analytical social sciences competencies, but teachers with basic competencies in subjects important for an expanding, competitive worldwide industry. (p. 741)

A more recent analysis of Norwegian teacher education echoes Garm and Karlsen's concerns and demonstrates that the narrow focus on teaching competences and skills eliminates character-building elements necessary for becoming a teacher (Munthe, Malmo, & Rogne, 2011). Although many observers view a greater emphasis on academic subjects, competences, and research orientation as a positive change, questions remain about the cost of constructing teachers as knowledge transmitters and knowledge consumers rather than as knowledge producers or ethical actors. Maguire (2002) underscores a contradiction in new teacher policies in the United Kingdom: Discourses of teachers' professionalism position teachers as targets of change rather than as collaborators in debating and developing educational policies. Thus, in addition to creating a shared discursive space, the Bologna Process has introduced mechanisms of governance over teacher education programs and the teaching profession that manifest themselves in streamlining the vision of a good teacher, standardizing teacher education curricula, and harmonizing expected competences and program outcomes.

The process has not received a uniformly positive response, however. Some writing on the Bologna Process is predominantly reflective, balancing the challenges of implementation and the conflicts with national standards (Petrov, Grudzinskiy, Shcherban', & Mashina, 2005) or arguing against the implementation of Bologna principles for the fear of cultural incongruence between the values promoted by the Bologna Process and the values embedded in the receiving societies (e.g., Neustroev & Savin, 2009). Among the published studies, three themes stand out: the push-and-pull between professionalization and a growing theory-practice divide; contradictions between celebration of convergence and fears of cultural elimination; and
conflicts over ambitious plans of reforms and a lack of financial provision. These themes demonstrate the struggles and the contradictions that supranational governance of teacher education through the Bologna Process has evoked.

Primary school teacher preparation is an area where the unintended outcomes of professionalization facilitated by the Bologna Process are most acutely felt in several countries. Prior to the implementation of the Bologna Process, a number of European countries employed various strategies for the preparation of elementary and secondary teachers. Teachers who worked with younger children were often taught in normal schools or teacher's colleges, whereas secondary teachers were more likely to be trained in universities. The European Commission report on quality teacher education (Commission of the European Communities, 2007) declared that teaching should be "a well-qualified profession." As a result, with greater European cooperation came a push to professionalize kindergarten and primary school teachers by moving the preparation of all teachers to the university level. This process—the universitization of teacher education—has been reported in France, Portugal, Slovenia, Romania, and Russia. Some researchers have argued that this is a step in an appropriate direction: Zgaga (2008) suggests that university preparation is necessary to meet the demands of the knowledge economy; Bauer and Prenzel (2012) contend that this move has made "European teacher education more academic, competence-oriented, and research-based" (p. 1642). This position reflects an understanding that institutions that prepared teachers outside of universities were practice-based and therefore did not reflect advances in disciplinary knowledge. The move to the university decreases the distance between research advances and the preparation of teachers; it also reflects an "upgrade" that elevates the status of the teaching profession and infuses teacher preparation with academic rigor (Bauer & Prenzel, 2012).

The move to universities has not escape controversy, however. Sacilotto-Vlasylenko (2013) reports that conflicts emerged when French universities opened teacher education programs. If, prior to the reforms, primary school teachers were taught by practice-oriented teacher trainers with extensive experience in schools, now university professors must carry that responsibility. Yet university culture is oriented toward research and theory building, which does not always match preservice teachers' expectations of their preparation or meet their needs for future classroom teaching. In Portugal, the implementation of the Bologna Process has entailed a move from an integrated model of teacher preparation, in which subject knowledge courses were taken simultaneously with methodology courses, to a consecutive model, in which the first phase is dedicated to subject knowledge preparation and the second phase focuses on professional practices (Flores, 2011), widening the theory–practice gap. The consecutive model fits Bologna requirements for credit hour allocations, but is perceived as detrimental for the rounded preparation of teachers (Kangro, 2004). Flores (2011) argues that the cost of this upgrade is the "fragmentation and a lack of articulation of its key components (mainly professional practice, which tends to be undervalued from an academic cultural stance)" (p. 467), a much weaker connection between schools and university teaching, as well as a growing number of "missing components" in teacher education curricula. In Russia, the elimination of multiple paths into teaching was perceived as a destabilizing force that damaged the flexibility and balance of the previous system (Trubina, 2005). Manolescu (2006) reports that the Romanian move of preschool and primary school teacher preparation to the university level has created tensions in the labor market because teachers with different types of degrees must compete for the same jobs.

Apart from eliminating multiple paths, the Bologna Process introduced benchmarks for credit requirements, producing different effects in different contexts. In Bulgaria, the number of credit hours for a teaching degree was reduced from earlier standards, leading to a loss of hours dedicated to subject knowledge courses (Bankov, 2007). In Germany, tighter regulations for the accumulation of credit hours resulted in the elimination of "peripheral" subjects, such as philosophy or history of education, from preservice teachers' educational programs (Blomeke, 2006). A similar process occurred in Russia, where teacher education curricula underwent significant "trimming" (Aydarova, 2014). These transformations reveal an irony in the professionalization agenda: Although teaching is expected to be a well-qualified profession (European Commission, 2007), in countries where teacher education programs previously placed high demands on their candidates or provided an expansive broad preparation, programs were reduced to meet the credit hour requirements of the Bologna Process, with potentially negative consequences for teachers' professional practice.

Another set of contradictions emerges between the celebration of harmonization or convergence and fears of cultural elimination. The Bologna Process provides mechanisms for streamlining and unifying teacher education structures. The TUNING project, started in 2000 to assist nations with the implementation of the Bologna Process, helps universities "look for points of reference, convergence and common understanding" (http://www.unideusto.org/tuningeu/). The TUNING project assists participating nations and organizations identify competences needed in different professional fields and design programs that will help students achieve necessary outcomes. The mechanism of standardization is indirect. But the list of competences
and suggestions for credit hour distribution points in the direction of expected similarity among programs.

In an environment in which ranking tables of international assessment determine the value of educational systems, teacher education models of high-performing nations become desirable forms. Jakku-Silvonen, Tissari, Ots, and Uusiautti (2012) compared educational sciences syllabi in Finland and Estonia and discovered that despite "additional measures to homogenize these curricula, there are still differences" (p. 271). The differences in approach were questioned based on Finland’s status in the international assessments:

These substantial differences bring out an interesting question about the teaching profession: what does it mean to have teachers with varying knowledge about the substance of education? Could this affect pupils’ learning outcomes at schools? This is an interesting question because Finland has been known as a country where variation between schools has been very low in international comparisons such as PISA. (p. 271)

Thus, the Bologna Process renders differences as problematic, and pressure to succumb to homogenization emerges.

Standardization and homogenization are not welcomed in all the participating countries. Kovtun and Stick (2009) studied interpretations of the Bologna Process at a pedagogical university in Ukraine. Teacher educators who participated in the study wanted to see change and reform but feared the consequences of the Bologna system. On the one hand, they claimed that a lack of physical resources in Ukrainian universities did not bode well for implementing Bologna principles that underscore students’ independent work. On the other hand, many teacher educators resented that the policies of standardization erased the accomplishments of the national system. Having to adhere to the Western system and realizing that the national system was not attributed much worth, many teacher educators resisted change. A similar process occurred in Russia, where even despite the fact that a leading pedagogical university adopted a two-tier degree system in the 1990s (for which it was branded by the media as a betrayer), faculty who work there describe the Bologna Process as not fitting the Russian mentality (Aydarova, 2015a; 2015b). Some of these cases reveal the perceived incongruence among standardization based on external values, national realities, and local contexts.

One final theme worth noting is the mismatch between the ambitious nature of teacher education reforms in the context of the Bologna Process and a lack of funding to support them. Kangro (2004) notes a reduction of "state-financed places" (p. 49) in teacher education programs in Latvia by 23% in two years, raising the question of why in the time of social change, when more demands are placed on the teaching profession, the state signals its lack of support. Harford (2010), based on her analysis of reforms in Ireland, showed that while papers on teacher education set the bar high for increased quality of teacher preparation but the government failed to provide funding to support those reforms. In France, the length of study for teachers was extended and the assignment of civil service title to preservice teachers was delayed. Because French teacher education is state-funded, this move allowed the government to save money both on students and on beginning teachers’ supervisors. The loss of the induction year in France, due to the Bologna degree requirements and teacher education reforms, led to a lower quality of teacher preparation and a higher attrition rate among preservice and beginning teachers (Saciolotto-Vasilenko, 2013). A decrease in teacher education applicants in Norway forced programs to make difficult choices about which classes could be offered and still maintain financial stability (Munthe, Malmo, & Rogne, 2011). In Portugal, severe economic conditions negatively affected both the context of reform implementation and teacher candidates’ motivation for joining the teaching profession (Flores, 2011). In Russia, teacher education programs receive the lowest per-student funding allocation among other specializations in Russian higher education, which Shubina (2012) describes as an assumption that “all you need to prepare a teacher is a blackboard and a wet cloth.” Decline in public funding in the midst of austerity measures has affected many educational systems, but the mismatch between the rhetoric of high priority ascribed to transforming teacher education to meet the needs of the 21st century and shrinking financial support for the reforms to produce desired results is striking.

The implementation of the Bologna Process in Europe demonstrates how supranational governance over teaching hinges on the construction of the teacher working in a changing and precarious world, needing to adjust and adopt to the demands of the new economy and society, and meeting the needs of students whose diversity has not been encountered within national boundaries before. The articulation of this construction was an important step in the process of changing national teacher policies and transforming teacher education programs.

It is important to note that empirical examinations of the Bologna Process’s effects on teacher education, or, more broadly, the impact of positioning teachers and teacher education within the scope of global governance, are relatively rare. Most of the available research relies predominantly on the analysis of policy or curricular documents; occasionally, studies incorporate perspectives from interviews with key stakeholders. There is room for explorations that examine changes in practices employed in teacher
education programs and the effects of new degree structures on teaching in schools and teachers' professional trajectories. With EU political structures becoming ever more fragile, questions arise whether the structures of supranational governance in education will weaken and whether the standardization that has been accomplished might be exchanged for other forms of educational structures.

**Governance Through the Control of Resources**

Ozga (2009) argues that the modern world has witnessed “governance by numbers.” The growing number and influence of international assessments and widely cited studies, along with the power of actors rather than individual state agencies, is part of this pattern. Drawing on comparative literature and 10 empirical cases of teacher reforms, Akiba (2013) argues that:

Teacher reforms around the globe are influenced by market-driven, neoliberal thoughts promoting accountability, standardization, and privatization (MacBeath, 2012; Robertson, 2012a). Literature reported that, among many factors, two factors seem to be influencing this global trend. They are (1) international reports produced by the Organization for Cooperation and Economic Development (OECD) and (2) international assessments that rank countries based on national average student achievement. (p. xxii)

Comparison thus acts as a form of governance (Grek et al., 2009a) that relies heavily on accountability, standards, and market ideas. Economic models underlie many accountability arguments. The economic dimensions are particularly clear in reforms, widely used across many countries, that involve increasing recruitment to teaching and efforts to increase efficiency in the teacher labor market. Observers note the increasing use of contract systems in hiring teachers (Chudgar, Chandra, & Razzaque, 2014; De Koning, 2013). There is also an increased attention to teacher performance pay and models aimed at improving effort and (hence, it is assumed) rewarding quality of teaching (see Carnoy, Brodziak, Molina, & Socias, 2007; Tato, 2006).

It is not news that resources affect teachers and their work. Much research has documented how teachers work in resource-dependent environments. In the context of today's globalization, however, economic resources are powerfully shaping who teaches, how their work is assessed, what its purposes are, and what visions of its practice are endorsed and encouraged. As globalization increases the knowledge of other systems, resources have come to be more important and to be shared in instrumental ways—becoming a means of making comparisons across systems. At the same time, as globalization processes cross national boundaries, support greater connection, and even bypass or ignore nation-states, resources sometimes flow more directly to teachers; economic support, incentives, and images of teaching come from outside a country through channels in addition to, or in place of, those flowing from a national ministry or national office.

Teaching in many places today and in the context of globalization is valued in economic terms—teaching is measured and hence understood with economic models. For example, the emphasis on teacher quality is—as discussed earlier—typically framed in economic terms: Its importance is justified by how teaching is seen as contributing to national economic competitiveness or economic development, or in terms of teacher quality being valued and rewarded economically through market incentives and bonuses. Indeed, the models increasingly used in policy circles to talk about teaching are models developed by economists, measuring teaching in metrics designed to understand it in terms of value added to student learning. We contend that teaching has become monetized.

The intellectual capital of economic models for assessing teaching is far-reaching, not housed within any one nation-state or utilized only in local contexts. Many observers argue that such models make possible clear-eyed analysis of teaching in ways not possible before. Others argue equally strongly that the frames of teaching that narrowly define it in resource terms, especially in economic terms, limit our imaginations and our capacities as societies to undertake the necessary improvements of education (Robertson, 2012a).

Certainly, money directly influences what happens in teaching and who does it in what ways. In addition, there is the issue of how the knowledge of teaching, and what teaching is for, is now more consistently, more widely, and more directly defined in economic terms and linked to notions of knowledge for economic value or teaching for the knowledge economy. Although the World Bank may be the most frequently cited for talking about knowledge societies, it is not alone in such framing (see Lauder, Young, Daniels, Balarin, & Lowe, 2012).

The introduction of a powerful economic framing of teaching means that in the current global context, nation-states as political entities are not the only actors, or even always the chief actors, regulating and shaping professional practice. A clear pattern across countries is the power of various economic actors to affect teaching. The World Bank has enormous influence on shaping teaching through policy-setting but its support to states for data collection and for the dissemination of ideas it advocates. (Akiba, 2013; Mundy & Manion, 2014). Corporate entities shape and influence teaching, whether in articulating visions of
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right to hire and fire teachers and reveal the tensions decision-making in public institutions (Davies &

International organizations, such as the World Bank, the OECD, and the IMF, have facilitated the spread of public–private partnerships in education around the world. Based on notions of the state's inefficiency and inability to provide high-quality educational services, public–private partnerships are allegedly able to provide educational ser­vices more efficiently, create competition to improve qual­ity, and be more responsive to innovation (Rizvi & Lingard, 2010). They take many forms, such as managing schools or school districts, delivering professional development or curriculum materials, providing building maintenance, and financing the building of facilities (Patrinos, Osorio, & Guaqueta, 2009). While the relationship between the state and the private sector depends on the types of services involved, public money is often used to pay for private sector services in educational institutions. Such services are rarely cheaper and often even more expensive. Verger (2012) observes that a decrease in costs that private partners occasionally bring comes from firing union­ized teachers and hiring nonunionized teachers at lower salaries. Steiner-Khamsi (2013) asks why governments would spend substantial amounts of public money to pay for private sector services and contends that it is likely that they do so because private sector actors appear to be above politics and act like neutral actors who have no agendas to pursue on the national stage.

The evidence for the success of public–private part­nerships tends to come from the very advocates of such models; that is, international organizations, policy entre­preneurs, and transnational corporations (Robertson, 2012b). Evidence that points to the challenges that such partnerships bring and their failure to meet the needs of the most disadvantaged tends to be discarded or ignored by the proponents of such approaches and by policy­makers (Verger, 2012). Some studies show that public–private partnerships bear results in providing learning opportunities, information exchange, and improved decision-making in public institutions (Davies & Henthshke, 2006). Although the evidence of how public–private partnerships affect teachers and their work is rel­atively scarce, some studies point to the precariousness of teachers' positions when private sector partners gain the right to hire and fire teachers and reveal the tensions that emerge when the private partners pressure teach­ers to meet accountability targets rather than focus on students' meaningful learning (Woods & Woods, 2005). Even though public–private partnerships are not solely responsible for the introduction of standardized assess­ments and accountability measures, these reforms often go hand in hand because they belong to the same ideo­logical moment and are packaged into a standard set of policies that are traded around the globe.

The reconstitution of teaching in this period of shifting resources is also influenced by the expansion of the private sector's role. Teaching is witnessing an expansion of private aspects—whether as private recruiters hiring teachers (within communities or from outside the country) or as teachers themselves becoming entrepreneurs in a shadow economy of private tuition (see http://www.periglobal.org/). Note the expanding shadow education and pri­vate services offered by teachers outside of school time, a growing phenomenon within and across countries. In cer­tain places, such shadow education transforms notions of teachers' lives, as teachers are encouraged to take on teaching work (such as tutoring) outside of their formal jobs to complement limited wages; in other places, it influences what teachers are held responsible for and can, at times, serve as grounds for criticizing the inadequacy of teachers, as critics argue that most of students' important learning occurs outside school.

The deployment of resources has fueled the changes that we witness in teaching: incentives to recruit teachers, bonuses to reward kinds of teaching performance, develop­ment assistance that introduces and defines teaching in a particular way. In addition, the resource competition associ­ated with and facilitated by globalization makes educa­tion something around which nations compete—and that competition has tended to narrow discussions of teaching to standard metrics that make comparison possible. In this regard, the qualities of globalization reflected in narratives of schools or education systems becoming "globally com­petitive" have influenced not just how teaching is measured but also, many argue, how it is defined and valued. Upon the analysis of World Bank reports, for example, Ginsburg (2012) notes that teachers are constructed as human capital or human resources that require investment, not as human beings who need community and support.

Another resource making the redefinition of teaching possible is information and technology. Theflatten­ing world described by Friedman (2005) produces quick transmission of ideas across distances, not only within a country, but also across countries. Learner-centered ped­agogy can be introduced and widely trumpeted in profes­sional development programs in Tanzania, China, and the United States thanks to the movement of ideas supported by online resources and professional development tools, Skype conversations involving NGOs and donor agencies, and quickly circulated PowerPoint presentations. Teachers
and school leaders in one setting can readily locate images of teaching, models of reform programs, and evidence to buttress arguments for the direction of change.

Our review indicates that regulation has been a key mechanism supporting the transformation of teaching in the public sector; as Imig and Imig (2008) and Ravitch (2010) observe, regulation increasingly tends to target public institutions, affording private sector providers greater freedom and flexibility. Regulation is a focus of much research on the transformation of teaching internationally, including regulation and governance through monitoring, policy prescription, and resource allocation.

Monitoring of teaching, particularly through the collection of data on teacher performance and student learning, has increased in most countries. Such data now allow decisions regarding evaluating teachers or redistributing resources to be made locally and within a national education system. It also allows nations to be compared in terms of their teaching and educational quality. The result is that, despite the policy decentralization that has occurred in many systems in the past two decades, governing agencies now penetrate classrooms; bureaucratic monitoring is made possible by metrics that have been created and are now widely used, by norms for viewing teaching in this way, and by a capacity and infrastructure that has been developed in many countries. In fact, some of the development of such capacity for data gathering is the result of prior international studies of education (such as the World Bank's involvement in funding the participation of poorer countries in TIMSS data collection). A focus on teaching that connects to measurable outcomes results from global and national regulation of the teaching profession and national systems of education.

Consider Systems Approach for Better Education Results (SABER)-Teachers, a data collection and policy evaluation project in 44 countries initiated by the World Bank in 2011 (World Bank, 2013b). The project incorporates several topical areas, such as early childhood development, education management and information systems, engaging the private sector, equity and inclusion, school finance, and teachers. SABER-Teachers "classifies and analyzes education systems around the world," "collects information on core teacher policy areas in education systems around the world," and "provides country reports and other knowledge products to promote improved teacher policies and teacher effectiveness" (emphasis in the original, http://saber.worldbank.org/index.cfm?index=8&tb=1).

SABER-Teachers focuses on policies related to teachers entering the profession, remaining in it, obtaining sufficient preparation, getting employed, receiving a certain workload and a degree of autonomy, undergoing professional development, being compensated for the work they do, receiving retirement benefits, and being monitored and evaluated (World Bank, 2011, 2013a, 2013b). In addition, it focuses on principals and the type of leadership they provide. Interestingly, a SABER working paper from April 2013 has an additional category that does not appear in the SABER-Teachers Brief (World Bank, n.d.): "teacher representation and voice" (World Bank, 2013b). Although the authors suggest that there is not enough direct evidence about how teacher unions affect student achievement and that the project seeks to fill this gap, the framing of the issue of teacher unions being responsible for allowing underqualified teachers to stay in the jobs demonstrates the antunion orientation of the project. Steiner-Khamsi (2012) suggests that SABER-Teachers presents "a negative image of teachers" and invites policy makers "to come up with reforms that police and sanction the masses of underperforming teachers and provide material incentives to a small group of teachers who perform well" (p. 15). Similarly, De Siqueira (2012) notes that policy goals selected by the SABER-Teachers project "completely disempower teachers and disqualify their work and careers" (p. 78).

It is important to consider the construction of categories for data collection, analysis, and policy evaluation. The SABER-Teachers framework document, What Matters Most for Teacher Policies (World Bank, 2013a), states that the categories come from research on teacher effectiveness, accountability, and performance-based incentives by Hanushek, Kain, and Rivkin (1999) and other like-minded economists—research that has been contested and challenged by some of the academic community in the United States and in Europe on the basis of assumptions, lack of peer review, and more. Studies conducted by Boyd, Grossman, Lankford, Loeb, and Wyckoff (2009), Grossman et al. (2010), Darling-Hammond, Wie, and Andree (2010), and others that raise important questions and challenge some of the policy solutions advocated by Hanushek et al. (1999) are brought into the conversation but are quickly counteracted by the World Bank study (2013a), which shows that these policies may not have conclusive results in the United States, but do so in other contexts. (For a more extended discussion of the World Bank's self-referentiality and selective use of evidence, see Klees, 2012.)

Clearly, all research requires choices to be made about what can and will be considered and what must be left out. Yet one can reasonably entertain several questions: Why these particular categories, what they afford and what they obscure, what might be the consequences for such a framing of teachers' work, and why alternative views and perspectives are dismissed. For example, SABER-Teachers categories do not include aspects such as belonging to a community of learners; drawing satisfaction from work; finding teaching and working in a school a meaningful occupation; collaborating with...
parents and having a positive impact on local communities; enjoying professional respect, prestige, and high status; feeling empowered and well equipped to participate in democratic decision-making, policy formulation, or research production (for multiple ways of constructing teachers and their work see, e.g., International Handbook of Research on Teachers and Teaching, edited by Saha & Dworkin, 2009).

Despite their potentially controversial origin, these categories play an important role in the SABER-Teachers project's cycle of information collection, policy analysis and evaluation, and knowledge dissemination. SABER sets out to collect and make easily available for comparison, examination, and analysis policy documents from all participating countries as they pertain to the key areas for creating high-quality teachers. Easy availability of such documents make these policies visible to the international community; yet the focus on predetermined categories deemed key for improving teacher performance obscures areas of teacher-related policies that may be indigenous, unique, and equally enlightening. But the project does not stop at providing access to the policy documents. It presents an analysis of teacher policies in different countries based on interviews with knowledgeable experts. The interviewers for data collection had to know the local language and English, but could not deviate from the standard protocol, something that may have foreclosed opportunities for observing diversity and multiplicity. The rubric for analyzing the results uses four indicators of how "developed" each category is: advanced, established, emerging, or latent. Users of the SABER website have access to reports, policy documents, and rankings—information on how different countries perform on different indicators that clearly demonstrates countries deemed to be high-achieving and those that are not.

The easy availability of rankings brings us to the stated objective for the SABER-Teachers project—to help improve educational systems; the intended consumer of the project results, findings, and data are "education stakeholders who can use this information in multiple ways." Here are the ways that this information and analytics can be used:

They [policy makers] can draw on the framework paper for an evidence-based global review of what policies matter most for improving teacher effectiveness. They can draw on the country report on their own education system for an analysis of how well their teacher policies are aligned toward achieving education goals. And they can use the data and reports on other teacher systems around the world to learn about (and from) the teacher policy choices made by other countries. (http://saber.worldbank.org/index.cfm?index=8&tb=1)

Note how the intention of knowing changed to the intention of transforming: performance on certain categories is no longer about simply those categories per se, but about "teacher policies [being] aligned toward achieving education goals." In this project, knowledge is used for shared goal setting, for streamlining activities that are meant to help nations achieve these goals, and for clear prioritization of goals and activities. This teleological, ameliorative function of steering policy makers and other consumers of data toward accepting the proposed solutions as givens and as desirable, necessary, and inevitable measures reveals the global governance over and through teacher policies (Robertson, 2012a). And even though the final goal is about learning what other nations are doing and are not doing, there are limits to the type of learning that can occur with a set of prefabricated narrow categories and a set of only four indicators representing stages of development.

Related to the governance of teaching is the rise of policy prescription. Internationally, the past two decades have witnessed a resurgence in policies focused on teaching—policies related to teacher education, licensing and credentials, professional development, and assessment (Akiba, 2013). Tools like the ones SABER provides can support this trend. The availability of international data makes possible new sources and new warrants for policy, reflecting the tightened links of globalization.

Who is doing the regulating of teaching in this era of globalization is noteworthy. Although in previous eras much of teaching was organized and regulated locally, at a state or provincial level, or by national policy actors, today teaching is influenced by nonstate actors and actors above the level of the nation-state. Numbers, and the use of research to offer models or justify positions, are a significant aspect of this process.

Implications for Research

Our review indicates that there is both growing global interest in teaching and a rise in the international and comparative study of teaching. Yet our review also suggests that, in the midst of a swift and impressive emergence of such scholarship, there are gaps in the literature and challenges in carrying out the kind of research that could inform new thinking about teaching in the context of globalization. Most notably, there is a need for more research that focuses on teaching as practice, not just teachers or their knowledge. Similarly, understanding of teaching internationally and comparative insights about teaching and teachers will benefit from work that helps researchers see beyond the current focus chiefly on mathematics teaching.

The processes of globalization make certain conventional foci of international scholarship on teaching seem outdated.
or too narrowly focused. For example, it is common to find handbooks or encyclopedias of teaching or teacher education organized alphabetically by country or region. More focused thematic inquiry into teaching is called for, both to deepen understanding generally and to avoid the pitfall of assuming that geography or national administrative units are the key determinants. Even the reliance on the nation as a unit of analysis limits the ability to explore processes, factors, and patterns in teaching and its reform; new research could consider regional issues and comparisons as well as examine the importance of supranational actors. Similarly, although much scholarship of teaching, especially in the international and comparative field, has focused on understanding teaching within educational systems, the relevant subjects for study are limited to that sector; the importance of the media and private enterprise in moving ideas and practices across national borders suggests that new landscapes need to be part of the mapping of teaching in globalization. We see the need for more attention to the role of media, networks, and corporate and private actors and their involvement and influence on teaching. Future research should examine more closely the consequences of how public–private partnerships transform the teaching profession and affect teaching practices.

Although these areas are underdeveloped in current research and are fruitful areas for scholarship, we also recognize that international research on teaching encounters many challenges. For new research to go beyond the current work, we suggest that the scholarly community needs to be mindful. For example, in our literature review, we noted the difficulty of engaging with and introducing frameworks from outside Anglophone research. In part, this difficulty reflects the linguistic limitations of researchers and argues for collaborative projects and dynamic networks that others have already begun to call for (see Anderson-Levitt, 2012; Vavrus & Bartlett, 2013). Language and access to materials cannot be underestimated as potential barriers to full engagement with scholarship outside one’s own turf. Of course, international collaboration brings additional challenges, ones that we and others (Vavrus & Bartlett, 2013) consider well worth the effort. Yet without new ways of finding ongoing and stable support that reduces burdens in international collaboration and on academic reward systems for scholars engaged in work (requiring long-term investment and start-up costs), calls for such collaboration can sound naive. Our review provides much evidence of the value of and need for scholars to build connections internationally that are truly reciprocal. Finally, much of the scholarship on teaching in the context of globalization falls too easily into two groups—that which is policy-relevant (and often supported by international aid organizations) and that which is critical of policy. Our review suggests the need for a critical engagement of scholarship with policy in ways that eschew such simplistic boundaries.

To pursue new lines of research in this global context, imagination is required, particularly regarding how we conceive of what does and does not constitute research. Expanding our conceptions will require engaging in a critical, reflective, and reflexive consideration of the Western norms of research, the ethics that they are built on, and the assumptions of how "new" knowledge is produced through the exercise of research (Shahjahan, 2011). Appadurai (2000) urges Western researchers to "be prepared to reconsider . . . their conventions about world knowledge and about the protocols of inquiry ('research') that they often take for granted" (p. 18), and we concur.

Acknowledgments

We thank our many anonymous reviewers, our chapter editor Kathryn Anderson-Levitt, and handbook editors Courtney Bell and Drew Gitomer for their generous critiques of our drafts. We are indebted to many colleagues and students who have offered their critical reading of parts or all of this chapter in its many forms and drafts, as well as having provided encouraging listening and important insights in conversations about the review: Gerardo Aponte, Inese Berzina-Pitcher, Madhur Chandra, Chen Xiangming, Brian DeLany, Najwan Saada, Yanping Fang, Seung-Hwan Ham, Heng Jiang, Eunjung Jin, Alyssa Morley, Takayo Ogisu, Thanh Phung, Kongji Qin, Iwan Sayhri, Jack Schwille, Dao Vy, Chris Wheeler, and Suzanne Wilson. Some individuals pointed us to data, readings, and information about teaching and its construction in particular locations or regions of the world: Beatrice Avalos, Fida Chang, Martial Dembele, Mustafa Demir, and Juma Mmongoyo. We especially thank Thanh Phung for assistance at many stages of drafting, locating literature, and critiquing text, and Brian DeLany and Andrew Masarik for bibliographic assistance. Any errors are our responsibility.

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