

Chapter 1

Five Eyes to Educate Global Citizens. The Need for a Useful Theory of Global Education



This book examines how to educate students to be globally aware, globally minded, and globally proficient. It explains why educating students as global citizens matters for students, for schools, and for the future of humanity. While a growing number of parents and educators understand the importance of these goals, significantly less of them act on that awareness effectively. This gap between awareness and action is rooted in a wide schism between scholarship on global education and practice. As a result of this gap, two disconnected strands of literature guide, or more appropriately provide insufficient guidance, to the field: academic literature and practical guides.

Much of what has been written on global education is long on explaining why it should be done, and what global education means and short on providing details on how to implement effective instruction. No doubt one reason academic conversations about global education can be protracted, is because there is contention regarding the rationale and definition of the core constructs of the field of global education. Some see it as a way to help people adapt to increasing globalization, while others as a way to help them challenge that process. Still others view it as a way to serve the needs of businesses as they integrate globally, and others as a way to educate students to advance social inclusion and human rights (Davies et al. 2018). As a result of this contention on what goals should be advanced by global citizenship education, the rich academic conversation about purposes is more limited when it comes to the details on the pragmatics of making these purposes happen in schools. This academic conversation about global education has been woefully disconnected from practice, with the voices of teachers and school leaders largely missing and with a very thin empirical base examining what works, for whom, in what context or with what short or long-term consequences. As a result, there is no theory or theories of global education which has visible connection to the practice of the enterprise.

Dissociated from these academic debates, a separate set of conversations more connected to the practice of global education happens in publications of various sorts and in guides to support the introduction of global education in schools, these do offer practical guidance to actually develop a global education program (Klein 2016; Longview Foundation 2008; OECD and Asia Society 2018; Tavangar and Mladic-Morales 2014; UNESCO 2015, 2017). In contrast to the academic scholarship which

has limited grounding in practice, these practical tools are almost exclusively about practice, with limited theoretical and conceptual grounding. These under-theorized and under-researched guides offer approaches which address partial elements of what it takes to transform the institutions of education, but lack the comprehensiveness and system perspective necessary to transform the culture of teaching and learning and are devoid of solid empirical evidence. The lack of an explicit theoretical foundation undergirding these guides of suggestions leaves those teachers and education leaders who want to use those generic tools and lists of activities with limited conceptual support to make sound professional judgments about how to develop a program of global education which is responsive to the particular needs and context of their students, their school and their community. Furthermore, the absence of a theoretical framework in support of these practical resources limits the ability to draw lessons from the application of these frameworks which can advance a theoretical foundation for this work.

As a result of this schism, the field of global education is missing a good theory, in the sense in which Kurt Lewin used the term in 1952 when he wrote “There is nothing more practical than a good theory,” (Lewin 1952, p. 169).

Lewin’s message was twofold: theorists should try to provide new ideas for understanding or conceptualizing a (problematic) situation, ideas which may suggest potentially fruitful new avenues of dealing with that situation. Conversely, applied researchers should provide theorists with key information and facts relevant to solving a practical problem, facts that need to be conceptualized in a detailed and coherent manner. More generally, theorists should strive to create theories that can be used to solve social or practical problems, and practitioners and researchers in applied psychology should make use of available scientific theory. (Vansteenkiste and Sheldon 2006, p. 63)

The purpose of this book is to bring together these two worlds of scholarship and practice, offering a theoretical multidimensional model of global education that places teachers, school principals, and other school-level actors at the center of defining what global education should be and how it should be done and which can support their professional choices with a systemic and comprehensive approach to developing programs of global education that are responsive to the needs and characteristics of specific schools and local contexts. To explicate this theoretical framework I draw on and synthesize a vast body of empirical scholarship and evidence, as well as on an analysis of the historical roots of the field. The book offers an intellectual approach to global education, as an attempt to professionalize a field more intentionally connecting scholarship and practice.

There are at least two reasons why teachers and education leaders may want to make global education a priority of the institutions they lead. The first is that doing so would help make what happens in school more relevant to the world in which students are growing up. The second is that in focusing on the adaptive challenge of making education relevant, educators will engage in practices of transformation that will also make learning and teaching more effective and engaging, for students as well as for teachers. Leading change to make education relevant is about leading educational change for a meaningful purpose. In other words, taking on the challenge of aligning instruction with a global set of goals can help revisit how we think of

teaching and learning with benefits for the entirety of the educational enterprise. Global education should not be seen as an add-on, as an additional mandate or aspiration that needs to be inserted into an already existing crowded curriculum, or that needs to be introduced in its own silo in the school. Instead, global education can be an integrative force of the entire curriculum, that can help bring together what is more often than not a fragmented curriculum, provide coherence and make visible for students how what they learn in school actually matters to their future. To lead this process of educational change effectively, though, educators will need to think systemically and multidimensionally about the process. As they do so, they will engage in systemic transformation that actually influences instruction, a goal which has eluded many reform efforts in the past.

Arguably, helping every student develop a sense of purpose, intellectual autonomy, and emotional maturity to have ideas about what efforts are worth pursuing, is one of the most important goals of education. Engaging students with real world challenges is a way to help them develop that sense of purpose. The results of a recent survey of 15-year olds conducted by the OECD reveal that many of them lack such sense of purpose, as seen in Table 1.1. On average, among OECD countries, one in three 15-year olds enrolled in school do not think their life has clear meaning or purpose, have not discovered a satisfactory meaning in life or have a clear sense of what gives meaning to their lives. Whereas in some countries four out of every five students see purpose to their lives (such as is the case in Panama, Albania, Indonesia, Macedonia, the Dominican Republic, Peru, Mexico, Colombia, Costa Rica, and other countries) there are other countries where only three in five students see purpose to their lives, such as in Japan, Taipei, the United Kingdom, Macao, the Czech Republic, Ireland, the Netherlands, Sweden, Australia, and others. Helping students develop a sense of themselves in the world would help them develop purpose.

While the desire to educate global citizens is not new, as will be discussed in greater detail later in this book, most schools around the world are not adequately educating students to be global citizens.

The United Nations and UNESCO, among others, have over many decades advocated for the importance of global education. Following its first report on the Future of Education, in 1974 UNESCO presented to all member states, the International Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms, which was adopted at the 18th General Conference of Ministers of Education (UNESCO 1974).

Additional impetus for the idea of global citizenship education was provided by the compact of development adopted at the annual general conference of the United Nations, in September of 2015, at which the governments of the nations participating embraced the goal of sustainable development, identifying seventeen goals and a series of specific targets, and highlighting the pivotal role education should play in the achievement of all other goals. The fourth Sustainable Development Goal “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all,” explicitly mentions global citizenship education as one of the goals of education for all in target 4.7:

Table 1.1 Students' sense of meaning in life

| | Percentage of students who agreed or strongly agreed with the following statement | | |
|------------------------|---|--|---|
| | My life has clear meaning or purpose | I have discovered a satisfactory meaning in life | I have a clear sense of what gives meaning to my life |
| Panama | 86 | 82 | 85 |
| Albania | 90 | 80 | 86 |
| Indonesia | 93 | 90 | 89 |
| North Macedonia | 85 | 81 | 86 |
| Dominican Republic | 85 | 79 | 82 |
| Peru | 87 | 83 | 84 |
| Mexico | 86 | 81 | 83 |
| Colombia | 88 | 80 | 83 |
| Kosovo | 89 | 80 | 87 |
| Costa Rica | 85 | 75 | 79 |
| Baku (Azerbaijan) | 84 | 76 | 82 |
| Kazakhstan | 88 | 77 | 84 |
| Philippines | 84 | 83 | 85 |
| Jordan | 82 | 73 | 82 |
| Thailand | 86 | 83 | 89 |
| Morocco | 84 | 74 | 82 |
| Belarus | 88 | 83 | 81 |
| United Arab Emirates | 80 | 74 | 78 |
| Saudi Arabia | 85 | 65 | 86 |
| Vietnam | 88 | 80 | 90 |
| Montenegro | 81 | 73 | 76 |
| Moldova | 85 | 74 | 81 |
| Bosnia and Herzegovina | 82 | 77 | 81 |
| Qatar | 76 | 72 | 77 |
| Romania | 79 | 74 | 74 |
| Lebanon | 72 | 68 | 77 |
| Switzerland | 73 | 71 | 71 |
| Chile | 75 | 67 | 70 |
| Croatia | 77 | 68 | 71 |
| Serbia | 76 | 68 | 73 |
| Austria | 69 | 65 | 70 |

(continued)

Table 1.1 (continued)

| | Percentage of students who agreed or strongly agreed with the following statement | | |
|-------------------|---|--|---|
| | My life has clear meaning or purpose | I have discovered a satisfactory meaning in life | I have a clear sense of what gives meaning to my life |
| Turkey | 81 | 64 | 66 |
| United States | 71 | 65 | 69 |
| Lithuania | 72 | 63 | 71 |
| Russia | 73 | 68 | 73 |
| Germany | 68 | 65 | 68 |
| Malaysia | 85 | 60 | 76 |
| France | 72 | 69 | 65 |
| Spain | 70 | 66 | 68 |
| Georgia | 78 | 61 | 75 |
| Korea | 67 | 65 | 68 |
| Portugal | 70 | 68 | 71 |
| Luxembourg | 69 | 66 | 67 |
| B-S-J-Z (China) | 77 | 57 | 71 |
| Brazil | 76 | 67 | 65 |
| Brunei Darussalam | 76 | 67 | 76 |
| Uruguay | 69 | 65 | 70 |
| Argentina | 71 | 58 | 72 |
| Finland | 66 | 70 | 71 |
| Bulgaria | 76 | 60 | 67 |
| Greece | 63 | 66 | 68 |
| Slovenia | 68 | 65 | 67 |
| OECD average | 68 | 62 | 66 |
| Ukraine | 76 | 53 | 68 |
| Belgium (Flemish) | 71 | 65 | 68 |
| Denmark | 62 | 63 | 68 |
| Hong Kong (China) | 69 | 64 | 67 |
| Slovak Republic | 66 | 59 | 66 |
| Malta | 66 | 63 | 67 |
| Estonia | 67 | 61 | 64 |
| Poland | 66 | 56 | 66 |
| Latvia | 64 | 61 | 65 |
| Iceland | 65 | 54 | 60 |

(continued)

Table 1.1 (continued)

| | Percentage of students who agreed or strongly agreed with the following statement | | |
|----------------|---|--|---|
| | My life has clear meaning or purpose | I have discovered a satisfactory meaning in life | I have a clear sense of what gives meaning to my life |
| Australia | 62 | 59 | 64 |
| Italy | 67 | 56 | 62 |
| Sweden | 60 | 57 | 63 |
| Hungary | 74 | 50 | 48 |
| Netherlands | 63 | 53 | 64 |
| Ireland | 60 | 53 | 60 |
| Czech Republic | 59 | 52 | 57 |
| Macao (China) | 60 | 48 | 56 |
| United Kingdom | 57 | 52 | 58 |
| Chinese Taipei | 64 | 43 | 52 |
| Japan | 56 | 41 | 40 |

Source OECD (2019d, Table III.B1.11.14)

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development. (UN 2020)

Over time, the development and dissemination of these ideas have caused governments to revise and expand national standards and curriculum. UNESCO carries out periodic consultations to member states to assess the extent to which the goals of the 1974 recommendation are reflected in education policies and in the curriculum. The most recent consultation, to which 83 out of 195 member states responded, reports improvements in implementing the guiding principles of the 1974 recommendation. Among the respondents, 68% indicate that these principles are fully integrated into education policies, and an additional 51% indicate that they are somewhat reflected. All countries report that the curriculum includes goals reflecting peace and non-violence, 99% include human rights and fundamental freedoms, 96% include cultural diversity, and 99% include environmental sustainability goals (UNESCO 2018, Fig. 6). The same survey shows that there is a disconnect between the inclusion of these goals in the curriculum and the extent to which they are also incorporated in teacher education programs. Only 19% of the countries report that these goals are fully integrated in teacher preparation programs, and an additional 93% indicate that they are only somewhat integrated (UNESCO 2018, Fig. 13).

An in-depth analysis of policy documents in ten countries with an expressed commitment to Education for Sustainable Development and Global Citizenship Education undertaken by UNESCO, revealed that in all these countries there are abundant

references to both of these concepts, and that they are expressed in terms of cognitive, socio-emotional, and behavioral dimensions (UNESCO 2019). In the documents examined in these countries—Costa Rica, Japan, Kenya, Lebanon, Mexico, Morocco, Portugal, Republic of Korea, Rwanda, and Sweden—there were almost twice as many references to Global Citizenship Education (representing about 60% of the references) than to Education for Sustainable Development (representing about 30%) across national laws, strategic plans and policies, national curriculum frameworks, programmatic documents, and subject-specific curriculum. These references were present across various subjects in the curriculum, and the emphasis on cognitive dimensions, relative to socio-emotional and behavioral, increased in secondary education (Ibid).

One reason many past attempts to include global education in the curriculum and to translate those broadened aspirations into actual instructional practice have failed is because they have been short on details that could guide implementation, as if simply by wishing that education were more global it would become so. Advocacy, even if successful in persuading teachers and principals that they should teach students about the world, is woefully insufficient to provide guidance on what to do differently in the classroom. Another reason previous attempts have failed is because they have been partial and fragmented, ignoring the system of interdependent components which sustain the culture of education. A global education curriculum is not self-executing; it is unlikely to change instruction if it is not accompanied by the necessary support for teachers to develop the necessary skills to teach it, or by the necessary support from school leaders and parents, or if it does not address how it will be integrated into the other demands for students and teachers use of instructional time. A systemic approach to global education has been lacking in much of what has been attempted to date. It is no wonder that such efforts have lacked stickiness to endure or the capacity to scale.

These challenges faced by efforts at making instruction more global are not unique to global education. Much of the pre-existing knowledge about the results of efforts to change the curriculum and to transform instruction, often based on the study of experiences in the United States, argues that educational institutions have changed very little, that they are refractory to attempts to change them, and that many reforms fail at transforming the basic grammar of schooling (Tyack and Tobin 1994; Tyack and Cuban 1995; Olson 2003). Richard Elmore's conclusion about why most education reforms in the United States have failed to influence instruction illustrates this perspective:

a systemic incapacity of U.S. schools and the practitioners who work in them, to develop, incorporate and extend new ideas about teaching in anything but a small fraction of schools and classrooms. This incapacity, I argue, is rooted primarily in the incentive structures in which teachers and administrators work. (Elmore 1996, p. 1)

Such failure of many past attempts to transform instruction, including attempts to introduce global education in the curriculum, is the predictable outcome of relying on a limited set of mental models about how schools work and change. Using a multidimensional model to guide efforts to advance global education is likely to

produce better results because education systems are multidimensional. Education institutions do not change because a teacher brings a new lesson, or a new set of lessons, or even a new curriculum. The way in which those changes ultimately transform the culture of education, what Elmore has called the *instructional core*, or what Tyack and Cuban have called the *grammar of schooling* is as a result of the interactions between those changes and the other conditions present in school, including other instructional demands and priorities, teacher capacity, parental and student expectations, and assessments. To produce change we need to consider these elements of the institutions of education. But effective change requires more than thinking systemically about schools as institutions. A comprehensive model must reflect the multidimensional nature of the education enterprise, addressing global education from a cultural, psychological, professional, institutional, and political perspective.

It is as a disciplinary and methodological requirement that the study of the process of educational change has focused on a limited set of constructs and explanations. But just because different scholars have approached the process of change as either a cultural, or psychological, or professional, or institutional or political object of study does not reduce such process to the elements addressed by each of these singular perspectives. The process of change is, simultaneously, one where these five perspectives operate together. When teachers and school leaders plan a program of global education, they do not address instruction and leadership through the singular aspects that each of these five perspectives highlight. Practitioners face the process of change full sloop, as a totality, they experience schools not as the fragments which scholarly analysis breaks them into in an attempt to explain them, but as a whole. As a result, in trying to build a useful theory of school change to make education relevant, it is essential that the theory helps to integrate these five perspectives, and in so doing captures the holistic nature of education and of the change process. I have elsewhere used this framework to explain national-level reforms that broadened the goals of the curriculum, in this chapter I draw on that work and expand on it (Reimers 2020).

Together, these five perspectives offer a comprehensive approach to integrating much of what is known about how students learn and how schools change. These perspectives are complementary; each of them focuses on certain elements of the change process. The cultural perspective, for example, is about the big picture of how schools relate to the larger society in terms of the broader set of societal hopes for schools, norms, and values which define what are accepted educational goals and practices and in terms of how those social expectations change. The psychological perspective illustrates the theories of learning which undergird the learning and teaching process. The professional perspective focuses on how expertise is inserted into professional roles to advance teaching and learning. The institutional perspective attends to the various structures, processes, and resources that provide resiliency to the system of education, governing the interactions among the actors that form the system and providing stability and meaning to teaching and learning. The political perspective illustrates how the interests of various groups are negotiated and conflicts among those interests resolved, resulting in a particular culture of education.

Each perspective¹ focuses on a series of constructs, logically related, which can help explain partial aspects of the process of change. Some of the elements of introducing global education in schools may more logically fit with a singular perspective, others may correspond to more than one perspective. For example, the transformation of work, as a result of the use of technology and artificial intelligence, creates new cognitive demands, and demands in information literacy and computational thinking, among participants in the labor market. This shift is in part a cultural shift, a result of changes in the external environment that modify what is expected of schools, but it is also a political shift, particularly if the new demands of employers or workers translate into organized efforts to influence the curriculum or of concerns over unemployment raise the interest of ordinary citizens in education.

These five perspectives are aligned with and build upon other conceptualizations of organizations and of schools. Organizational theorists Lee Bolman and Terry Deal, for example, argued that much of the scholarship on organizations can be usefully synthesized in four *frames*: structural, human resources, political, and symbolic (Bolman and Deal 1991). While there is no one-to-one correspondence between the four frames proposed by Bolman and Deal and the five perspectives to study the process of change I present here, the *structural frame* focuses on concepts which correspond to what I have termed an institutional perspective, *human resources* to a professional perspective, *political* to the perspective of the same name, and *symbolic* to a cultural perspective.

School effectiveness scholar Jaap Scheerens summarizes the theoretical views on organizational effectiveness in his conceptualization of school effectiveness as: *economic rationality*, *organic systems model*, *human relations approach*, *bureaucracy* and *political* (Scheerens 2000, p. 23–26). There is also some correspondence between the organic systems model, which emphasizes adaptation of school systems to their external environment, and what I call a cultural perspective; between the bureaucratic perspective and what I call an institutional perspective, and between the political perspective which I call also political. Scheeren's emphasis for each of these models differs from mine and his conceptualization lacks a psychological and a professional perspective.

Professor David Olson has also contrasted the *institutional* and *psychological* perspectives to study education reform arguing that it is the lack of attention to the institutional dimensions of schooling that explains the failure of many efforts to incorporate ideas from psychology into schooling (Olson 2003). While I share Professor Olson's view that reform is at the same time an institutional and a psychological process, I think it is essential to integrate additional perspectives to understand educational change: cultural, professional, and political.

¹The presentation of these five perspectives in the remaining of this chapter draws extensively on my chapter in the book Audacious Education Purposes 2020.

1.1 A Cultural Perspective on Educational Change

A cultural perspective helps to see the “big picture” of how schools relate to the larger society. It emphasizes that educational practice is the result of shared expectations, norms, artifacts, and practices which define how education is broadly understood in a society. Such “culture of education” includes several interrelated domains: how educational institutions are understood to relate to other social institutions and to social purposes and values, how society sees teachers and learners, and how instruction is understood to take place.

Schools share their role in socializing the young with other institutions such as families, religious institutions, and civic organizations. Every society has expectations about what role schools should play, as well as about the appropriate activities to be carried out in the instructional sphere and what actions are “off limits.” The key questions from this perspective are: what is the appropriate division of labor among schools and other socialization institutions in advancing social purposes and values? Are schools expected to conserve tradition or to foster change? Are they expected to reproduce the social and economic structure or to alter it? Are they expected to prepare people to meet the demands of the existing economic structures, or to enable the creation of different economic structures? These questions, stemming from the first of the three aspects of the cultural perspective on educational change correspond to the adaptive function of schools, or how they meet societal demands. Jerome Bruner summarizes this perspective well in this way:

It is surely the case that schooling is only one small part of how a culture inducts the young into its canonical ways. Indeed, schooling may even be at odds with a culture’s other ways of inducting the young into the requirements of communal living.... What has become increasingly clear... is that education is not just about conventional school matters like curriculum or standards or testing. What we resolve to do in school only makes sense when considered in the broader context of what the society intends to accomplish through its educational investment in the young. How one conceives of education, we have finally come to recognize, is a function of how one conceives of culture and its aims, professed and otherwise. (Bruner 1996, pp. ix–x)

Societies vary and experience periodic contention regarding the role of schools in the development of values among students, but there is less contention regarding the role of schools in helping students gain knowledge and skills. As the goals of curriculum broaden, as is the case when we develop intentional global education curriculum, this expansion activates discussions about the appropriate role for schools, and what should be off-limits for a public institution as it encroaches on the private domains of families or religious groups. Most people would agree that schools should teach students to read and computational thinking, but there’s likely to be more contention regarding a climate change curriculum or a civic education curriculum that engages students in examining dilemmas reflected in government actions.

A core aspect of the cultural perspective on education is the balance that schools are expected to strive for between conserving and transforming social institutions. Schools balance a set of conservative norms, passing on to the young elements of

culture what each generation agrees should be transmitted, as well as a set of transformative norms, passing on to the young a certain dissatisfaction with the present, and the desire to imagine and eventually build a new set of norms. From this latter viewpoint, schools are spaces that can anticipate a better society in the future, activating students' moral imagination, not just transmitting the social institutions of the present. Societies differ in the balance they expect their schools to achieve between conserving tradition and transforming society, and a cultural perspective in reforming education is about understanding those cultural expectations and boundaries, and aligning educational change to them or using the relative autonomy of schools to challenge those expectations.

A second aspect of a culture of education concerns how society views teachers and teaching. This cultural view about who should teach shapes who the teachers are at any given point in a society. Only on the basis of knowledge about what kind of professionals teachers are at any particular time in a given setting is it possible to design change in a way that works for them and with them and not over their heads. For instance, Singapore's reverence for its teachers is well documented, in contrast to contexts where teacher appointments are governed by patronage and corruption. Where teachers are respected as professionals, societies place greater trust in them to make choices in the interests of children. A process to introduce global education in a setting of highly professional teachers, such as Singapore, may not work in a context where teachers have very limited knowledge and skills, because teaching is not valued as a profession.

Also included in a cultural perspective on educational change is the notion that there is a culture of education, a set of shared norms and practices that define how instruction should be conducted. Ideas about how teacher or student-centered instruction should be, about whether education should consist of lectures or group work, about whether teachers should collaborate with their peers or work independently, and about the role students are expected to play in shaping the curriculum all should be factored in the design of a global education program. This culture of education is resilient, once crystalized into norms, artifacts, and practices it changes slowly, in part because it is challenging for teachers to teach in ways they themselves have not experienced. Efforts to advance global education programs in a school or in a system are, inevitably, efforts to transform the culture of education. Such a change does not happen overnight. The new knowledge and ideas that teachers gain as a result of professional development, or the new practices they are induced to enact through new curriculum, or through new forms of student or teacher assessment, have to be negotiated with pre-existing culture and norms. In a seminal study of the history of education reform in the United States, Tyack and Cuban argue that federal government policies arrive to schools as mandates which are layered on top of previous mandates, and that successive reform efforts form "geological layers" observable in the instructional practices in schools (Tyack and Cuban 1995, p. 76).

A corollary of adopting a cultural perspective is that education reform takes time, and therefore cycles of reform should be relatively long. Because every reform attempts to shape the culture of education negotiating the existing "geological layers"

of previous reforms, it is necessary for the reform to stay the course until policy intentions find their way to instructional practice, and stay there long enough to become the new norms and shared meanings of how instruction is done. This process of learning new meanings and practices while “unlearning” pre-existing practices takes time, as it unfolds in the minds of individuals and in the negotiated social interactions among different individuals in school settings. Interrupting a reform before it has had a chance to crystalize into a system of new practices will not only result in little change, it will also undermine openness to further change in the future.

1.2 A Psychological Perspective on Educational Change

A psychological perspective highlights the implications of science-based knowledge about how people learn, for the process of teaching and learning, for students, teachers, and others supporting instruction. The core questions from a psychological point of view are: what should students learn when, how can they be supported in learning it, and what and how should teachers teach and how can they be supported in learning so they can teach effectively.

Since the early stages in the development of psychology as an independent science, many have argued that the scientific study of human functioning and development could help improve education. One of the early proponents of that thesis was Swiss psychologist Edouard Claparede, who proposed an experimental approach to education and created an institute to develop a science of education: the Rousseau Institute. The first directors, Pierre Bovet and his successor Jean Piaget, were also co-founders in 1925, with Claparede, of the International Bureau of Education (IBE), the first center of comparative education research. Once UNESCO was created, the IBE became part of the organization, serving as the entity that would translate educational scientific knowledge into programs and practices that it disseminated to support educational institutions around the world.

While it would seem evident that scientific knowledge about learning and instruction is necessary for a reform to be ultimately effective in helping students develop the intended global competencies, and that operational definitions and measurements of the desired competencies could help inform curriculum and pedagogy, the history of the relationship between psychology and education is a fractured one. David Olson argues that it is insufficient attention to the institutional nature of schools from psychologists which accounts for the fissure:

A too sharp distinction between persons and institutions makes much good science irrelevant to the understanding of schooling, whereas conflating the two hides the effects of the schooling from our view, reducing it to just one more factor in personal and social development. (Olson 2003, p. xi)

The choice of which competencies should be included in the curriculum standards straddles the cultural perspective and the psychological perspective in that choosing which competencies to cultivate reflects normative choices resulting from cultural

understandings about what is necessary as well as psychological knowledge about what is possible and helpful to individuals. An example of how psychology can characterize different educational objectives are Benjamin Bloom's taxonomies for knowledge-based, skills-based and affective educational goals. Bloom, an educational psychologist, argued that such goals could be construed as hierarchies reflecting increasing level of cognitive functioning. For knowledge, for example, Bloom's taxonomy encompassed knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom 1956).

Another example of a psychological perspective contribution to the definition of desired educational outcomes is the theory of multiple intelligences developed by Howard Gardner in which he argues that human potential can be characterized along eight domains, and not the more restricted domain which intelligence tests measured: linguistic, logical-mathematical, spatial, bodily kinesthetic, musical, interpersonal, intrapersonal, and naturalistic (Gardner 1983).

The Organization for Economic Cooperation and Development (OECD) undertook the Defining and Selecting Competencies project (DeSeCo) which drew on the contributions of psychology to categorize essential competencies, knowledge, and skills for a knowledge-based economy. Alongside this work, the OECD established the Program for International Student Assessment (PISA) a cross-national program to assess 15-year olds' knowledge and skills in literacy, mathematics, and science. Both DeSeCo and PISA also reflect a hierarchy of cognitive functioning.

The National Research Council of the United States assembled an expert group to synthesize existing knowledge about capacities that have value for life and work. Drawing on decades of mostly psychological research, the chairs of the group, Pellegrino and Hilton, synthesized those skills as follows in the report of the group (Pellegrino and Hilton 2012).

1. Cognitive Skills

1.1. Processing and cognitive strategies

- Critical Thinking
- Problem Solving
- Analysis
- Logical Reasoning
- Interpretation
- Decision-Making
- Executive Functioning

1.2. Knowledge

- Literacy and communication skills
- Active listening skills
- Knowledge of the disciplines
- Ability to use evidence and assess biases in information
- Digital Literacy

1.3. Creativity

- Creativity
- Innovation

2. Interpersonal skills

2.1. Collaborative group skills

- Communication
- Collaboration
- Teamwork
- Cooperation
- Coordination
- Empathy, Perspective Taking
- Trust
- Service Orientation
- Conflict Resolution
- Negotiation

2.2. Leadership

- Leadership
- Responsibility
- Assertive Communication
- Self-presentation
- Social Influence

3. Intra-personal skills

3.1. Intellectual Openness

- Flexibility
- Adaptability
- Artistic and Cultural Appreciation
- Personal and Social Responsibility
- Intercultural competency
- Appreciation for diversity
- Adaptability
- Capacity for lifelong learning
- Intellectual interest and curiosity

3.2. Work Ethic. Responsibility

- Initiative
- Self-direction
- Responsibility
- Perseverance
- Productivity
- Persistence

- Self-Regulation
- Meta-cognitive skills, anticipate future, reflexive skills
- Professionalism
- Ethics
- Integrity
- Citizenship
- Work Orientation

3.3. Self-efficacy

- Self-regulation (self-monitoring and self-assessment)
- Physical and mental health.

In addition to supporting the definition of the competencies which should be developed in schools, a psychological perspective also helps inform the design of the process through which teachers can help students gain such competencies. This is the role of a theory of learning and of an associated theory of teaching. Findings from cognitive science related to learning can help inform how to structure instruction so it is most effective. A recent synthesis of that research structures the key findings around the following key questions about learning (Deans for Impact [2015](#)):

1. How do students understand new ideas?
 - a. Students learn new ideas by reference to ideas they already know.
 - b. To learn students must transfer information from working memory to long-term memory. Students have limited memory capacities that can be overwhelmed by tasks that are cognitively too demanding. Understanding new ideas can be impeded if students are confronted with too much information at once.
 - c. Cognitive development does not progress through a fixed sequence of age-related stages. The mastery of new concepts happens in fits and starts.
2. How do students learn and retain new information?
 - a. Information is often withdrawn from memory just at it went in. We usually want students to remember what information means and why it is important, so they should think about meaning when they encounter to-be-remembered material.
 - b. Practice is essential to learning new facts, but not all practice is equivalent.
3. How do students solve problems?
 - a. Each subject area has some sets of facts that, if committed to long-term memory, aids problem-solving by freeing working memory resources and illuminating contexts in which existing knowledge and skills can be applied. The size and content of this set vary by subject matter.
 - b. Effective feedback is often essential to acquiring new knowledge and skills.
4. How does learning transfer to new situations in or outside of classrooms?
 - a. The transfer of knowledge or skills to a novel problem requires both knowledge of the problem's context and a deep understanding of the problem's underlying structure.
 - b. We understand new ideas via examples, but it is often hard to see the unifying underlying concepts in different examples.
5. What motivates students to learn?

- a. Beliefs about intelligence are important predictors of student behavior in school.
 - b. Self-determined motivation (a consequence of values or pure interest) leads to better long-term outcomes than controlled motivation (a consequence or reward/punishment or perceptions of self-worth).
 - c. The ability to monitor their own thinking can help students identify what they do and do not know, but people are often unable to accurately judge their own learning and understanding.
 - d. Students will be more motivated and successful in academic environments when they believe that they belong and are accepted in those environments.
6. What are common misconceptions about how students think and learn?
- a. Students do not have different “learning styles.”
 - b. Humans do not use only 10% of their brains.
 - c. People are not preferentially “right-brained” or “left-brained” in the use of their brains.
 - d. Novices and experts cannot think in all the same ways.
 - e. Cognitive development does not progress via a fixed progression of age-related stages. (Deans for Impact [2015](#)).

1.3 A Professional Perspective on Educational Change

A professional perspective focuses on the extent to which instruction is guided by expert knowledge, and supports relying on expertise as a foundation for practice. A professional perspective focuses on structuring the roles of education practitioners so that practice can be informed by expert knowledge and help generate such expert knowledge as a driver of change. The psychological perspective, the science of learning and teaching, can provide knowledge about how best to support instruction. The professional perspective, in contrast, focuses on the structure of roles and institutions which integrate such expert knowledge with practice. For instance, rules about who can teach, under what conditions, and with how much autonomy; criteria for teacher professional preparation and accreditation; norms for who can prepare teachers; and norms to guide the appointment and support the development of teacher careers. These are all instruments designed to constrain and support professional practice, and to align it with the deployment of expert-based knowledge.

The key questions from this perspective are, given a new set of curriculum objectives and expected pedagogies, what are the capacities necessary to teach this curriculum, and what is the gap between the current level of teacher capacities and those capacities which are necessary. The identification of this gap is then the foundation to create conditions to establish norms and support the professional development necessary to close the gap.

A tenet of this perspective is that it is essential to help teachers develop the professional mindsets and skills that enable them to deal with the many unexpected challenges they will encounter over their careers. Also important in this perspective is to provide education professionals with the necessary autonomy and voice

to practice professionally. A subset of those ideas sees schools as learning organizations, which have the adaptive capacities to continuously professionalize teachers and leaders as they address emerging and unanticipated challenges, a theme which will be developed later in this book. A school as a learning organization is defined by several characteristics: (1) a shared vision centered on learning of all students, (2) continued learning opportunities for all staff, (3) team learning and collaboration among staff, (4) a culture of inquiry, innovation, and exploration, (5) embedded systems for collecting and exchanging knowledge and learning, (6) learning with and from the external environment and (7) modeling and growing learning leadership (Kools and Stoll 2016).

This perspective is reflected in the concept of “Professional capital” developed by Andy Hargreaves and Michael Fullan:

Good teaching for all learners requires teachers to be highly committed, thoroughly prepared, continuously developed, properly paid, well networked with each other to maximize their own improvement, and able to make effective judgements using all their capabilities and experience. (Hargreaves and Fullan 2012, p. 3)

A professional perspective values not only the expertise and professional knowledge of practitioners, but more generally expert knowledge, hence research and evaluation are important elements in this view, as are instructional resources developed to reflect expertise and to support expert instructional practice.

Recognizing the level of professionalism of teachers in an education system at a given time is critical to determining the particular development efforts necessary to support them. For example, in a context in which teachers have been socialized to see their work primarily as transmitting content in a particular discipline, significant investments in professional development will be necessary for them to be able to lead instruction focused on project-based learning in collaboration with colleagues. Similarly, teachers with serious gaps in content knowledge will need more support to address those gaps than those who have been well prepared in the subjects they are to teach. In addition, in any given system there is likely great variation in the level of professionalization among teachers, so professional development must be responsive to such variation.

But it is not only the specifics of how to approach teacher professional development that should respond to the characteristics of teachers in a school or in a system, other structural elements of the “system” of education should also be aligned to the level of professionalization of the teacher. For example, greater school autonomy to design curriculum is desirable in schools where teachers are highly qualified, but not in schools where teachers have serious knowledge and skills gaps. Other elements of the education “system” need to be considered when we plan educational change, a subject to which we now turn.

1.4 An Institutional Perspective on Educational Change

An institutional perspective focuses on the educational structures, norms, regulations, incentives, and organizational design which provide stability and meaning to the work of teaching and learning and to all social interactions designed to support them (Scott 2004, 2008). These structures operate at various levels, nested within each other: the classroom in the school, the school in the district, the district in the state, and the state in the nation. The following definition of an education system provided by the Global Partnership for Education illustrates this perspective:

Collections of institutions, actions and processes that affect the educational status of citizens in the short and long run. Education systems are made up of a large number of actors (teachers, parents, politicians, bureaucrats, civil society organizations) interacting with each other in different institutions (schools, ministry departments) for different reasons (developing curricula, monitoring school performance, managing teachers). All these interactions are governed by rules, beliefs and behavioral norms that affect how actors react and adapt to changes in the system. (Global Partnership for Education 2019, p. xvii)

The focus in this perspective is on the key elements and processes which define the “*system*” that supports instruction and on how to achieve internal coherence and alignment among the various elements which constitute a reform. An education “*system*” is structured by elements such as curriculum, instructional resources, school structure and buildings, governance, staff, assessments, and funding. From this perspective, education is a system, a bureaucracy, where organizational design and incentives can support the necessary instruction and learning, and it is important that these elements are coherent and well-aligned for optimal results. A curriculum fostering global education will do little to change the instructional core if it is not accompanied by adequate professional development and by student assessment systems which focus on those skills. Several scholars of education reform have argued that the failure of many education reforms is grounded in the inability of education reformers to understand schools as social institutions (Tyack and Tobin 1994; Tyack and Cuban 1995, p. 209; Olson 2003, p. 12).

A recent review of research on education reform in the United States argues, contrary to the most typical interpretations, that a number of reforms in fact succeeded at scale or in some “*niche*” or sub-system version, although the authors conclude that reform of instruction was more likely to succeed as a “*niche*” than system-wide effort and that curriculum reforms at scale failed. Offering an institutional explanation for the success of the reforms which were able to scale, the authors conclude that they did so because these reforms did not “*require deep change in practice and extensive capacity building*. They were adopted and implemented rapidly and widely in part because they could work within existing educational organization and culture. The unsuccessful cases of such reform typically did require deeper change in practice and more extensive capacity building, and so could not be scaled up easily or quickly” (Mehta and Cohen 2017, p. 646–647). The authors of the study identify five characteristics of education reforms which straddle an institutional and a political perspective:

Our analysis suggests that there are at least five characteristics of successful educational reforms. First, some offered solutions to problems that the people who worked in or around education knew that they had and wanted to solve; they met felt needs for the people who would implement them. Second, some offered solutions that illuminated a real problem that educators had not been aware of, or couldn't figure out how to solve, but they embraced the reform once they saw or believed that it would help; these reforms illuminated a problem of practice and offered a solution. Third, some reforms succeeded because they satisfied demands that arose from the political, economic or social circumstances of schooling; these reforms worked because there was strong popular pressure on and/or in educational organizations or governments to accomplish some educational purpose. Fourth, in each of these cases, reforms also either offered the educational tools, materials, and practical guidance educators needed to put the reform into practice, or they helped educators to capitalize on existing tools, materials and guidance. Less difficult reforms required less capacity building while more ambitious reforms required more. Fifth, in a locally controlled and democratically governed system of schooling, successful reforms have been roughly consistent with the values of the educators, parents, and students they affected, though this worked differently in system wide than niche versions. (Mehta and Cohen 2017, p. 646)

A number of studies of “best practices” or “high performing systems” typically reflect this institutional perspective, focusing on practices, processes, structures, and norms which can help students perform at high levels.

For example, an OECD report drawing lessons for the United States from countries where students performed at high levels in PISA identified the following characteristics of high-performing systems:

1. A commitment to education and a belief that all students can achieve at high levels
2. Ambitious, focused and coherent education standards driving the system, aligned with instructional systems
3. Supporting capacity in schools
4. A work organization in which teachers can use their potential in terms of how the system is managed, accountability, and knowledge management
5. Institutionalizing improved instructional practice
6. Aligning incentive structures and engaging stakeholders
7. Complementing external accountability approaches with internal accountability to colleagues and parents
8. Investing resources where they have the greatest impact
9. Balancing local responsibility with capable central offices with the authority and legitimacy to act
10. Workplace training to support school-to-work transitions
11. Coherence of policies and practices, aligning policies across all elements of the system and ensuring coherence of policies over sustained periods of time
12. Ensuring openness of the system to the external environment to support continuous improvement (OECD 2011).

The Grattan Institute, a public policy think tank in Australia, produced a report identifying the following common characteristics of high-performing systems in East Asia:

1. High equity
2. Effective learning and teaching
3. Connecting policy to classroom learning
4. Focus on best practices
5. Emphasis on induction and mentoring
6. Developing teacher groups for research and classroom observation
7. Have career structures for teachers (Jensen 2012).

Similarly, the National Conference of State Legislatures in the United States, drawing on this comparative study of high-performing education systems, developed a seven-step protocol to build a world-class education system: build an inclusive team and set priorities, study and learn from top performers, create a shared statewide vision, benchmark policies, get started on one piece, work through “messiness,” and invest the time (National Conference of State Legislatures 2016). The report identified four elements of a world-class education system:

- Children come to school ready to learn, and extra support is given to struggling students so that all have the opportunity to achieve high standards. [...]
- A world-class teaching profession supports a world-class instructional system, where every student has access to highly effective teachers and is expected to succeed. [...]
- A highly effective, intellectually rigorous system of career and technical education is available to those preferring an applied education. [...]
- Individual reforms are connected and aligned as parts of a clearly planned and carefully designed comprehensive system. (National Conference of State Legislatures 2016, p. 10).

Similarly, the National Center on Education and the Economy in the United States synthesized nine building blocks for world-class education systems, drawing on a comparative study of high-performing education systems (National Conference of State Legislatures 2016):

1. Provide strong support for children and their families before students arrive at school ...
2. Provide more resources for at-risk students than for others ...
3. Develop world-class, highly coherent instructional systems ...
4. Create clear gateways for students through the system, set to global standards, with no dead ends ...
5. Assure an abundant supply of highly qualified teachers ...
6. Redesign schools to be places in which teachers will be treated as professionals, with incentives and support to continuously improve their professional practice and the performance of their students ...
7. Create an effective system of career and technical education and training ...
8. Create a leadership development system that develops leaders at all levels to manage such systems effectively ...
9. Institute a governance system that has the authority and legitimacy to develop coherent, powerful policies and is capable of implementing them at scale (National Conference of State Legislatures 2016, pp. 7–13).

1.5 A Political Perspective on Educational Change

A political perspective recognizes that education affects the interests of many different groups, and that those interests vary within and across groups, and may be in conflict with one another. As examples of variation within groups, students and parents are key stakeholders of the education system, the presumed beneficiaries of education, but not all students or parents have the same interests with respect to reform. For example, the parents of students with disabilities might value reforms that promote inclusive education more than those who don't have the same needs, the parents of children who speak indigenous languages may value policies of bilingual education differently than the parents of children who speak the dominant language, and the parents of low income children may value compensatory education policies differently than the more socioeconomically advantaged parents. Interests vary also among groups. Teachers are also a group with interests in education, and those interests may not fully coincide with those of students. The same is true of elected public officials, government bureaucrats, teacher organizations, and business groups that provide services to schools or hire school graduates. Pivotal in a political perspective of education is understanding how education politics relate to national politics. In some settings, education organizations are more loosely coupled than in others to national political parties and to national politics. In some contexts, the position of particular education actors with respect to educational change issues, such as teacher unions and government officials, are subsidiary to the relationship between political groups at the national level.

Whereas the institutional and professional perspectives either assume congruence among the interests of various stakeholders of education reform or prioritize the interests of one group over others, a political perspective recognizes the potential for conflicting interests among stakeholders and sees reform as a way to resolve those conflicts. The key questions in this perspective are how to ascertain the position of various stakeholder groups with respect to a reform, and how to move all of them to negotiate their interests so they can be more supportive of the reform, while also managing or overpowering those groups who oppose it.

Some argue that political interests are so powerful in shaping educational institutions and practice, that they can override the educational interests of students. Based on a study of the academic achievement of 60,000 students from low income families in 1,015 private and public schools in the United States, and on a series of case studies of turnaround schools, Chubb and Moe argue that public education does not serve disadvantaged groups, that overall public schools fail to provide students opportunities to develop the competencies the economy demands, and that private schools exhibit superior performance because they are accountable to parents (Chubb and Moe 1990).

A recent World Bank report on education argues that it is often politics which explain the lack of alignment between the key elements in an education system, and that a successful reform strategy requires mobilizing stakeholders so that they support the alignment of those elements with learning. The report explains that those key

stakeholders with influence over learners, teachers, school inputs and management, and who often pull those key elements of the system away from learning, include politicians, civil society organizations, peers and communities, the judiciary, the private sector, bureaucrats, international actors, and other actors. In order to make the system work for learning these actors need to be aligned so their actions support learning. (World Bank 2018, p. 21).

But education systems can have other goals that can hamper efforts to improve learning. For example, politicians sometimes view education systems as a tool for rewarding their supporters with civil service jobs, or for impressing voters with school construction programs that are visible but not strategically planned. These goals can be misaligned with learning, leaving schools with building they cannot use and teachers who are not proficient. Where these goals compete with other goals, the result is that the overall education system and its actors are not aligned toward learning. (World Bank 2018, p. 175)

To sum up, the process of educational change is not just a cultural process, which it is, or a psychological, or professional, or institutional, or political process. It is all of the above, and a useful theory should help understand its multidimensionality. Together, these five perspectives illuminate the complete process of change as the partial elements highlighted by each perspective offers a perspective that complements what other perspectives enlighten and, together, these various elements brought to light by each perspective interact with the elements highlighted by other perspectives (Reimers 2020). Paraphrasing Goethe who said that the person who speaks with only one language sees the world with one eye, thinking about educational change through a singular frame is seeing change with one eye. A multidimensional model thus helps capture the gestalt of the process of educational change and provides depth, perspective, a fuller, and more complete understanding.

References

- Bloom, B. S. (1956). *Taxonomy of educational objectives*. Boston, MA: Published by Allyn and Bacon.
- Bolman, L., & Deal, T. (1991). *Reframing organizations. Artistry, choice and leadership*. Wiley.
- Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.
- Chubb, J., & Moe, T. (1990). *Politics, markets and America's schools*. Washington, DC: Brookings Institutions.
- Davies, I., Ho, L. C., Kiwan, D., Peck, C. L., Peterson, A., Sant, E., et al. (Eds.). (2018). *The Palgrave handbook of global citizenship and education*. London, UK: Palgrave Macmillan.
- Deans for Impact. (2015). *The science of learning*. Austin, TX: Deans for Impact.
- Elmore, R. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66(1), 1–27.
- Foundation, Longview. (2008). *Teacher preparation for the global age*. Silver Spring, MD: Longview Foundation.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Global Partnership for Education. (2019). *Country level evaluations. Synthesis report*. Retrieved January 23, 2020, from <https://www.globalpartnership.org/content/synthesis-report-gpe-country-level-evaluations-february-2019>.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital*. New York: Teachers College Press.

- Jensen, B. (2012). *Catching up: Learning from the best school systems in East Asia: Summary report*. Melbourne, Australia: Grattan Institute.
- Klein, J. (2016). *Global education guidebook: Humanizing K-12 classrooms worldwide through equitable partnerships* (How to promote multicultural education and nurture global citizens). Bloomington, IN: Solution Tree Press.
- Kools, M., & Stoll, L. (2016). *What makes a school a learning organization* (OECD. Directorate of Education and Skills, Education Working Paper No. 137). Paris: OECD.
- Lewin, K. (1952). *Field theory in social science: Selected theoretical papers by Kurt Lewin*. London: Tavistock.
- Mehta, J., & Cohen, D. (2017). Why reform sometime succeeds: Understanding the conditions that produce reforms that last. *American Educational Research Journal*, 54(4), 644–690.
- National Conference of State Legislatures. (2016). *No time to lose: How to build a world-class education system state by state*.
- OECD. (2011). *Strong performers and successful performers in education: Lessons from PISA for the United States*. Paris: OECD.
- OECD. (2019d). *PISA 2018 results. What school life means for student life* (Vol. 3). Retrieved December 6, 2019, from <https://www.oecd.org/pisa/>.
- OECD and Asia Society. (2018). *Teaching for global competence in a rapidly changing world*. Paris: OECD. <https://asiasociety.org/sites/default/files/inline-files/teaching-for-global-competence-in-a-rapidly-changing-world-edu.pdf>.
- Olson, D. (2003). *Psychological theory and educational reform*. Cambridge: Cambridge University Press.
- Pellegrino, J. W., & Hilton, M. L. (Eds.). (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. Washington, DC: The National Academies Press.
- Reimers, F. (2020). *Audacious education purposes*. Springer (in press).
- Scheerens, J. (2000). *Improving school effectiveness*. International Institute for Educational Planning: UNESCO.
- Scott, W. R. (2004). Institutional theory. In G. Ritzer (Ed.) *Encyclopedia of social theory* (pp. 407–414). Thousand Oaks, CA: Sage.
- Scott, W. R. (2008). *Institutions and organizations: Ideas and interests*. Los Angeles, CA: Sage.
- Tavangar, H. S., & Mladic-Morales, B. (2014). *The global education toolkit for elementary learnings*. Thousand Oaks, CA: Corwin.
- Tyack, D., & Tobin, W. (1994). The ‘grammar’ of schooling: why has it been so hard to change? *American Educational Research Journal*, 31(3), 452–479.
- Tyack, D., & Cuban, L. (1995). *Tinkering towards Utopia. A century of public school reform*. Cambridge, MA: Harvard University Press.
- UNESCO (1974) *Recommendation concerning education for international understanding, co-operation and peace and education relating to human rights and fundamental freedoms*. 19 November 1974.
- UNESCO (2015) *Not just hot air. Putting climate change education into practice*.
- UNESCO. (2017). *Education for sustainable development goals learning objectives*. Paris: UNESCO.
- UNESCO. (2018). *Progress on education for sustainable development and global citizenship education: Findings of the 6th consultation on the implementation of the 1974 recommendation concerning education for international understanding*. Retrieved January 23, 2020, from <https://unesdoc.unesco.org/ark:/48223/pf0000266176>.
- UNESCO. (2019). *Education for sustainable development*. Retrieved January 23, 2020, from <https://en.unesco.org/themes/education-sustainable-development>.

United Nations. (2020). Sustainable development goals. Retrieved January 23, 2020, from <https://www.un.org/sustainabledevelopment/education/>.

Vansteenkiste, M., & Sheldon, K. (2006) There's nothing more practical than a good theory: Integrating motivational interviewing and self-determination theory. *British journal of clinical psychology* 45(1), 63–82. The British Psychological Society.

World Bank. (2018). *Learning to realize education's promise*. Washington, DC: World Bank.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

