

Chapter 9

Conclusion



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Beyond the immeasurable devastation the COVID-19 pandemic has wreaked in terms of public health, society, and the economy, it has made clear the need for ambitious educational reform in a rapidly changing world. Such need will be greater in the Global South, where most students live, and where the educational impact of the pandemic has been greatest. Advancing educational change to build back better will require knowledge about how to implement reforms at scale, especially as these reforms take place in resource-constrained environments. The study of past efforts with similar goals in the Global South can provide such knowledge.

Alongside previous studies of implementation, the reforms studied in this book show that the implementation of education reform is a process of evolution, adaptation, and learning. This process can be characterized along four dimensions: the goals of the reform, the forces supporting the reform, the strategy, and the mindsets about change undergirding the reform. We discuss each of these dimensions below.

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9.1 What Goals Animate These Reforms?

The reforms discussed in this book are all, to some extent, driven by the impact of globalization. Throughout the analyses in India, Taiwan, Egypt, Vietnam, Senegal, Orange County, and Washington, DC, three pathways can be identified: (1) new demands for job skills in an increasing globalized and competitive world, (2) alignment with international educational standards and goals, and (3) a recognition of the global nature of daunting challenges like climate change. Though distinct, these aims are also intersecting. For example, in India, the Multi-Skill Foundation Course aims to make vocational skills and courses more attractive to students, motivating them to persist in school completion. In addition, the program aims to increase the employability of students through the development of twenty-first century skills and attitudes—including problem solving, teamwork, and effective communication.

In the chapter on Vietnam, the goals of education are tightly linked to economic growth. Investment in education is motivated by social and economic development and is thus intended to facilitate a labor market shift toward high-skill jobs. To do this, the newly introduced curriculum aims to encourage teachers to transition from content development to the development of “characteristics and competencies,” and from a “knowledge-based curriculum” to a “competency-based curriculum.”

The reforms in Taiwan and Egypt are similarly competency-based. In addition to universalizing access to education, the 12-Year Basic Education reform in Taiwan aims to develop twenty-first century skills, aligned with economic participation, civic engagement, life purpose and lifelong learning. Building on the goals of previous curricular reform, the 12-Year reform refines and clarifies the set of competencies in the 9-Year reform curriculum, to support lifelong learning. Specifically, the four core goals of the 12-Year reform are: (1) to inspire teachers to unleash their full potential, (2) to teach and develop students’ knowledge about life, to promote students’ career development; and (3) to inculcate students’ civic responsibility.

The chapter written about Egypt centers around the EDU 2.0 reforms. These reforms aim to promote critical thinking, knowledge-based inquiry, and lifelong learning. They are grounded in principles from a UNICEF-developed framework, and center around fourteen skills that should be acquired by each child in their pre-tertiary education. They include twelve skills from UNICEF Life Skills and Citizenship Education (LSCE) framework, and two additional skills—accountability and productivity—which are included by the Egyptian Ministry of Education and Technical Education (MoETE) specifically for the Egyptian context.

The Cases des Tout-Petits reform in Senegal stands out in this book for its explicit acknowledgement of the close relationship between education and public health. Though it predates the COVID-19 pandemic, the goals of this reform link public health and early education outcomes and may be of renewed interest to policy makers.

Chapters 7 and 8 provide examples of curricular reforms at the classroom level, in response to an urgent need for education about and to mitigate climate change. Chapter seven discusses the process of adapting global goals around sustainable development to the context of Orange County, California, with the specific mission

of encouraging students to adopt environmentally conscious behavior that can result in the reduction of local carbon emissions by at least 10% in 10 years. Relatedly, Chap. 8 on Washington DC, highlights curriculum aimed at shaping collaborative leaders. According to the authors' analysis, strong leadership allows teachers to prioritize climate change action through effective science education, enabling students to recognize climate change impact on local communities, and by creating community-oriented solutions.

9.2 What Strategy Did These Reforms Follow?

In some countries, government entities designed and led the reforms in a top-down fashion in response to these stimuli. In others, the reforms had a more decentralized and bottom-up provenance—as they were led in part by local entities, international and domestic non-governmental organizations.

9.2.1 Bottom-Up

The MSFC reform in India was started in response to the developing need for skilled workers in the Indian economy, and the observed mismatch between that need and the skills and experience students were gaining in school. Lend-A-Hand India, an NGO, started the initiative as a grassroots bottom-up effort in a small number of schools, and began collaborating with state and national governments as it sought to scale its efforts and impact. Initially the reform was implemented in 600 schools in the state of Maharashtra and was then ultimately extended to over 10,000 schools across India.

The proposed climate change-focused curricular reforms in Orange County and Washington, DC were similarly bottom-up efforts, which leveraged the interests of local educators and schools. The bottom-up approach used in Orange County directly referenced UNESCO's statement on the purpose of climate change education and sought to create awareness and interest for the curricular assets via its Best Delegates website. In Washington, DC, the authors planned to introduce the curriculum in independent schools connected to the authors (before potentially expanding the curriculum to other schools).

9.2.2 Top Down

While some of the reforms in this book started as grassroots, bottom-up efforts, others were clearly top-down government efforts. In the latter case, these reforms were driven by the governments' aim to improve the quality of their education systems

and align them with international standards. Vietnam's Resolution 29, supported by the World Bank, builds on prior waves of twentieth century reforms, and focuses on updating outdated teaching methods to develop new educational approaches to equip students with twenty-first century skills. Similarly, the Senegalese reform drew inspiration from previous national reforms, as well as the prioritization of early childhood education in the Millennium Development Goals. In Taiwan, the Ministry of Education, in collaboration with the National Education Research Association, drew on international trends in expansion of basic education to improve their educational system's ability to holistically develop each child. Likewise, the Egyptian Ministry of Education worked closely with international organizations such as UNICEF, UNESCO, and the World Bank to improve the quality of Egyptian education by developing competencies based on a life skills framework developed by UNICEF.

These chapters emphasize the role of government as key to scaling. For example, in India, there was a two-school initial pilot created solely by a nonprofit organization through a bottom-up approach. While this was successful, policymakers in India were not able to scale nationally until they started working with Maharashtra state government (a process which took 5 years alone). As with Taiwan, the reform emphasized capacity building to ensure that the curriculum would be implemented efficiently. Similarly, Vietnam's reform, which started wide scale rather than staggered, also relied on the Ministry of Education and Training. Due to the decentralized nature of the local education system, the reform did not necessarily translate between the central to local governments. While government can play an important role in bringing reforms to scale, the institutional context is imperative in order to coordinate and align government stakeholders to further scale a reform.

Taken together, although the reforms reviewed in this book differed in style of implementation—whether generated through grassroots efforts or government mandates—they shared similar influences. Namely, each of the reforms emphasized the impact of increasing globalization on economic competition, broader educational standards, and the daunting tragedy-of-the-commons challenges that affect us all.

9.2.3 Theory of Action and Strategy

A clear theory of action is essential to any successful strategy. Theories of action frame strategies, increase stakeholder buy-in, and improve fidelity to implementation. Whether we are discussing a top-down government mandated reform—such as the cases of Vietnam or Taiwan—or more bottom-up initiatives—such as the cases of Washington, DC, Orange County, or India—the buy-in and engagement of relevant stakeholders influences reforms' success. The top-down/bottom-up nature of reforms does not, however, necessarily align with the level of clarity and communication of the reforms' underlying theories.

Bottom-up initiatives such as in Washington, DC and India had theories of action that were as clear as those in more top-down reforms such as those in Taiwan. The authors of the DC study stated the theory of action as:

If students understand the science knowledge of climate change, recognize its impact on their local communities, and create community-oriented solutions leveraging the four sectors, then they can apply their learning into actions to address climate change issues. Ultimately, students will become collaborative leaders who prioritize climate change action.

In addition to having a clear theory undergird the initiative, the DC team also reached out to key potential stakeholders in the design process. The MSFC, originally a bottom-up initiative that later scaled through government collaboration managed its growth with a clear theory of action that remained consistent throughout its evolution:

If students participate in MSFC courses they will be more likely to remain in school, increase their dignity of labor and ultimately become more employable.

The Taiwan initiative also articulated a clear theory:

If entrance exams are eliminated, tracking in secondary education is restructured, and the development of talent for each student is supported via a competency-based curriculum, then access to upper secondary education would be expanded.

The Senegalese and Egyptian reforms also had clear theories of action. The Senegalese reform, *Cases des Tout-Petits*, connected investments in children's communities, cultural awareness and early development with children's ability to later become positive contributors to the Senegalese economy. The Egyptian reform similarly connected education quality to multidisciplinary curriculum, technology integration, continuous professional development, access and infrastructure, and reformed assessments. However, the authors of the Egypt analysis were unable to find written documentation that clearly articulated the reform's goals, theory and strategy and deemed the theory's communication to be deficient, potentially compromising collaboration with inter-governmental agencies.

Although many of the reforms discussed in the preceding chapters presented clear theories of action, not all did. While the authors of Chap. 5 on Vietnam were able to infer an underlying theory for the reform coupling comprehensive education sector reform with socioeconomic development, a clear theory did not appear to be explicitly written into the reform. Similarly, in Chap. 7 on the bottom-up curriculum creation in Orange County, the authors noted a lack of clarity regarding how curriculum would be communicated to teachers, or how other important stakeholders would be engaged in the process. The authors found a "build it and they will come" approach to the initiative's underlying theory lacking and provided suggestions for publicizing the curriculum and effectively engaging stakeholders.

The reforms studied in this book displayed varying levels of clarity with respect to their underlying theories of action and the level of communication and engagement with relevant stakeholders. That this clarity or lack thereof was somewhat decoupled from the reform's structure—bottom-up or top-down—suggests that the coherence of a reform is not necessarily determined by the champion's authority or level of control. This is a finding that would portend well for bottom-up initiatives and demand clarity from government-driven initiatives.

9.2.4 Strategy and Coherence

One of the purposes of education strategy is to foster coherence among the various components of an education reform. This serves to leverage synergies among various education processes, such as between a novel curriculum, student assessment, and teacher professional development. Among the reforms studied in this book, only the reform in Taiwan appears to have intentionally been designed to promote such coherence.

The Taiwanese reform takes a decidedly ‘systems level’ approach, which simultaneously relies on eight ‘policy levers’ and that seeks to ensure they are coherently aligned:

1. Curriculum development entails the creation of individual school-based curriculum development committees, integrated school-adjusted curriculum plans, improvement-focused curriculum evaluation mechanisms, and resources for experimentation and innovation with school autonomy.
2. Teaching implementation includes teacher preparation, support for adaptive and innovative activities, and the practice of varied teaching models to foster a positive learning atmosphere and increase learner motivation.
3. Learning assessment and application places an increased focus on the use of formative and varied assessment types in class to help teachers adjust their methods to benefit learner outcomes. It also suggests the use of tutoring and remedial services dependent on student needs.
4. Teaching resources require materials, equipment, and budget for teachers to develop innovative pedagogical methods. Curriculum and materials need to reflect multiculturalism and appreciation for diversity; local authorities can adjust curriculum to local needs. The MOE is tasked with creating collaboration channels between teachers, schools, researchers, and the community.
5. Teacher professional development outlines a need for professional learning communities for preparation, observation, and research inside and outside their classrooms, emphasizing a change toward a positive peer learning culture and interpersonal and financial support systems. Professionalism is developed through content integration and regular relevant workshops.
6. Administrative support highlights the need for competent authorities to provide adequate assistance to teachers to accomplish curriculum goals and implementation steps through preemptive funding, informational seminars, and responsive evaluation surveys for targeted support.
7. Participation of parents and nongovernmental organizations validates the necessity of whole-community support of student learning by engaging the parents in the school environment and utilizing community resources to offer real-life learning opportunities.
8. Supplementary provisions stated that progressive implementation would begin in August 2018 (which was postponed until August 2019), and local authorities have jurisdiction over providing appropriate education and activities for

special education, art and vocational activities, indigenous curriculum, and experimental education.

In contrast, India's approach of vocational programs was offered in schools as a vocational alternative but was not necessarily integrated with other courses in the school. As a result, the program was implemented in a 'silo' and failed to influence other school subjects, which could have all aligned on the goals of developing twenty-first century skills.

Similarly, it is unclear that there was an explicit effort to create coherence among the various elements of the reform in Egypt or Senegal. Coherence was a recognized challenge in Vietnam prior to the reform, a challenge the reform attempted to address in several ways. In fact, a lack of administrative coherence was one of the key challenges which led to the need for reform. This includes provisions on decentralization between central and local levels, and providing autonomy for educational institutions, especially in higher education. To align higher educational institutions and the labor market, and to facilitate the economic development aims of Resolution 29, one of the (8) key solutions of the reform is: "Strengthening the linkage between universities and the labor market as well as scientific research and technology transfer to meet societal needs." Other policies aimed at coherence include "rearranging and connecting the network of vocational and higher education institutions, choosing uniform standards for training levels and qualifications, and orienting institutions of higher education towards scientific and technical research, application and practice." (p. 11) The new curriculum introduced in 2016 also aims to create curricular coherence by "[E]nsuring vertical connectivity between the levels in the same subject, horizontal connection between subjects in the same class level and aligning to the physiological development of learners.

Coherence remains a challenge in the Vietnamese reform to this day. According to a World Bank higher education assessment (2020), "[T]he higher education system in Vietnam is highly fragmented across many dimensions, including: (1) Vietnam does not have a single body responsible for the entire tertiary education and research system, (2) the existence of several hundred public research institutes operating independently from the universities, (3) multiple by-laws issued in recent years are seen as contributing to the complexity, fragmentation and inconsistencies of the regulatory framework, (4) the role played by MOET in initiating reforms and setting the long-term vision is undermined by inadequate capacity, resources and information, (5) no unified higher education information management system (HEMIS), which hinders evidence-based decision-making from all stakeholders." (p. 22–23).

9.3 What Perspectives on Educational Change Did the Reforms Reflect?

Each reform is based on a series of implicit or explicit ideas about how change happens. These frameworks serve to design a reform, to examine its completeness and coherence, and to communicate it to others. It is possible for a reform to depend on multiple frameworks. The authors of the chapters in this book used five conceptual perspectives for their analysis: cultural, professional, psychological, institutional, and political (Reimers, 2020). This section reviews how these perspectives are reflected in the reforms studied in the book.

9.3.1 *The Cultural Perspective*

The cultural perspective highlights the relationship between the educational change process and societal hopes, demands, and values. The reform from Senegal shows that change efforts can integrate traditional societal norms with expectations for change. While the CTP reform aimed to promote cultural awareness around public health practices, it did so while integrating Senegalese culture. The CTP reform was made more successful by emphasizing the importance of ethnic and religious background, designing huts inspired by Senegal ancestral civilizations, conducting instruction in local language, integrating Quranic education, and enlisting parents and grandparents to teach Senegalese values.

A cultural perspective also sheds light on how societal values and the shared understanding of what schooling looks like. The cultural perspective places expectations on pedagogical practices and instruction and takes those expectations into account even when change challenges the traditional ‘culture of education’. For example, in the MSFC course in India, students’ work with their teachers and communities to engage with projects that address needs identified by their local communities. Additionally, the reform focused on empowering citizens to support the current needs of the economy, including building skills such as teamwork, communication, and problem solving within vocational schools. This approach supported the normalization of cross-gender communication and promoted a shift in views on gender roles even though the theory of change did not explicitly delineate the promotion of these cultural shifts. Similarly, in Vietnam, the reform shifted the high stakes, competitive exam culture and rote learning to project based learning, innovation, and collaboration. This was done to promote investment and access for vulnerable communities.

A cultural perspective can also help understand the resistance to a reform that neglects societal values or underestimates the challenges it represents to preexisting mindsets. In Taiwan, the top-down reform did not align with the pedagogical expectations of schools, the existing culture of education. The student-driven and inquiry-based approaches were seen as imported and departed from traditional pedagogy.

There was a similar experience with the reform in Egypt as a competency-based curriculum, which led to less participation from key stakeholders such as teachers and parents.

A cultural perspective can also illuminate the extent to which an education reform is intruding in spaces considered ‘off limits’ and private, such as family values and religion. As teaching about climate change is a politically divisive subject in some parts of the United States, the chapters about Washington, DC and Orange County emphasize the importance of relying on a cultural perspective to thoughtfully support shifts in mindsets about climate change education.

9.3.2 The Psychological Perspective

The psychological perspective relies on the science of learning to design curriculum and pedagogy. The OECD’s Defining and Selecting Competencies project (DeSeCo) relies on a psychological perspective to identify important competencies, knowledge, and skills; as do other frameworks used by international education organizations, such as UNICEF. The reform in Vietnam exemplifies the importance of considering the way that teachers can teach students and gain such competencies. The “one curriculum-many textbooks” aspect of the reform was integrated to help teachers unleash creativity and for teachers to have the freedom to create more effective teaching plans. Supporting teachers can be further explored with a professional perspective.

A psychological perspective can be deployed to help promote cultural mindset shifts. As discussed in the previous section, cultural norms often determine what students should learn in school. Because teaching about climate change represents a cultural mindset shift in the US, the authors of Chap. 7 about Orange County emphasize the importance of integrating a psychological perspective to support a change in those cultural norms. For example, they emphasize the importance of linking new behavior with one’s identity, which necessitates the exploration of one’s identity within the curriculum based on neuroscience research. Bloom’s taxonomy and the psychology of emotions is also integrated in their middle school curriculum, which is also further rationalized for developmental appropriateness.

Finally, Chap. 6 on Senegal highlights an important element of a psychological perspective. While the psychological perspective emphasizes the science of learning, this is often done through a developmental and cognitive psychology lens. Cognitive development interacts with biological development, the anatomy of the brain, and of the body, provide the foundations for the mind. Supporting the healthy development of children requires also supporting their health and nutrition, in addition to cognitive stimulation. The reforms in Senegal were based on this basic developmental principle.

9.3.3 The Professional Perspective

The professional perspective focuses on the role of expert knowledge as a foundation for instructional practice. All the reforms examined in this book underscored the centrality of a professional perspective to understand the implementation process. While all reforms demonstrate a recognition of the importance of addressing expertise, they do it in two different ways: by building teacher capacity to meet new demands, or by adjusting demands to existing levels of teacher capacity.

A most obvious way to align teacher expertise with the demands of instructional practice is the creation of structures and programs that support the professional development of teachers so they can meet new demands, though the programs don't always deliver as expected. For example, while the reform in Egypt included a digital teacher platform called Professional Learning Journey and a detailed teacher guide for the new curriculum, the main challenges identified with the reform involved teacher capacity. This could have been partly attributed to the limited professional development, which was around 3 days a semester. Similarly, in Senegal, the analysis revealed that teachers with low levels of education were the reason for low levels of student achievement. On the other hand, the strength of the reform in India was the clear focus on building teacher capacity through mentorship programs, mobile applications, clear expectations, and regular assessments among other strategies. While a professional perspective is evident in these reforms, not all structures and processes implemented to support practice are effective.

Alternatively, the professional perspective can be used to adjust the demands of instructional practice to existing levels of teacher capacity, ensuring that the demands of reform are not “over the teachers’ heads.” For instance, the authors of Chap. 7 proposing climate change education in Orange County consider developing the curriculum to match what is already being taught so that teachers would not need a lot of professional development.

9.3.4 The Institutional Perspective

The institutional perspective focuses on coherence and alignment among the various components of the education system, including curriculum, school structures, governance, staff, assessments, and funding (Reimers, 2020). This perspective is especially critical for large scale, systemic reforms, where the components of the reform can become ‘siloe’d’ causing them to be out of step with each other. The reform in India illustrates that organizations outside of the typical education system can play a considerable role in scaling education reforms and providing similar institutional support. For example, the MSFC program was scaled to serve over a million students in several thousands of schools across several states through a collaboration between Lend a Hand, the Maharashtra government, and the Ministry of Skill Development and Entrepreneurship.

For smaller scale, incremental reforms, an explicit institutional perspective may be less necessary as the evolutionary nature of implementation can produce the necessary mutual adaptation and coherence among the elements of change, given the small number of people involved. For instance, while the authors of Chap. 8 on curriculum change in Washington, DC acknowledge that teaching about climate change should be eventually institutionalized at a system level in schools, they adopt an incremental, bottom-up approach to gradually cultivate teacher, student, and parents buy-in to first foster a culture of environmental stewardship. The authors of Chap. 7 on Orange County also acknowledge that their curriculum does begin enacting institutional changes, but that the creation of a low entry point will promote teachers and students to be advocates and eventually influence the institutional systems needed to scale such climate change curriculum.

9.3.5 The Political Perspective

The political perspective considers a reform as it affects the interests of various stakeholders. Chapter 5 on Vietnam emphasizes the range of stakeholders to consider. For example, the introduction of “one curriculum—many textbooks” highlights the need for stakeholder cooperation from micro-level stakeholders such as textbook publishing companies to macro-level stakeholders such as foreign training institutions to support government-funded overseas training.

Furthermore, Chap. 7 on Orange County highlights another strategy for successful education reform considering the political perspective, an incremental, grassroots perspective, that eschews political debates regarding climate change. This approach is mindful of the potential clashes between stakeholders in such debates, demonstrating the use of a political frame, and relies on a bottom-up strategy that will build understanding and support gradually, intentionally avoiding political controversy.

Finally, Chap. 4 on Taiwan emphasizes the importance of considering the political context when analyzing reform. While Taiwan promoted a top-down reform with little input from teachers or from the public, the government is sustaining a long-term education reform and is committed to protecting it from political discontinuity. However, this is a strategy that may be more effective in Vietnam and Taiwan, where the political structure is top down and where there are relative long policy cycles.

9.4 Conclusion

In conclusion, as the awareness that we need ambitious education reforms to overcome the devastation and the loss caused by the COVID-19 pandemic grows, relying on how education reform has been approached in the Global South before the pandemic can be valuable. The cases examined in this book show that the implementation of reform is a fluid process, a process of learning and adaptation; and one

defined by the goals of reform, the sources of support, the strategy and the mindsets to think about change. Considering these four elements when designing policy, and when monitoring implementation, may be a useful way to accelerate such process of adaptation and learning, and with it a way to support implementation of large scale change itself.

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