



Building stronger foundations for learning: The key for effective curriculum implementation and lifelong learning

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In 2010, the first-ever World Conference on Early Childhood Education and Care (ECCE), held in Moscow, reaffirmed the right of all children to ECCE and underscored it as a basis for development. The conference called on all governments to mobilize a stronger commitment to ECCE, to reinforce effective ECCE program delivery, to harness resources for ECCE, and to encourage mutual cooperation and exchange. The *Moscow Framework for Action and Cooperation* captured UNESCO member states' commitment to equitably providing quality ECCE services and to ensuring the holistic early childhood development of all children. These integrated and multisector services should focus on health, nutrition, early stimulation, education, social protection, and a supportive environment as the means for fostering children's holistic development (UNESCO, 2010).

Twelve years later, the poignant echo of that landmark event can still be clearly heard. Governments have steadily increased their attention to the benefits of investing in ECCE. They started to build and sustain holistic and resilient ECCE systems (some with the solid technical support of UNESCO IBE) as an investment in the “wealth of their own nations” (UNESCO, 2010).

To take stock of the progress of UNESCO member states toward achieving the Sustainable Development Goal (SDG) Target 4.2 (“All girls and boys have access to quality early childhood development, care, and preprimary education so that they are ready for primary education”) and other early-childhood-related SDG targets, UNESCO, in collaboration with Uzbekistan, is organizing a second intergovernmental world conference on ECCE (November 14–16, Tashkent, Uzbekistan). The event will be an excellent opportunity to exchange knowledge about key enablers, emerging research results, good practices, and innovations to put in place and scale up quality ECCE policies and programs; to reaffirm quality ECCE as a right of all children and as the essential foundation for lifelong learning and socio-cognitive development; and to identify opportunities and agree upon a set of

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priorities and strategies to accelerate SDG4.2 progress and increase investment in ECCE on the part of governments and their partners (UNESCO, 2022).

We urgently need researchers and experts from an array of disciplines to provide evidence-based, cost-effective, and actionable strategies for delivering quality early childhood education (ECE), at scale in low- and middle-income countries. Right now, many low- and middle-income countries have a unique window of opportunity to establish quality and equitable ECE, “while access is still relatively low, while building systems that can ensure quality as ECE access grows” (World Bank, 2022).

However, expanding access to quality ECE is not enough.

We need to gain more concrete evidence of how young children learn and develop the foundational skills that will set them on strong learning trajectories. We also need to strengthen literacy and numeracy in the early grades; improve teachers’ skills; and improve school management, accountability, and student assessment. Finally, we need to connect curriculum, learning, teaching, and assessment through a systems approach.

Strengthening the foundations for learning positively has an impact on everything—from effective curriculum implementation in school to effective lifelong learning. These foundations form a sound basis for children’s development as lifelong learners in their adult, social, and working lives, enabling them to reach their full potential. Put simply, by strengthening the foundations of learning, governments are investing in the future.

I am pleased to introduce this thought-provoking issue of *Prospects*, which focuses on the key transformative impact of “foundational skills” on classroom learning, curriculum implementation, wellbeing, and later-life learning. The issue adds value by bringing together evidence from all the disciplines the authors represent, including neuroscience, education, psychology, and economics.

Abdeljalil Akkari states that the African continent represents the part of the world where ECCE preceding primary schooling is the least developed. It is therefore essential to analyze the prospects for developing ECE in the coming years. The author notices the international infatuation with preprimary education, based on both scientific evidence and also international agendas. He then explores the possibility of putting forward a coherent African response to global demands concerning ECE and promoting the inclusion of local cultural content in designing preprimary educational structures. Finally, the author suggests some principles that might guide international cooperation activities affecting the early childhood sector.

John P. Comings recalls the United Nations (UN) SDG Target 4.6, which calls for all youth and a substantial proportion of adults to be able to read. Progress toward achieving this goal began after the World Conference on Education for All in 1990. Two decades after the conference, national governments, international donor agencies, and local and international nongovernmental organizations had built schools, trained teachers, and distributed textbooks. Though that work continues, the focus has turned to ensuring that all children learn to read. Achieving Target 4.6 requires the reform of national education systems built up over the last three decades. Comings reviews the literature that informs efforts to change education systems in ways that support early-grade reading. Now is the time to focus on reforming and strengthening the education systems that will achieve Target 4.6.

Daniel Yiorgios Rigney and Yong Zhao argue that outcomes in education are complex and numerous. Seemingly simple instructional choices can have far-reaching implications for a student’s interest in a subject, their social network, and even their psychological well-being. These types of outcomes are rarely studied, however. Interest in short-term instructional outcomes is far more prevalent, as made evident by the popularity of yearly high-stakes testing. Combatting this trend will require educators and

policy makers to consciously investigate the various outcomes, even if only informally. The authors offer a taxonomy of educational outcomes to help with this process. The taxonomy assists stakeholders at all levels understand the potential impact of their decisions. The authors discuss a variety of delineations to help readers examine potential outcomes, including instructional and educational, short- and long-term, and cognitive and non-cognitive outcomes. Finally, they provide a series of guiding questions, with examples taken from the research literature to facilitate the process of exploring these outcomes.

Luis Crouch, Anna Olefir, Hiroshi Saeki, and Tanya Savrimootoo argue that enrollment in early childhood development (ECD) and in the early grades of education systems in many countries is seriously mismeasured, especially, and most damagingly, in countries making the most progress on access to schooling and on the SDGs. Other reports have used aggregate data reported to UNESCO as well as parent and teacher survey data (specifically compared with school records, in one case) to explain the problems. Mismeasurement is leading to incorrect policy conclusions (related to access and persistence) and is generally too optimistic about ECD-related progress in these countries. The authors use a methodology adapted from similar work in Latin America in the late 1980s and early 1990s, and data on enrollment by age and grade from five African education systems that suffer from mismeasurement. They argue that grade repetition in the early grades and lack of pre-primary opportunities are causing over-enrollment. This analytical approach is relatively novel to these environments and shows that rates of repetition are most likely about twice that of official reports. The results from this analysis match the results of other articles in the series. An important implication is that these issues are undermining the completion of primary schooling, due to weak policies resulting in part from mismeasurement.

M. Najeeb Shafiq and Alexandria Valerio investigate the roles of childhood circumstances (including parental socio-economic status, parental education, parental engagement, and sibling composition) and schooling on adult reading skills in low- and middle-income countries. Using regression models and data from surveys of urban labor-force participants in Armenia, Bolivia, Colombia, Georgia, Ghana, Kenya, Ukraine, and Vietnam, they reach several conclusions. First, childhood circumstances predict adult reading skills in all eight countries. Second, among the childhood circumstances variables, parental education is the most frequent predictor of adult reading skills. Third, schooling is at least as important as the childhood circumstances variables in explaining adult reading skills. Finally, an extra year of schooling is associated with larger gains in adult reading skills in the relatively lower-income countries.

Alexander W. Wiseman and Xia Zhao comparatively examine variation between the expectations of parents worldwide for the educational attainment of their children. The data are from the 2011 Progress in International Reading and Literacy Study (PIRLS). A two-level hierarchical linear model (HLM) was used to estimate multilevel and multi-contextual effects on such expectations. The results reveal that parents in the Middle East had the highest expectations for the educational attainment of their children, followed by parents in East Asia and the Pacific region. Parents in European regions expressed the lowest expectations; however, they expressed significantly higher expectations for their daughters' educational attainment than for their sons'. In European countries, immigrant parents had significantly higher expectations for the educational attainment of their children than did nonimmigrant parents, but the opposite was true in the Middle East, East Asia, and the Pacific. These results suggest that although parents who belong to different nations and different cultures share norms and values regarding educational attainment, regional differences persist as the result of social, cultural, and economic differences.

Christopher J. Johnstone and Bethany Schowengerdt examine the limitations of developing youth programs solely through a human capital framework. While the connection between skills development and potential economic opportunity is undoubtedly strong, their findings reveal that the stories of youth who manage to navigate difficult economic environments are complex and nuanced. The authors interpret findings through a critical capabilities lens. Their findings indicate that, beyond skills, youth leverage micro-capital gifts from families, connect with each other and broader social networks for new opportunities, and support one another emotionally. Participants' stories demonstrate that converting youths' capabilities into an ability to function in their environment requires varied forms of support and networking, beyond simple skills development. The authors consider implications for youth development programs and research.

Kwame Akyeampong, Emma Carter, Pauline Rose, Jennifer Ryan, Ricardo Sabates, and Jonathan M. B. Stern assess the extent to which children's language preference and their home environment matter for literacy retention. Using data from the Complementary Basic Education (CBE) program in Ghana, the authors found that large numbers of disadvantaged students reverted to not even being able to read a single word, following school closures over a 4-month holiday period. Widening literacy gaps were found for girls who reported they did not receive instruction in a language they understood or did not have the resources, support, or activities at home to enable them to continue to learn while schools were closed. For boys, widening literacy gaps were only influenced by resources, support, or activities at home but not by language preferences. The findings suggest that schools and teachers must pay closer attention to language preference, particularly for girls, to ensure that language of instruction is not a barrier to literacy retention. The authors also provide further evidence to support the growing claims that home supports are essential for reducing inequities in learning outcomes during school closures.

Amita Chudgar, Vanika Grover, Shota Hatakeyama, and Aliya Bizhanova use recent representative data from Bangladesh and Pakistan to investigate the relationship between foundational skills and child labor engagements. According to the International Labor Organization, at least 160 million children ages 5 to 17 around the world were involved in some form of child labor at the beginning of 2020, including 79 million children performing hazardous labor. The authors found a consistent negative association between child labor and reading and numeracy foundational skills. In particular, they found that engagement in hazardous child labor had large negative associations with reading and numeracy foundational skills. They also found negative associations between engagement in economic labor and reading foundational skills. Finally, the authors found that intense engagement in household labor was negatively associated with foundational skills. They discuss the implications of these findings, which paint a deeply concerning picture of the challenges ahead for the global community to ensure that all children acquire foundational skills (and beyond). Finally, they note that systematic efforts to define, document, and measure child labor will be crucial to better understand the negative implications of child labor for foundational learning and the potential policy solutions to address these impacts.

Yasmin Sitabkhan and Ernest Ampadu argue that changing teachers' practice is difficult, especially in low- and middle-income contexts (LMIC). Recently, with attention turning to improving early mathematics in addition to reading outcomes, donors, governments, and non-governmental organizations (NGOs) are grappling with the design of mathematics interventions and supportive policies. However, there is limited evidence showing how to change teachers' practices in early mathematics classrooms in LMIC. For this exploratory study, the authors provided 15 kindergarten teachers in Ghana with sequenced mathematics activities, with some teachers receiving low-cost manipulatives (e.g., bottle-cap counters

and number cards), and other teachers being asked to create or gather their own. The findings showed that teachers who were given the manipulatives were much more likely than teachers not given the manipulatives to use the activities provided. In addition, the character of the instruction was qualitatively different for teachers who were given the manipulatives. These results, while exploratory, suggest the need for classroom sets of manipulatives when designing an intervention that aims to change teachers' practices.

Brenda Hughes, Karen A. Sullivan, and Linda Gilmore discuss neuromyths, which are distorted ideas from neuroscience about the brain and learning. Their critical review synthesized data and drew future directions from a critical review of a decade of research in school education. The total sample of their research comprised 5259 teachers from 16 countries on six continents. All studies were cross-sectional and used convenience sampling. A common finding was that most neuromyths were endorsed or strongly endorsed by teachers; however, most of the studies were methodologically limited. For example, six studies used unrepresentative samples. Furthermore, none of the studies closely considered the potential impact of neuromyths on teaching practices and learner outcomes. Future research must address these limitations and answer the challenging and important questions that remain, including about prevention strategies.

Sugata Mitra and Ritu Dangwal provide a status review of the “hole-in-the-wall” experiments of 1999, as named by the popular media, which started with an Internet-connected computer being embedded in a wall facing a slum in Kalkaji, New Delhi, India. Several studies showed that groups of children, when given access to the Internet, could learn by themselves. Children's academic marks improved, and their interest in learning new things increased, resulting in a significant decrease in school dropouts and increase in school attendance. Soft skills, such as confidence, communication, and self-regulation, improved. The authors trace the history of this experiment, the formation of “hole-in-the-wall education” (HiWEL) as an organization, technological and pedagogical advances, and how this simple idea is touching the lives of millions of children.

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