

INSIGHTS

Building on Solid Foundations: Prioritising Universal, Early, Conceptual and Procedural Mastery of Foundational Skills

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Universal, Early, Conceptual and Procedural Mastery of Foundational Skills as a priority for education systems to improve learning

In 1990, the global community, gathered for the World Conference on Education for All in Jomtien, Thailand, declared that all children should be provided a quality education to "meet their basic learning needs" (World Declaration on Education for All, 1990). This focus on learning was amplified by the adoption of the Sustainable Development Goals (SDG) in 2015, which include a target to provide every child with an education that leads to relevant and effective learning by 2030 (SDG 4.1).

Despite these commitments, the world is far from reaching these goals. Learning levels are low in many low- and middle-income countries. Furthermore, in many countries, learning outcomes at a given grade have declined in recent years, and in some countries, cohort learning levels are lower in spite of enrollment increases. Evidence suggests that continuation of 'business as usual' efforts by education systems are unlikely to achieve the large gains needed to reach global learning goals. The World Bank's Harmonized Learning Outcomes, for example, which provide standardised learning measures spanning recent decades, indicate

Key Points

- The growing literature on learning profiles and learning outcomes show that to realise learning for all, education systems need to prioritise universal, early, conceptual and procedural mastery of foundational skills (UECPMFS).
- In many countries most children lack foundational skills even after many years in school. Ensuring **universal** skills requires prioritising steeper learning trajectories for most children.
- Low learning and learning gaps emerge early and accumulate over time; in India many Grade 5 students have not mastered Grade 2 literacy. These deficiencies must be addressed early in the schooling cycle to enable later learning.
- Children must gain conceptual knowledge, understanding the principles within a particular domain such as literacy or numeracy, as well as procedural knowledge, being able to fluently complete tasks in the domain, neither of which can be achieved through rote learning.
- For children's learning to be meaningful and practicable, it needs to develop to a certain level of **mastery** to be applied to later competencies.
- Literacy and numeracy are prerequisites for almost all higher order competencies; these **foundational skills** are necessary for children to engage in future learning as well as to fully participate in society and the workplace as adults.
- Prioritising Universal, Early, Conceptual and Procedural Mastery of Foundational Skills can occur at many levels of an education system, and often prioritisation needs to occur at multiple levels at once. This can include high-level policymakers taking a strong stance that every child should achieve literacy and numeracy by a certain age; education authorities reforming curriculum, training, and other instructional support to ensure universal skills; and targeted remediation efforts to bring children who are behind up to the level where they should be.

very slow average increases in learning (Patrinos and Angrist, 2018). Among the 95 non-OECD countries included, estimates suggest that on current trajectories it would take these countries, on average, 102 years to reach average OECD learning levels (Kaffenberger and Spivack, 2019).

Furthermore, in Indonesia, during a time of significant education reforms and large increases in spending (a near tripling of the education budget) between 2000 and 2014, learning outcomes actually declined (Beatty et al., 2018). With low learning per year, more years of schooling may make little (or no) progress on ensuring all children reach learning goals (Kaffenberger and Pritchett, 2020).

To realise the goal of learning for all, large gains are needed. A burgeoning literature on learning profiles and outcomes suggests that to ensure all children receive a quality education, education systems will need to prioritise **Universal**, **Early, Conceptual and Procedural Mastery of Foundational Skills** (UECPMFS).¹ Why each of these should be an education system priority, and examples of how they might be achieved, are discussed in this Insight. While foundational skills are not the end goal of any education system, they are critical and necessary building blocks for all other education goals and aspirations.

"Universal"

Why universal?

Global education goals have always been universal goals. In 1948, the Universal Declaration of Human Rights declared that "everyone has the right to education" (United Nations, 1948). More than 40 years later, the global community again came together to "reaffirm the right of all people to education" in the World Declaration on Education for All, agreed by a global gathering in Jomtien, Thailand, in 1990 (World Declaration on Education for All, 1990). This declaration further acknowledged the difference between schooling enrollment and learning acquisition, stating that the focus of basic education must be on "actual learning acquisition", not simply on enrollment and certificate completion. The Millennium Development Goals in 2000 set a target for universal primary schooling, while the Sustainable Development Goals (SDGs) took this a significant step forward in 2015 by establishing learning targets alongside schooling targets. The SDGs target is for every child to gain at least minimum proficiency in reading and mathematics by 2030.

That aspirations, goals, and targets for quality education are universal may seem to go without saying. However, two points clearly emerge from the literature on learning profiles and outcomes that are relevant here. First, in many countries *most* children lack basic skills, even after spending many years in school. Most children need steeper learning trajectories to achieve even basic learning goals, and especially to achieve higher learning aspirations they, their parents, and their societies typically hold. Second, many measures associated with education, such as learning assessments, focus only on children who are in school, giving limited information on progress towards universal goals. Conclusions drawn from such data may be misleading about progress on *universal* goals. Emphasizing universality underlines the need to ensure progress is being made and tracked for all children.

The PISA for Development assessment (PISA-D), for example, adapted the standard PISA assessment for developing countries and has been conducted in seven countries. Administered only to 15-year-olds who are in school and in at least Grade 7 (the typical 15-year-old is in Grade 10 so this captures most of those who have repeated grades), only 43 percent of 15-year-olds in the seven countries that participated were eligible.² Among those who participated, 23 percent on average (across the seven countries) demonstrated minimum proficiency in literacy, and 12 percent demonstrated minimum proficiency in mathematics (OECD, 2018).³ If these results are extrapolated to the full cohort, however, only 6 percent of *all* 15-year-olds demonstrated proficiency in mathematics (Figure 1).

Other international assessments, like the Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS), and regional assessments such as the Programme for the Analysis of Education Systems (PASEC) in Francophone Africa and the Southern and Eastern Africa Consortium for

¹ For more details on learning profiles and the types of learning profiles, see Kaffenberger (2019).

² Participating countries included Cambodia, Ecuador, Guatemala, Honduras, Paraguay, Senegal and Zambia.

³ Minimum proficiency was defined as levels 2 or above on the PISA scale. Level 2 proficiency corresponds with the minimum proficiency levels set in the SDGs.





Source: PISA for Development, 2018

Monitoring Education Quality (SACMEQ) in Southern and Eastern Africa, similarly only include in-school children in their assessments.

Some efforts have made progress on measuring learning for all. The ASER assessments in India and Pakistan and Uwezo assessments in Kenya, Uganda, and Tanzania, assess children in their homes and therefore include out-of-school children and cover younger ages and grades than most international and regional assessments.

Universality also needs to be a priority because of how many children are currently not achieving learning goals. While marginalised or disadvantaged groups may require special attention, in many countries a focus on only marginalised groups would leave many without foundational skills because the majority of children are not achieving the basics.



Figure 2. Literacy in young adults varies substantially across countries, ranging from 20 percent to 80 percent for primary school completers

Source: Kaffenberger and Pritchett, 2017, using FII data

Learning profiles analysed using Financial Inclusion Insights (FII) data find that literacy among young adults with primary schooling complete (and no higher), ranges from 20 percent to 80 percent across the 10 low- and middle-income countries with this data (Figure 2). On average half of this group of young adults lacks basic literacy. The World Bank's new learning poverty measure shows that in low-income countries as many as 80 percent of 10-year-olds cannot read and understand a simple text (World Bank, 2019). Achieving universal goals would require improvements for the majority of children in many countries.

Furthermore, learning for all will require more than achieving parity in schooling or learning across identifiable groups. Further analysis using the FII data found that achieving gender parity, through policies focused on achieving equality of schooling and learning for girls, would leave 30 percent of women illiterate because in many countries even men have low learning outcomes on average (Kaffenberger and Pritchett, 2017). Crouch et al. (2020) similarly find that inequalities across specified groups, including by geography, wealth, and gender, are all smaller than "pure" inequalities between the bottom and top performers. Separate analysis of schooling and learning differences by socioeconomic status, using ASER and Uwezo data in 5 countries, finds that, while achieving equality for the poor would improve outcomes, it would still leave many without basic skills because even more advantaged groups have low educational outcomes on average (Akmal and Pritchett, 2019; Figure 3).



Figure 3: Achieving equality of schooling, learning, or both for the poor would improve outcomes but still leave many without basic skills

Source: Akmal and Pritchett 2019, using ASER and Uwezo data, poor defined as bottom 40 percent of households on wealth index, rich defined as top 20 percent

"Early"

Why early?

Evidence from learning profiles shows that low learning trajectories emerge early, and children who fall behind early rarely catch up. In Ethiopia, India, Peru, and Vietnam, for instance, Singh (2019), using Young Lives panel learning data, finds that learning differences between these countries are small for children at age 5, but the gap widens quickly. Just three years later, when the same children are eight years old, large cross-country gaps have emerged. Further evidence from Demographic and Health Surveys (DHS) data also show large, cross-country divergences early in the schooling cycle. Learning profiles for more than 50 countries show that among young women with three years of schooling (and no higher), basic literacy varies from close to zero percent up to about 60 percent (Figure 4).

Low learning in absolute terms emerges early as well. The same learning profiles from DHS data show that among young women with six years of schooling complete (and no higher), roughly equivalent to primary school completion,

by which point all education systems expect children to have attained basic functional literacy, on average half remain illiterate. The ASER assessment, which assesses in- and out-of-school children across rural India finds that more than half of Grade 5 students have not mastered Grade 2 literacy (Pratham, 2019). Furthermore, the International Common Assessment of Numeracy (ICAN), a large-scale, household-based assessment conducted in 13 low- and middle-income countries by the PAL Network, finds similarly low early learning. Its assessment is calibrated to measure minimum proficiency in numeracy as defined by the SDGs, and finds that only between 5 percent and 57 percent of Grades 2 and 3 children had reached that level. Only in Grades 7 and 8 does the percent reaching minimum proficiency surpass 75 percent in most locations (PAL Network, 2020).



Figure 4: Percent of young adult women (25-34 years) who can read a single sentence, by grade completed: Large differences have emerged by Grade 3

Source: Pritchett and Sandefur 2017, using DHS data

The pace of curriculum and instruction often exacerbates low learning in the early years. Overambitious curriculum means curriculum keeps moving along even when children have not mastered skills (Pritchett and Beatty, 2015). Once children have missed early skills, they are unable to engage with the curriculum in higher grades and stop learning, even if they remain in school. A study in Indonesia, for example, found that the percent of children who could do a simple subtraction problem increased through Grade 5, after which it flattened with the percent of children able to perform this skill then staying constant through Grade 12. Children who did not gain this basic skill early on were left behind by the curriculum and did not gain it later (Beatty et al., 2018).

A different kind of study, an evaluation of a programme which gave scholarships to fourth grade students in Cambodia, points to similar conclusions. The study found that poverty-targeted scholarships increased schooling enrolment and attainment but had no effect on learning (Barrera-Osario et al., 2019). The children were too far behind the level of instruction for the additional schooling to produce increases in learning. Another evaluation of a programme providing textbooks to fourth grade students in rural Kenya found that only top-performing students saw test score gains from the availability of additional textbooks, while the intervention had no impact on lower performing students (Glewwe et al., 2019). The textbooks assumed that children had mastered English-language literacy, which only the top performing children had attained. For the rest of the students, the textbooks were overambitious.

Kaffenberger and Pritchett (2020) model the effect on learning of increasing Grade 10 completion across seven low- and middle-income countries from the current average of 30 percent completion to 100 percent completion. They find that this large increase in schooling attainment would yield only very small improvements in average learning and would not increase the percent of children reaching the SDG of minimum proficiency in mathematics at all. The reason for this rather shocking finding is that most children who had dropped out had fallen behind the level of curriculum and instruction and were therefore not learning prior to dropping out. Because they had missed basic competencies early

on, they could not engage with the curriculum in later years and therefore additional schooling did not improve their learning outcomes.

Low learning, especially of foundational skills, needs to be addressed early so that children have time remaining in school to gain additional competencies.⁴ As illustrated in Figure 5, steepening a flat learning profile late in the schooling cycle would make it difficult (or impossible) to achieve even threshold learning goals, such as basic literacy and numeracy, and completely unfeasible for children to achieve aspirational goals such as the full suite of skills or competencies needed for further schooling or work. Instead, learning profiles must be steepened early for children to achieve later goals. As an empirical illustration of this point, Chiplunkar et al. (2020) conducted a study providing remedial education for Grade 9 students who were at a Grade 2 learning level in India, successfully bringing about large increases in foundational literacy and numeracy, as the programme was intended to do. Additional analysis found, however, that the programme had no effect on subsequent national exam results in Grade 10. The learning gains came too late in the schooling cycle to fully make up for academic deficiencies that had accumulated over many years of schooling.



Figure 5. Illustration of a flat learning profile compared to learning goals

Source: Authors

"Conceptual and Procedural"

Why conceptual and procedural?

In addition to the distribution (universal) and timing (early) of learning progress, the type of learning that children acquire also matters. In some countries, national exams and, hence, classroom instruction focuses on rote knowledge (Burdett, 2017). Rote knowledge is knowledge that has been memorised in the absence of meaning (Willingham, 2002) and may be relatively easy to cultivate, such as through the whole class repeating a phrase aloud after the teacher, or repeatedly copying the spelling of a word. However, rote knowledge is shallow and inflexible, and does not provide a solid foundation for children to cumulatively deepen their learning and progress to more cognitively challenging competencies.

In order for children to gain the competencies they need later in life, education systems instead need to cultivate students' conceptual and procedural mastery by guiding them to think actively and deeply about the meaning of what they are learning (Willingham, 2003). Conceptual knowledge is an understanding of the principles and interrelationships within a particular domain, whereas procedural knowledge is an ability to use sequences of actions to complete tasks

⁴ The centrality of early learning for subsequent progress has been borne out empirically. Cunningham and Stanovich, 1997 found that the reading proficiency of 1st-grade students strongly predicted their performance on comprehension, vocabulary, and general knowledge tests 10 years later, even after controlling for measures of general cognitive ability.

in a domain. For example, a child with rote knowledge of times tables might be able to repeat "two times three is six" without understanding its meaning. A child with conceptual knowledge, however, would understand that "two times three" entails repeated addition of 2 to itself, and a child with procedural knowledge of multiplication and place values would be able to use "two times three equals six" as part of a sequence of actions to answer "21 x 3 = ?".

Conceptual and procedural knowledge are different types of knowledge, but they develop in concert, with growth in either area facilitating subsequent growth in the other (Rittle-Johnson et al., 2001). As a person develops their conceptual knowledge of a particular domain, they build more sophisticated mental models of the problems, patterns, and contexts in that domain. However, such mental models are developed through repeated practice: recalling information, solving problems, and making observations, all of which entail procedural knowledge. In turn, gains in conceptual knowledge can refine a person's understanding of the problem at hand, thus raising their procedural competence (Kirschner and Hendrick, 2020). Both forms of knowledge matter at every stage of learning, not least in the early primary years.



Source: ASER, 2018

While conceptual and procedural learning are intertwined, they are distinct and can be measured as such. For example, in 2017, the ASER survey in India assessed children aged 14-18 on the ability to conduct common calculations from everyday life, such as basic measurements and telling time, some of which can distinguish between conceptual and procedural mastery. Figure 6 shows an example. The first question, asking the length of the key, could be answered correctly by a child with procedural knowledge of how to answer a question that gives you a picture of a ruler. However, the second question can only be answered correctly by a child whose procedural knowledge is complemented by conceptual knowledge about an object's length being the difference in measurement between its start and end points. Education Initiatives (2009) provides further examples of assessment items that disentangle conceptual and procedural mastery.

Atuhurra and Kaffenberger (forthcoming) provide another way to assess conceptual and procedural knowledge, particularly as dictated by curriculum, assessments, and instruction. They use the Surveys of Enacted Curriculum, which involves coding curricular topics and exam items based on the content covered and the levels of cognitive demand expected for

each. On the five-point scale for cognitive demand, the two lower order skill levels, memorisation and perform procedures, align with 'procedural knowledge' and the three higher order skill levels, demonstrate understanding, analyse, and apply concept to non-routine problem, align with 'conceptual knowledge'. With this methodology, instructional materials can be evaluated for their coverage of both procedural and conceptual content.

"Mastery"

Why mastery?

For student learning to be meaningful and practicable, it needs to develop to a certain level of mastery. Without such mastery, any new learning attained will not be sufficiently consolidated for a child (or adult) to use effectively and flexibly, whether as a basis for more advanced learning or for responding to one's environment in daily life.

In the human brain, active thinking and processing take place in working memory. Working memory has a very limited capacity for processing new information. This is why it is easier to mentally multiply 34 by 2 than to mentally multiply 34,142,312 by 2. Even though the digit-by-digit multiplication is equally easy in both problems, the second problem involves the added challenge of holding all of the digits in your head while multiplying them.

However, working memory is complemented by long-term memory—and there are far fewer limitations on the amount of previously learned information can be brought from long-term memory into working memory for active processing (Kirschner et al., 2006; National Academics of Sciences, Engineering, and Medicine, 2018). For someone who is learning to read, the process of decoding sounds from letters takes up so much of their working memory that they have little room left for comprehending the meaning of the text. For someone who has attained mastery of reading, the

process is so automatic that it is very difficult to look at a familiar word and not grasp its meaning. Consequently, core competencies that are fundamental to a given area of study should be practiced repeatedly until they become automatic (Willingham, 2004).

To measure progress on mastery, learning assessments have to define what qualifies as an adequate threshold of mastery and include metrics that capture whether skills were acquired and mastered, both conceptually and procedurally. The SDGs, for example, specify that all children should achieve 'minimum proficiency' in literacy and numeracy. The UNESCO Institute for Statistics (UIS) has made great strides in defining what level of mastery qualifies as minimum proficiency and in developing a methodology to measure minimum proficiency levels regularly and reliably across countries and assessments (Montoya, 2018). The OECD has also developed elaborate background methodologies for assessing literacy, numeracy, and science skills in PISA and establishing proficiency levels for these subjects (OECD, 2019a). In an effort to harmonise different thresholds, UIS has established that a Level 2 proficiency in PISA corresponds with the minimum proficiency levels set out in the SDGs. This defines literacy proficiency, for example, as:

"At Level 2, students begin to demonstrate the capacity to use their reading skills to acquire knowledge and solve a wide range of practical problems. Students who do not attain Level 2 proficiency in reading often have difficulty when confronted with material that is unfamiliar to them or that is of moderate length and complexity. They usually need to be prompted with cues or instructions before they can engage with a text." (OECD, 2019b: 89).

The exact definition of mastery may differ by context. Education systems should establish criteria for determining that children have mastered foundational skills to a sufficient level to engage with later instruction and gain higher order competencies.

"Foundational Skills"

Why foundational skills?5

During their schooling, children should acquire a wide array of knowledge, competencies, and skills. To achieve this, students need to build on solid foundations, which consist primarily of literacy and numeracy. Children who do not learn to read cannot independently access new content on other subjects, hindering their further learning. Typically beginning around fourth grade, curricula expects that children have gained basic literacy and can engage with the content directly. Mastery of basic numeracy is necessary for later subjects such as in the natural sciences.

Foundational literacy and numeracy are also pivotal for any adult to lead a self-determined life. These skills not only raise the likelihood of having choice over one's economic livelihood, but also enhance the capacity to participate in society and in shared political decisions. It is often tempting for policy makers to focus attention to secondary and tertiary education, where the highest economic benefits may be expected (Darvas et al., 2017). However, without a focus on foundational learning for all, only a small minority of students are able to reap the full benefit from secondary and tertiary education.

The returns to foundational skills are also likely to be large. Kaffenberger et al. (forthcoming) find that the association of basic literacy with child mortality, fertility, and women's empowerment is just as large and, in some cases, larger than the association of additional years of schooling with these outcomes.

How can education systems prioritise Universal, Early, Conceptual and Procedural Mastery of Foundational Skills?

What does it look like for an education system to prioritise UECPMFS? Prioritisation occurs at many levels of an education system, and ideally priorities would be coherent across the system, though this is not always the case.

⁵ Although this Insight note emphasises the foundational skills of literacy and numeracy, content knowledge is also a fundamental part of children's foundational learning. For example, background contextual knowledge is vital for reading comprehension. Prior knowledge can make problem-solving more efficient, and it supports the cumulative development of subsequent knowledge. See, for example Willingham (2006).

Prioritising UECPMFS could involve policymakers taking and voicing a strong stance that every child should achieve literacy and numeracy by a certain age; education authorities reforming curriculum, training, and other instructional support to ensure universal skills; targeted remediation efforts to bring children who are behind up to the level they should be at; or others; and often could involve prioritisation at multiple levels at once.

Political will is a powerful force in setting priorities. In 2005, Ceará, a relatively poor state in Brazil, ranked in the bottom half of Brazil's states on national assessments of education quality. By 2017, it was fourth from the top on the ninth-grade assessment, and sixth from the top on the fifth-grade assessment, and adjusted for economic status it was the top ranked state in the country. What accounts for its impressive gains? Political leadership and commitment to achieving literacy and numeracy for all children is credited with playing a key role in its success (Evans and Loureiro, 2020). Case studies of three successful local and national efforts to improve foundational skills, including Ceará, Brazil; Puebla, Mexico; and a national programme in Kenya, examined common drivers. Across the three, motivation among high-level policy leaders, including those outside the education sector, was an important driver of improvements (Crouch, 2020).

Often, what is needed is not the introduction of foundational learning as a new aim; in every education system achieving literacy and numeracy is part of the educational and curriculum goals. Rather, a clear prioritisation of foundational learning as an enabler of all other educational goals and priorities is needed. For example, India has a very detailed EMIS system, called the District Information System for Education, which monitors and produces report cards for each state and district. For Tamil Nadu, in 2011/2012, there were 817 pieces of information reported, none of which related to learning outcomes (Pritchett, 2014). While the education system surely intends to achieve literacy and numeracy for children this was clearly not a priority, and was certainly not a top priority.

In addition to high level political leadership, education authorities can take steps to prioritise foundational skills for all children by ensuring it is prioritised in curriculum, teacher training, instructional support, and other means. For example, similar to streamlining high-level education goals to prioritise foundational learning, curriculum goals may also need to be streamlined. This might entail reorienting the curriculum to develop a clearer focus on fewer goals that can be achieved more effectively. In 2015, Tanzania reformed the Grade 1 and 2 curriculum, which at the time consisted of eight subjects including "Vocational Skills" and "Information and Communication Technology" (for children who are around six to eight years old). The reform radically simplified the curriculum, placing 80 percent of instructional time on foundational literacy and numeracy, and preliminary evidence shows large gains in the foundational subjects as a result (Mbiti and Rodriguez-Segura, forthcoming).



Figure 7: Tusome results: Improvements in foundational literacy (Kiswahili)

Source: Piper et al. (n.d.)

The Tusome Early Grade Reading programme in Kenya offers another example of a reform that brought large, significant improvements in foundational literacy in both Kiswahili and English in Grades 1 to 3 (see Figure 7). One important element of Tusome was the Kenyan Ministry of Education redefining expectations and setting clear and realistic benchmarks for early grade literacy that were then communicated to stakeholders to ensure a common, shared vision and understanding of the goals (Piper et al., 2018). This priority setting was paired with enhanced instructional support and materials for teachers and students, heightened accountability and provision of ongoing stakeholder support.

A further way to prioritise mastery of foundational skills for all children is to prioritise remediation efforts aimed at bringing children who are behind up to the level expected for their age or grade. The Teaching at the Right Level (TaRL) approach, pioneered by Pratham in India, has brought about impressive gains in foundational learning by tailoring instruction to the level of the child as opposed to regular instruction that follows the curriculum even for children who have fallen far behind (Banerji and Chavan, 2016). The TaRL approach has expanded beyond India and is now active in 10 countries throughout Africa and showing substantial results. For instance, a successful pilot project in Zambia increased the percentage of children with basic reading proficiency by 18 percent (from 34 percent to 52 precent), and reduced the share of children unable to read a single letter from 33 percent to 8 percent over a period of about eight months. In 2019, the Zambian Ministry of General Education scaled this programme to 1,800 schools across the country (Teaching at the Right Level, 2020). Such programmes have been delivered during school hours, after school, or during school holidays, all with the exclusive focus of improving foundational literacy and numeracy.

If a high-quality education is like a marathon, then achieving foundational literacy and numeracy is like mile marker two. This line must be passed to reach the finish line, but passing it does not mean you have finished. It means you are moving in the right direction. Universal, Early, Conceptual and Procedural Mastery of Foundational Skills is not the end, but rather just the beginning of what education systems should provide to all children. But until it is ensured, generations of children will continue to miss out on the promise of education. All children achieving conceptual and procedural mastery of literacy and numeracy early in their schooling must be a priority to ensure all children a better future.

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World Declaration on Education for All, Jomtien, Thailand. 9 March 1990. <u>https://unesdoc.unesco.org/ark:/48223/pf00</u> 00086291?posInSet=14&queryId=22202fe8-4741-4811-9742-ff4b21765acd. Carmen Belafi is a Research Associate for the RISE Programme at the Blavatnik School of Government, focusing on the politics and political economy of education. Prior to joining RISE, Carmen worked as the Policy Officer for Education at ONE, a civil society organization dedicated to eradicating extreme poverty. She was also a consultant for GIZ, Germany's leading development cooperation agency. She holds a Master's degree in Peace and Conflict Studies from the University of Tuebingen.

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