ENABLING READINESS FOR POST-PRIMARY TRANSITION

A Background Paper

January 2022

FOREWORD

EAC has maintained a steadfast focus on enabling out of school children (OOSC) to obtain a quality primary education as its commitment to the importance of the right to education and the Sustainable Development Goal (SDG) on education – SDG4. While this remains our mandate, and essential for the achievement of SDG4, there is also the question of what next?

Together with our partner FHI 360, we began to explore this question knowing that conventional secondary education was unlikely to be the only place where primary school completers would "land" even though this is what we would wish for every child and young person. We knew that some would go on the vocational or technical training, some into the workforce (both formal and informal), some to their homes to play their part in keeping families well, and many we just would not know. But, what if we could know? Surely, if we had a better idea of how many formerly OOSC went where, it could improve the education offered to increase chances of success. In particular, we were interested in post-primary education, as we believe that while primary education is the foundation for all other stages of formal education, it is usually insufficient to maintain a decent life and livelihood in the modern world.

To our surprise, we found little research on the actual transition process, while there is significant documentation on those who do transition to secondary education. We believe this is an important finding in and of itself. If we do not understand the processes that lead up to and enable transitions, we are unlikely to be able to help those most unlikely to transition to being successful in that important step.

In this document we look at such things as readiness for transition focusing on a range of factors and contexts, the barriers to completing primary education and to transition to post-primary education, how these barriers might be addressed, and what tools exist to identify those most at risk of not being able to transition successfully. We discovered that it is critical to have an open mind when looking for ways to increase successful transition to post-primary education, and to consider transition as a several year process that begins before the actual transition and ends some time after it.

Given the dearth of literature on the process of transition and the criticality of understanding transition if countries are to come close to meeting the part of SDG4 that addresses completion of post-primary education, we hope that these findings and suggestions are helpful to practitioners and policy makers around the world.

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Educate A Child

Acknowledgements

Disclaimer

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Acronyms

AEP	Accelerated Education Programme
AEWG	Accelerated Education Working Group
COVID-19	Novel coronavirus disease of 2019
CREATE	Consortium for Research on Educational Access, Transitions and Equity
DAM	Dhaka Ahsania Mission
EAA	Education Above All
EAC	Educate A Child
EFA GMR	Education for All Global Monitoring Report
FHI 360	Family Health International
GPE	Global Partnership for Education
ICT	Information and communications technology
HPPI	Humana People to People India
INGO	International non-governmental organisation
ISCED	International Standard Classification of Education
J-PAL	The Abdul Latif Jameel Poverty Action Lab
KII	Key informant interview
LMTF	Learning Metrics Task Force
MCC	Millennium Challenge Corporation
NGO	Non-governmental organisation
OOSCI	Global Initiative on Out-of-School Children
PSIPSE	Partnership to Strengthen Innovation and Practice in Secondary Education
SDG	Sustainable Development Goal
SDPP	USAID School Dropout Prevention Program
START	Secondary Transition Adjustment Rating Tool
TVET	Technical and vocational education and training
UIS	UNESCO Institute for Statistics
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNHCR	United Nations High Commissioner for Refugees

Introduction

The Sustainable Development Goals (SDGs) champion inclusive, equitable, quality education for all. The SDGs expand the Millennium Development Goals' emphasis on primary education by advocating for stronger foundational learning during early childhood and primary and more accessible, relevant options beyond primary that prepare learners for work and life. Yet if current trends hold, universal primary school enrolment will remain out of reach until 2042 while full enrolment in lower secondary school will not be realised until 2059 and upper secondary until 2084 (UNESCO, 2016). The COVID-19 crisis, which has led to complete school closures in nearly all countries affecting the vast majority of the world's student population, could substantially hinder progress to SDG 4 if large numbers of previously enrolled children do not return to school.

As access to primary education has improved, the global community has increased attention on access to quality secondary school and non-formal programmes. It is increasingly recognised that the critical thinking, communication, and collaboration skills developed at this level underpin successful participation in the modern economy and democratic institutions. Secondary school attainment has also been associated with other benefits, including improved health, lower infant mortality, and greater equity in society. At the same time, more widespread secondary school participation begets stronger primary school outcomes. As K. M. Lewin and Little (2011, p. 333) observe, no country has achieved universal primary school completion where transition rates to lower secondary school remained weak because widespread access to secondary education is essential for producing sufficient primary school teachers, and because accessible, quality secondary education motivates primary school participation and completion.

Despite important progress in the past three decades, primary completion and transition to post-primary remain crucial areas of need, especially in low-income settings.

Figure 1. Primary school completion rates and lower secondary school enrolment rates, data from UIS. Stat (retrieved April 8, 2020)

Figure 1 shows that primary school completion rates have risen in the past two decades in low, lower-middle, and middle-income countries. However, improvements in primary school completion in low-income countries have been stagnant over the past decade. In 2018, only 67% of children in low-income countries completed primary school, substantially below lower-middle- and middle-income countries, where completion rates are above 90%. Moreover, the gap between primary school completion and enrolment in lower secondary school is widest in low-income countries, meaning that, of those who complete
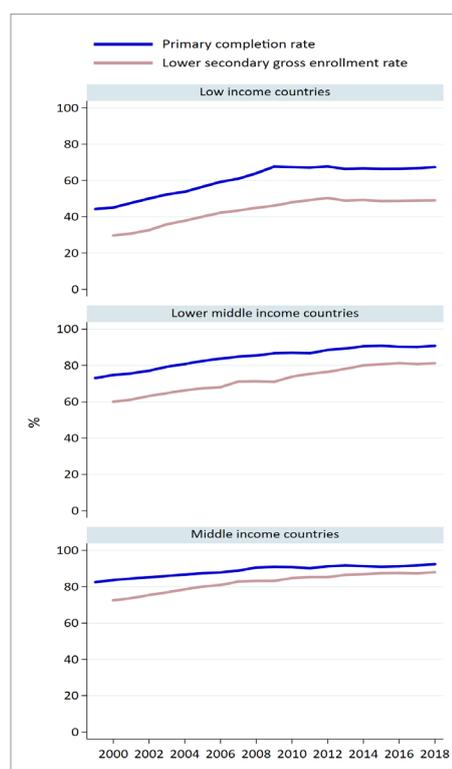
primary, fewer transition to formal secondary school. This gap has remained persistent in low-income countries while wealthier countries have made strong progress in closing it. This implies that barriers to transition in low-income countries have been either intractable, largely unaddressed, or are the result of low income. This paper examines the topics of primary completion and post-primary transition, starting by exploring the different forms of post-primary education and what it might mean to be ready to transition successfully to post-primary. Then we review common barriers to transition and types of interventions regularly linked to stronger transitions. Finally, we discuss considerations for identifying potential beneficiaries most in need of support and strategies for monitoring their paths through primary school and into post-primary.

Ultimately, we did not find any resources that provide a conceptual framework for post-primary transition and found only a weak evidence base on what activities support a successful transition. However, research on participation and retention at the primary level provides some basic insights into factors that likely impact transition. Available literature also focuses heavily on formal, mainstream school options, and the applicability of insights to other forms of education is unclear. These gaps mean that more research on strategies to support effective transitions remains an important goal for the education sector. Insights from EAC partners point to promising directions for future research on this topic.

Background

Educate A Child (EAC), a programme of Education Above All (EAA) Foundation, is a global programme with some of the text that used to be here cut, I think substituting "that" for ", which" might be cleaner. aims to significantly reduce the number of children worldwide who are missing out on their right to a quality primary education. As part of its extended strategy, EAC intends to explore promising approaches to improve primary school completion and successful transition to post-primary education.

To guide the work, EAC has contracted FHI 360 to develop draft operational definitions of post-primary education, readiness for post-primary education, and transition; identify barriers to transition and promising interventions; and identify factors that limit successful transition using available literature and implementation experience from key informants among EAC partners. This background paper provides a brief review of the literature, incorporates key messages from partners, and lays the groundwork for subsequent workshops with EAC and FHI 360.

The background paper seeks to answer the following research questions (RQ):

- How is post-primary education and readiness for post-primary education conceptualised or defined by the international community and EAC's partners?

- What are the barriers to primary completion and transition to post-primary education?

- What are the interventions or factors that support completion and transition to post-primary?

- What tools or frameworks are used to identify children at risk of not transitioning to post-primary education?

- How are primary completion and transition to post-primary measured by the international community and EAC's partners?

We identified resources for the literature review through document searches, recommendations from FHI 360 education staff, and external experts. We draw heavily on existing evidence reviews from The Abdul Latif Jameel Poverty Action Lab (J-PAL) and The Partnership to Strengthen Innovation and Practice in Secondary Education (PSIPSE). The Global Education Monitoring Reports, especially Youth and Skills: Putting Education to Work in 2012, and the World Bank's 2019 report Ending Learning Poverty: What Will it Take? were also important sources. Additionally, we reviewed education sector plans from five countries EAC has worked in, Ghana, Lao PDR, Mali, Nepal, and Tanzania, to understand how ministries of education structure their primary and post-primary education systems.

We collected feedback from 11 EAC partners through an open survey. Respondents included 2 UN agencies, 3 large INGOs, 1 regional INGO, and 5 national NGOs. Additionally, to develop a deeper understanding of organisational experiences with the late primary cycle and transition to secondary school, we conducted key informant interviews with Campaign for Female Education (CAMFED), Dhaka Ahsania Mission (DAM), MIET Africa, the United Nations High Commission for Refugees (UNHCR), the Obama Foundation, and the FHI 360 MCC Secondary Education Quality Improvement Programme in Guatemala[1].

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1   At the time this paper was written neither CAMFED, Obama Foundation, nor FHI 360 were EAC supported implementing partners.

RQ1. How is post-primary education and readiness for post-primary education conceptualised or defined?

This section describes potential transition pathways by examining the different post-primary learning experiences and primary learning experiences that children may access. We also review system characteristics, such as primary school leaving examinations that are present in many contexts before briefly mapping the post-primary opportunities in four countries where EAC works, illustrating the diversity of formal [2] pathways within and across countries. Finally, we turn to the concept of readiness for post-primary, exploring how definitions of readiness at the primary school level could inform the development of post-primary definitions. Appendix A depicts the common pathways discussed in this section that lead up to and follow the transition point.

Post-primary pathways: Transition to what?

The Learning Metrics Task Force defines post-primary education as "the various contexts in which children learn beyond primary schooling," but observes that for most children post-primary means secondary education (LMTF, 2013b). This understanding—that post-primary refers to a variety of learning experiences after primary school—is widely held among the 11 surveyed EAC partners (n = 7). For example, Girl Child Network defined post-primary as "any education course following or after completion of primary education. It could be [a] secondary education course, vocational training, or any other form of skills acquisition. It may be either formal or non-formal." Possible post-primary options may include general academic programmes, technical and vocational training, and alternative education. It is also important to acknowledge that many children who do not complete primary school, or who do not transition to formal or non-formal systems, continue to learn through informal opportunities, including paid labour, apprenticeships, or directly from their family.

General academic programmes. As the Learning Metrics Task Force definition notes, post-primary often means secondary education, with lower secondary school typically the first phase of post-primary education. The International Standard Classification of Education (ISCED) 2011 framework defines general academic programmes as ones designed to "develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare participants for more advanced education programmes at the same or higher ISCED level and to lay the foundation for lifelong learning" (UIS, 2012, p. 14). ISCED classifies lower secondary as a general academic programme and the first stage of secondary education that builds on primary education, typically with a more subject-oriented curriculum. In principle, all countries have a general academic programme that is available after primary school even if it is not universally accessible.

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2 Following UIS, formal education is "[e]ducation that is institutionalized, intentional and planned through public organizations and recognized private bodies and, in their totality, make up the formal education system of a country. Formal education programmes are thus recognized as such by the relevant national educational authorities or equivalent, e.g. any other institution in co-operation with the national or sub-national educational authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognized as being part of the formal education system (UIS, 2012)."

Technical and Vocational Education and Training (TVET) programmes. The ISCED 2011 framework defines vocational programmes as "[e]ducation that is designed for learners to acquire the knowledge, skills, and competencies specific to a particular occupation or trade or class of occupations or trades. Vocational education may have work-based components (e.g. apprenticeships)" (UIS, 2012, p. 14). Programmes may be formal, leading to qualifications recognized by national education authorities. Other programmes support youth to develop vocational, life, or other skills aligned with labour market needs without resulting in a recognized qualification. Such non-formal programmes include active labour market participation interventions and partnerships with the private sector to provide on-the-job training for young and late adolescents (Martin, Kapungu, Goelz, & Fritz, 2019). In particular research points to the value of dual apprenticeship programmes, which combine classroom-training with practical work experiences and are conducted through partnerships between the private sector and an education institution. For example, in France participation in dual apprenticeships increased the likelihood of youth employment three years after programme completion. Relative to general academic tracks, fewer children and youth follow TVET pathways, with the proportion of secondary school students enrolled in such programmes remaining at 11% in the decade after 1999 (EFA GMR, 2012). In contrast to general academic programmes that are available in all countries after primary school, formal TVET may begin at either the lower or upper secondary level.

Alternative education: second chance, re-integration, and distance programmes. The 2011 ISCED framework classifies alternative education programmes as a post-primary option. Commonly, alternative programmes are accelerated education programmes (AEPs). As defined by the Accelerated Education Working Group (AEWG), an AEP is a "flexible, age-appropriate programme, run in an accelerated timeframe, which aims to provide access to education for disadvantaged, over-age, out of school children and youth. This may include those who missed out on or had their education interrupted by poverty, marginalisation, conflict, and crisis (AEWG, n.d., p. 1)." The AEWG also emphasises that AEPs are designed to lead to official certifications or pathways to re-enter the formal system, doing so "using effective teaching and learning approaches that match their level of cognitive maturity" (AEWG, n.d., p. 1). In practice, AEPs are far more common at the primary level (UNHCR KII, March 2020), but there are notable exceptions such as the UNRWA Self-Learning Programme that provides a full basic education cycle by combining content from both the primary and lower secondary curricula.

Distance learning is another alternative option. With demand for lower secondary education outpacing supply in some contexts (Hatch, 2015), distance learning programmes may help to extend formal post-primary learning opportunities to children who would otherwise not be able to secure a place in brick and mortar schools. Large, effective, and long-standing distance learning programmes for lower secondary education that rely on television and radio broadcasting have been run in Brazil and Mexico, as have smaller programmes in India and Indonesia (UNESCO,

2001). Botswana also offers a more recent example of a televised learning programme, one with nationwide reach (Burns, Santally, Rajabalee, & Halkhoree, 2019). Where the internet is reliably available, online or blended learning programmes also offer possible options for distance learning[3].

Informal learning for workforce entry and life skills. Children who do not transition to formal or non-formal post-primary education continue to learn through work, family, and community experiences (LMTF, 2013b). The 2011 ISCED framework describes these informal learning opportunities as "forms of learning that are intentional or deliberate but are not institutionalised. They are less organised and structured than either formal or non-formal education. Informal learning may include learning activities that occur in the family, in the workplace, in the local community, and in daily life, on a self-directed, family-directed or socially-directed basis" (UIS, 2012, p. 12). Preferring the term "practice-based learning" to informal education, Billett argues that supporting the transition from school to the workforce and learning in the workforce should involve orienting learners to the world of work, identifying work opportunities, and preparing them for self-guided, lifelong learning (2013).

Primary pathways: Transition from what?

Because children's experiences with post-primary are shaped, in part, by their prior educational experiences, it is important to consider the pathways that children take into post-primary. Many of the same avenues for post-primary exist to some extent at the primary level, though primary pathways tend to be simpler, with most children participating in formal general education or equivalent programmes focused on the development of literacy, numeracy, and other foundational skills. Although internship or apprenticeship programmes may support primary school dropouts already engaged in the informal sector with skills and opportunities for work (EFA GMR, 2012), formal vocational training paths at the primary level are rare. Below we discuss some of the alternative education options at the primary level.

Alternative education programmes. While participation in formal primary schools is the norm in many countries, AEPs and religious programmes that integrate or blend the public sector curriculum with religious content are particularly important in some contexts where there is insufficient access to primary schools, where learning is interrupted due to conflict or natural disaster, or where parents prefer these alternative options. In these instances, alternative programmes ensure that children gain the core knowledge and skills, such as literacy and numeracy, which often characterise primary education.

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3   The closures of schools around the world due to the COVID-19 pandemic saw an increase in the use of a range of technologies including radio and television for the continuation of learning at a distance.

Many alternative programmes are accelerated ones designed to help out of school children make up missed content, allowing them to reenter formal education, gain a primary level certificate, enter technical programmes, or join the labour market more successfully. For example, a Stromme 4 Foundation programme in Burkina Faso supports several accelerated education options that facilitate entry into the education system at different points, including one that prepares children for the primary school leaving examination and entry into post-primary[5].

This opens formal and non-formal educational pathways to overage children who, due to strict age requirements for educational participation in Burkina Faso, would otherwise remain out of school. AsUNHCR noted, accelerated programmes are an important strategy for supporting refugee children as well as internally displaced children, returnees, and others impacted by conflict and crisis to gain nationally recognised educational certifications (KII, March 2020).

Religious education systems are an important feature of the primary education landscape in some contexts, a factor CARE mentioned when describing their work in Somalia in the partner survey. DAM also pointed to the importance of the Islamic education system in Bangladesh (KII, March 2020). While some religious schools offer post-primary education, children who begin in religious schools at the primary level may have difficulty transitioning to mainstream systems later in their education careers. For example, DAM explained that, in principle, children can transition between systems in Bangladesh, but, in practice, differences in languages of instruction limit transfer into some general education schools, demonstrating how primary pathways may limit post-primary options for some children.

Characteristics of early post-primary education phases: Common features and areas of difference across systems

In their review of evidence on post-primary education, Banerjee, Glewwe, Powers, and Wasserman (2013) identify common features of post-primary systems:

- With more students transitioning from primary to post-primary education than in the past, it is increasingly the mandate of post-primary (and post-secondary) education systems, rather than primary schools, to prepare children and youth for the workforce. Even in countries with lower transition rates where students more often transition from primary school to work, primary education systems may still not be designed to prepare those children to productively engage in the economy and society.

- Post-primary education is more expensive to provide than primary education, especially given the costs associated with recruiting teachers with specialised knowledge and longer school hours at the post-primary level. It is also costly to equip post-secondary schools with subject-specific facilities, like laboratories, and other equipment. In some contexts, these costs are borne, in part,

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4   Strømme Foundation is an EAC partner.
5   The closures of schools around the world due to the COVID-19 pandemic saw an increase in the use of a range of technologies including radio and television for the continuation of learning at a distance.

by students and their families through higher school fees at the post-primary level.

- Post-primary schools tend to be larger, serving more students, and often farther to reach, especially for students in rural areas.

- With more specialised knowledge required for instruction, it can be harder to identify qualified teaching staff. As a result, staffing schools with supplementary teachers with lower qualifications—an important strategy for primary schools in some contexts—may not be effective in post-primary.

- As discussed earlier in this paper, there is a greater diversity of post-primary pathways, with curricula for academic and vocational paths, not just foundational skills, like in primary school.

- Access to post-primary options, especially upper secondary schools, may be restricted by a national examination.

- Students are older at the post-primary level, resulting in greater opportunity costs associated with staying in school, as will be discussed subsequently in the Barriers section of this paper.

While these characteristics are important traits of many formal post-primary systems, there is considerable variation across systems in terms of the official entry ages to post-primary and when different features, like examinations or the introduction of TVET pathways, occur. To explore this variation, we look at post-primary education systems in five countries EAC has worked in, Ghana, Lao PDR, Mali, Nepal, and Tanzania, drawing on current education sector plans and systems mappings from UIS (MEN Mali, 2019; MoE Ghana, 2017; MoE Nepal, 2016; MoES Laos, 2015; MoEST Tanzania, 2018; UIS, 2020). Figure 2 illustrates the formal pre-primary, primary, and secondary education systems in these countries, showing the diversity of post-primary systems.

As Figure 2 shows, in Nepal students who started and progressed through primary school on time would begin post-primary at Age 10 after five years of primary school. In contrast, students in Tanzania enter post-primary at an older theoretical age and with more academic experience, entering at Age 14 after seven years of primary experience. These differences in theoretical entrance ages are important to bear in mind in education planning because age is a factor in the developmental appropriateness of different teaching and learning approaches. As such, the instructional approaches suited to early post-primary curricula in one context may be less appropriate in others.

Systems are also different in whether eligibility for formal post-primary education depends on the results of primary school leaving examinations. As Figure 2 demonstrates, of the five countries reviewed, only Tanzania has a high stakes examination that determines eligibility for post-primary school. It is also the only country of the five to offer formal TVET in the immediate post-primary period, apart from a specialised dance and music pathway offered in Laos.

Figure 2. Formal primary and secondary education pathways in five EAC countries (UIS, 2020), school reference year in parentheses
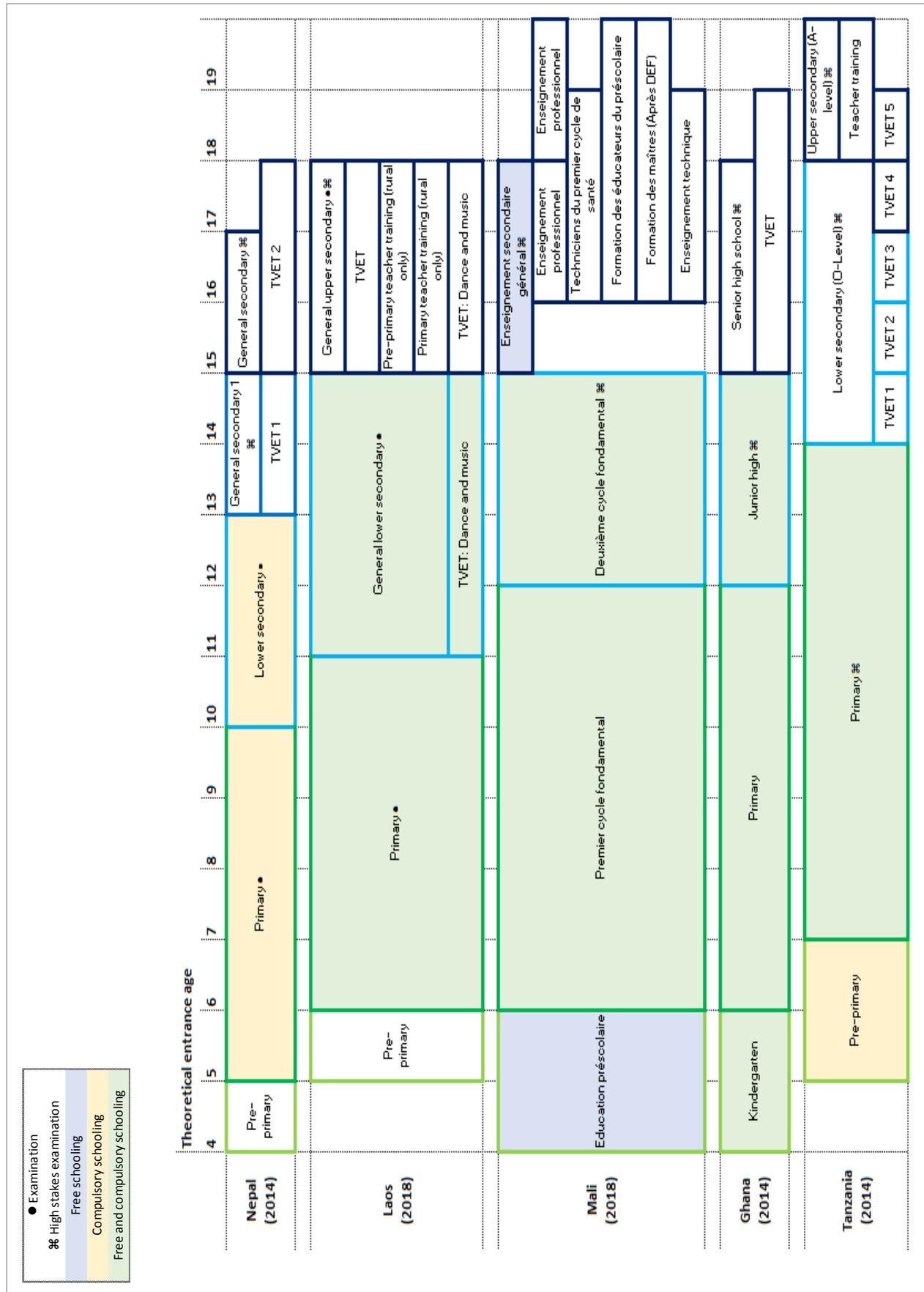
Notably, although these countries do not use the term "post-primary"[6] in their current education sector plans, a focus on the transition to post-primary is consistent with goals to improve the complete basic education cycles in Ghana, Nepal, and Tanzania and a new, expanded focus on lower secondary school in Lao PDR. These countries have prioritised a range of different strategies that remove systemic barriers to lower secondary education, including making lower secondary education free, compulsory, and more easily accessible.

Box A. Shifts to basic education cycles

In some contexts, the content and structure of early post-primary schooling options are closely tied to primary education, advancing a common set of foundational skills under compulsory, free basic education cycles. For example, Argentina combines primary and lower secondary into 9 years of compulsory basic education curriculum emphasizing core skills (Jacob & Lehner, 2011). In such systems, which also include those illustrated for Nepal and Ghana in Figure 2, vocational tracks may not be introduced as a formal option until upper secondary education as emphasis remains on a core general curriculum delivered to all students. Indeed, education sector plans for Nepal and Ghana primarily discuss plans for basic education, not separate primary and lower secondary education cycles. Tanzania, which is transitioning from the system mapped in Figure 2, also plans to move towards a basic education system.

While the shift to compulsory basic education does not mean that all students do, in reality, transition to lower secondary, countries with basic education cycles are working towards removing structural barriers to post-primary education, including elimination of fees (though other education costs, such as uniforms and books remain an obstacle) and adding automatic promotion policies over high-stakes examinations. However, as post-primary education becomes more accessible, the more problematic period for dropout may be the transition to upper secondary education, especially where upper secondary education is not compulsory as is the case in many countries in Sub-Saharan Africa and Southeast Asia. Raising the age of compulsory education has been shown to have a number of benefits including significantly increasing lifetime wealth and health (OECD, 2012).

Many contexts have already shifted to basic education. For example, UNWRA explained that they focus on completion of basic education, not on completion of primary school, because the contexts they work in have compulsory education through Grades 9 or 10 (partner survey response, February 2020). About 70% of countries, though only 40% of countries in Sub-Saharan Africa, have at least nine years of compulsory education (Hutchings, 2017).

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6   Tanzania does not use "post-primary" in general terms but does offer a specific programme called Integrated Post Primary Education, a pre-vocational track focused on employment skills for children unable to secure a place in lower secondary school.

Readiness for post-primary education

During the literature review, we were unable to identify any definitions for post-primary readiness. In the EAC partner survey, only a few partners (n = 4) were able to suggest informal definitions of post-primary readiness. In the absence of formal conceptual frameworks, we draw on the limited EAC partner responses as well as literature on primary school readiness to consider how post-primary readiness might be conceptualised.

Individual readiness

Primary school readiness is sometimes narrowly defined as participation in pre-primary school. Other definitions also include a dimension related to developmental readiness. For example, the target for SDG 4.2 states that "by 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education. Indicators for this target include the "participation rate in organised learning (one year before the official primary entry "age)" and "the proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being" (UIS, 2019)[7].

Notably, of the four EAC partners who suggested definitions for post-primary readiness, three included an emphasis on developmental readiness. While there is consensus that developmental readiness involves a complex set of skills, attitudes, and attributes of wellbeing, these definitions and the limited literature available on the topic do not always identify the same core characteristics needed for successful engagement in early post-primary opportunities. Below we explore common characteristics mentioned in literature and partner discussions to answer the question, "If definitions of individual readiness for primary school were adapted for the post-primary level, what skills and developmental abilities should be considered?"

Literacy and numeracy

A shift to more subject-based coursework throughout secondary education presumes, at a minimum, proficiency with the foundational skills, especially literacy and numeracy, that the ISCED 2011 framework describes as the focus of primary school (UIS, 2012). These foundational skills are the focuses for Plan International Canada's thinking[8] about readiness, which involves "having achieved the requisite learning outcomes required of ISCED Level 1. This is the necessary requirement for participation in Level 2 +." It cannot be assumed that children have developed these literacy and numeracy skills by the end of primary school. Indeed, many do not due to low-quality education or absenteeism in some contexts. Those who transition without foundational skills struggle as they progress through the education system and are more likely to drop out (Lloyd, 2009). MIET Africa observed this to be the case in South Africa, with many lacking foundational numeracy skills and struggling in lower secondary school as a result (KII,

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7   Ideally, developmental readiness would be measured for children older than 5, including ages up to theoretical entry age for primary. However, the most widely available resource of this data, the Early Childhood Development Index available from Multiple Indicator Cluster Survey, assesses these concepts only in children under age 5 (UNICEF, 2019).

8   Plan International Canada noted that they do not have a definition of readiness for post-primary but shared thoughts on the concept.

March 2020).

Several key informants, including CAMFED, UNHCR, and MIET Africa, mentioned the importance of literacy and language skills in the language of instruction, which may be different from a child's mother tongue or the language of instruction in lower primary grades. As the vocabulary becomes increasingly technical in the more subject-specific coursework that follows primary school, command of the language of instruction plays an important role in successful engagement.

Beyond literacy and numeracy: 21st century skills

While recognizing the importance of literacy and numeracy skills, the international education community increasingly focuses on equipping children and youth with an expanded set of skills, such as communication and collaboration, critical thinking and problem solving, creativity, civic responsibility and cultural awareness, that more fully prepare them for the world they live in and for the future (British Council, 2016). These so-called "21st century skills" have been included in past and current global development goals, including Education For All, which emphasized the need for learning outcomes related to "literacy, numeracy and essential life skills" under Goal 3 (EFA GMR, 2012) and the Sustainable Development Goals, which target global citizenship education and education for sustainable development under Goal 4. Moreover, national education systems frequently cite 21st century skills, especially transferable ones such as collaboration, creativity, critical thinking, and problem-solving, as critical (Care, Anderson, & Kim, 2016).

What are 21st century skills? In a recent landscape analysis on the topic, the Global Partnership for Education (GPE) defines 21st century skills as the "abilities and attributes that can be taught or learned to enhance ways of thinking, learning, working, and living in the world. The skills include creativity and innovation, critical thinking/problem solving/decision making, learning to learn/metacognition, communication, collaboration (teamwork), information literacy, ICT literacy, citizenship (local and global), life and career skills, and personal and social responsibility (including cultural awareness and competence)" (GPE, 2020, p. v).

The Learning Metrics Task Force developed a Global Framework of Learning Domains that identifies "the skills and competencies important for all children and youth to develop." This framework goes beyond literacy and numeracy skills and names seven learning domains that children and youth should develop from early childhood through lower secondary education: physical well-being, social and emotional, culture and the arts (which includes some citizenship skills), literacy and communication, learning approaches and cognition, numeracy and mathematics and science and technology. The Task Force proposed specific competencies, identified in Figure 3, related to different domains.

The Global Framework of Learning Domains and similar frameworks cited in the GPE review[9] provide two important insights for this review. First, the framework represents the different domains of learning that education systems would ideally help children develop. As such, it does not address readiness for post-primary in a strict sense, because it represents the ideal breadth of outcomes from education at different levels, not the priority skills that condition success at the start of the next level. However, it helps to answer the question, "What skills should children leave education systems with to thrive in work and life?". This question has important implications for children who fail to transition to post-primary education, guiding thinking about the range of workforce and life skills that are developmentally appropriate to encourage at the primary school level. Whereas the framework addresses a broad set of foundational skills for negotiating the world, Box B supplements this framework, highlighting specific skills tied to employability and entrepreneurship that could be emphasized at the primary level to prepare children who drop out for work.

Socio and emotional skills. While the full LMTF framework of learning domains (or alternatives) may better inform discussions of goals for learning outcomes in primary, EAC partners and organisations participating in interviews identify some of these domains as key for readiness for post-primary. In particular, several EAC partners and organisations stressed the importance of social and emotional skills.

For example, CARE offered the following definition of post-primary readiness, which sees readiness as a reflection of academic or cognitive readiness and developmental readiness, especially emotional maturity:

Post-primary readiness is a student's cognitive and developmental readiness to engage at the post-primary level. This includes both meeting minimum competencies for completion at the primary level (e.g. minimum levels of learning outcomes and emotional functioning) as well as their readiness to engage in the post-primary environment (e.g. for those that are shifting to a boarding programme away from home, it would include their developmental and emotional readiness to live away from home at a residential boarding house).

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9   GPE's landscape analysis (2020), mentioned above, reviews a number of frameworks related to 21st century skills, many of which could productively inform thinking about skills that children should leave primary school with and post-primary readiness. We focus on the Global Framework of Learning Domains, because of its development through extensive consultation with national governments, its emphasis on literacy and numeracy (widely viewed as essential for post-primary) in addition to other life skills, and its detailed mapping of competencies for multiple education levels. It is also closely associated with other initiatives, like the Breadth of Learning Opportunities, that have considered the extent to which learning domains are represented in some national curricula.

Figure 3. LMTF Global Framework of Learning Domains (LMTF, 2013a)

Domain	Earlty Childhood level	Primary Level	Postprimary Level
Physical well-being	Physical health and nutrition Health knowledge and practice Safety knowledge and practice Gross, fine and perceptual motor	Physical health and hygiene Food and nutrition Physical activity Sexual health	health and hygiene Sexual and reproductive health illness and disease prevention
Social & emotional	Self-regulation Self-concept and self-efficacy Empathy Emotional awarenece(Knowledge, expression, and regulation) Social relationships and behaviors Conflict resolution Moral values	Social and Community values Civic values Mental health	Social awareness Leadership Civil engagement Positive view of self and others Resilience " grit " Moral and ethical values
Culture & the arts	Creative arts Self-and community - identity Awareness of and respect for diversity	Creative arts Social studies Cultural Knowledge	Creative arts Social studies and history Social sciences
Literacy & communication	Receptive language Expressive language Vocabulary Print awareness	Oral fluency Oral comprehension Reading fluency Reading comprehension Receptive Vocabulary Expressive Vocabulary Written expression/composition	Speakin and Listening Writting Reading
Learning approaches & cognition	Curiosity and engagement Persistence and attention Autonomy and initiative Cooperation Creativity Reasoning and problem solving Early critical thinking skills Symbolic representation	Persistence and attention Cooperation Autonomy Knowledge Comprehension Application Critical thinking	Collaboration Self - direction Learning orientation Persistence Problem - solving Critical decisionmaking Flexibility Creativity
Numeracy & Mathematics	• Number sense and operations • Special sense and geometry • Patterns and classification • Mesurement and comparison	Number concepts and operations Geomatry and patterns Mathematics application	Number Algebra Geometry Everyday calculations Personal finance Informed consumer Data and statistics
Science & technology	Inquiry skills Awareness of the natural and physical world Technology awareness	Scientific inquiry Life Science Physical Science Earth Science Awareness and use of digital technology	Biology Chemistry Earth Science Scientific approaches Environmental awareness Digital technology

CAMFED also felt that the ability to cope with more demanding academics and to build new support networks in secondary schools, which are often further from children's homes and bring together children from more communities in larger school environments, is fundamental to a successful transition. However, CAMFED believed that social and emotional skills could be—and should be - nurtured by schools starting early in the transition period (KII, March 2020). Research from New Zealand echoes the importance of social and emotional skills, especially resilience, resourcefulness, the ability to listen, being tolerant and cooperative, and a sense of contribution to school and communities, for a successful transition to secondary school (O'Toole, Martin, Fickel, & Britt, 2019). In part, this is because of the role these skills play in mastering a more advanced subject matter. Finally, UNHCR emphasized that psychosocial well-being is crucial for displaced populations but relevant for all groups (KII, March 2020).

In sum, while a range of skills and developmental attributes have been linked to readiness for post-primary schooling and life beyond the classroom, two areas stand out: academic preparedness and 21st century skills, especially ones falling under the umbrella category of socio-emotional skills. Indeed, a study identifying factors supportive of the transition to secondary school in the United Kingdom (discussed subsequently in the section on identifying children at risk of not transitioning) see successful transitions as ones sustained by both of these factors, which the researchers frame as (a) academic and behavioural engagement, i.e., attendance, academic attainment, and classroom behaviour, and (b) school bonding, i.e., enjoying school and feeling connected, not isolated, there (Rice et al., 2015).

Considerations for measuring readiness

Data on literacy and numeracy outcomes are more widely available than other skills. These foundational skills are often the focus of international assessments, like PIRLS and TIMSS; regional assessments, like LLECE, PASEC, and ASER; and national assessments. For example, Nepal monitors performance in math, English, and Nepali at the end of the primary school cycle (MoE Nepal, 2016).

In contrast, data for 21st century skills are limited. Measurement in this area is, however, expanding, with some initiatives, such as the Southeast Asia Primary Learning Metrics assessment, assessing global citizenship. Momentum is also building behind the measurement of socio-emotional skills, with the 2019 LLECE assessment in Latin America planning, for example, to assess socio-emotional skills, such as self-regulation and self-management, among Grade 6 students (GPE, 2020).

Notably, while emphasizing how important it is for students to develop a breadth of skills, the World Bank proposes prioritising reading as the primary metric for monitoring foundational skills in its Ending Learning Poverty report. The authors explain the rationale for this choice:

(a) reading measures are broadly understood by stakeholders, including parents, (b) reading underpins learning in other areas, and (c) research points to reading skills as strongly correlated with learning in other subjects, making it an effective proxy. The authors even cite ties between reading and socio-emotional skills, pointing to the importance of language development, encouraged by reading, in supporting the development of self-regulation skills (World Bank, 2019).

Box B. Skills to boost employability and entrepreneurship

Entrepreneurial competencies are often part of conceptualizations of 21st century skills. The Mexican "My First Company: Entrepreneurship by Playing" is an example of a programme that seeks to cultivate entrepreneurship, demonstrating that entrepreneurial skills can be encouraged effectively in primary and lower secondary schools. A related study concluded that this type of programme has the potential to improve the socioeconomic situation of participants and increasing self-employment particularly in developing countries (Cárcamo-Solís, Arroyo-López, Alvarez-Castañón, & García-López, 2017).

Additionally, some cognitive skills show consistent positive correlation with desirable education and work outcomes (NRC, 2012). These skills, which include critical thinking, non-routine problem-solving, and constructing and evaluating evidence-based arguments, fall under the learning approaches and cognition domain in the LMTF Global Framework of Learning Domains.

More fundamentally, the foundational skills emphasized in primary school curricula, especially reading and numeracy, are essential to workforce readiness. In its Ending Learning Poverty report, the World Bank observes that foundational skills predict earnings in both high income countries and emerging economies, even controlling for educational attainment. Similarly, in low- and middle-income countries, research shows that reading skills—and not schooling itself are associated with better financial behaviours. The World Bank also argues that reading, numeracy, and reasoning underpin the adaptability needed for evolving work opportunities in the increasingly fast-changing, technology-based modern economy (World Bank, 2019).

Family, community, school and policy readiness

In other frameworks, readiness goes beyond the individual. A UNICEF framework on primary school readiness emphasizes not only individual readiness, as in the definitions above, but also the readiness of schools and families (UNICEF, 2012). Several key informants, including CAMFED, Girl Child Network, and UNHCR, emphasized the importance of thinking beyond the individual when conceptualising readiness at the post-primary level as well, often pointing to individuals, families, communities, schools, and policy as salient levels. In the following section, we discuss readiness factors at different levels of the ecological model (see also Figure 4).

Families. In its definition of readiness, DAM identified the importance of family support for education, including having a family that values post-primary education, something CAMFED also mentioned. Girl Child Network noted the need for families to be emotionally prepared, especially where participation in post-primary requires that a child live away from home. Poverty also impacts a family's financial readiness for a child's education, influencing whether they can afford school fees or other costs, like textbooks, transportation, and uniforms, and forego the income an older child could earn through labour.

Communities and schools. UNHCR and Girl Child Network pointed to the readiness of post-primary infrastructure, with the need to have sufficient secondary schools, ideally equipped with facilities like laboratories, and for the infrastructure to support the inclusion of girls and children with disabilities. Beyond infrastructure, schools must be prepared to nurture adolescent developmental needs, for example: teaching students to manage emotions; offering opportunities for abstract thinking, a new skill in adolescence; providing avenues for physical activity; supporting children through the physical changes of puberty; incorporating social and collaborative learning; and building a school culture supportive of positive interactions and behaviours and that allows for student governance and leadership (FHI 360, 2016).

DAM and CAMFED stressed the importance of the readiness of schools and communities to support students through the transition process, especially given the challenges of adapting to a larger school environment, which may require establishing new social networks and relationships with teachers. Support for this area could include helping students retain support networks from primary (transitioning with groups of peers from the same community), community mentors, teacher mentors, and care groups for students.

Policy and system. Finally, some key informants addressed the importance of policies supportive of readiness, ones that encourage access, perhaps providing financial relief for the costs of education, and promote inclusion of refugees, girls, children with disabilities, and other marginalised groups. It is also crucial that the curriculum goes beyond subject-matter content goals and that it fosters adolescent developmental growth areas, like critical thinking, and connecting content to real-world opportunities (FHI 360, 2016).

Figure 4. Spheres of readiness and illustrative factors at each level

School + community
Inclusive facilities, care groups, role models

Policy/system
Support inclusion, e.g., of girls and refugees

Access to affordable, quality post-primary education

Family
Emotional readiness

Financial readiness

Individual
Academic skills

Socio-emotional skills, e.g.:

Perseverance with more

Challenging coursework

Ability to establish

Social bonds

RQ2. What are the barriers to primary completion and transition to post-primary education?

This section outlines barriers that may impede transition. Given the limited research and reflection on transition specifically, we focus on education barriers that intensify as children progress through the system, rather than on barriers distinct to transition. Ultimately, as with primary school education, a multitude of interacting barriers and characteristics - both systemic and individual-shape decisions to continue to post-primary. We discuss those raised frequently in the literature and by partners, especially ones that intensify as children advance through the education system. In part, this is because eligibility for post-primary depends on prior educational attainment, so barriers to attendance and achievement in primary not only still apply at the post-primary level but may have made it impossible to master the foundational skills necessary to successfully transition. Also, the opportunity cost of attending post-primary education is higher, making, for example, the trade-off between employment and continued education a more significant factor, especially in poorer households. Inequalities also sometimes intensify, with Rolleston and Iyer (2019) finding, for example, that the gap in learning outcomes widened for disadvantaged youth in Vietnam throughout Grade 10, unlike in Grade 5, where initial gaps narrowed over the school year.

Some of the barriers we discuss are characteristics of education systems or school environments that "push" students out of school while other factors external to the system "pull" students out. Others are demographic or behavioural characteristics of individuals that may lead them or force them to "opt-out" of school (Singh & Mukherjee, 2018). Sometimes these different categories are interrelated with, for example, school fees a "push" factor linked to the "pull" factor of poverty. Similarly, school quality or content relevance is a "push" factor that might spur a disinterested, disengaged student to "opt-out." Because of these interconnections, we do not isolate pull, push, and opt-out factors in the discussion. See Box C for the reasons adolescents in Ethiopia, India, Peru, and Vietnam commonly cited for dropping out of school that, like the report the data is drawn from, utilises the push, pull, and opt-out framework. Many of the reasons cited there directly relate to the barriers identified below.

Age. CREATE, which considers whether a child is two or more years overage as an important risk factor in its Zones of Exclusion model, details several reasons that age compounds challenges to school access: (1) Overage children are more likely to underachieve. In part, this is because children who began school late are more likely to have missed an important opportunity to develop core skills, because younger children are developmentally primed to develop such skills in ways that older children are not; (2) the experience of being with younger children undermines learning because of psychosocial challenges, such as self-esteem and harassment, that result and because pedagogical strategies tailored to younger children are inappropriate for older children, who reason differently; and (3) reaching the post-primary transition point late (at age 14 or 15)

means that transition points for education approach those for entry to the workforce, especially as they develop into more physically able workers, and for marriage, raising the opportunity costs of education and complicating decisions to continue (or not) with education (K. Lewin, 2011). Banerjee et al. (2013) add that children of secondary school age tend to be more involved with decisions about post-primary attendance, whereas parents make decisions about primary school participation. Key informants strongly reiterated the role of age in transition, especially given that opportunity costs increase with age.

Distance to school. With secondary schools often serving larger communities than primary schools, sometimes due to infrastructure shortages, many students must travel longer distances to secondary schools or secure official or unofficial boarding options. For those who travel, the time required to reach school in conjunction with transportation costs or the physical labour of walking or biking involved can disincentive participation in post-primary school. As many key informants mentioned, long, sometimes isolated, routes to secondary schools leave children exposed to safety risks, especially since the time involved sometimes requires movement while it is dark. Parents of girls may particularly worry about the dangers of distance and choose to keep their daughters out of school (Banerjee et al., 2013). Challenges with distance to secondary schools not only influence decisions about whether to transition, but also whether to complete primary school: In Tanzania, for example, greater distances to secondary schools correspond to higher levels of dropout (Ainsworth, Beegle, & Koda, 2005).

School costs and poverty. Higher direct and indirect education costs at the secondary level limit access to youth from the lowest three quintiles of wealth in lower-income countries . This is especially true where post-primary schooling is not tuition-free though, even in the absence of tuition fees, uniforms, transportation, books, tutoring, and other education costs make education prohibitively expensive for poorer families. As children mature and become more physically prepared for labour, the opportunity cost of staying in school particularly where it is not seen as relevant to future employability over entering the world of work rises and may discourage transition to secondary school.

Gender. Barriers related to gender compound with age. For girls, puberty impacts transition, with managing menstruation a physiological challenge at school where sanitation facilities, especially gender-specific ones, are limited, though some studies fail to find meaningful links between menstruation and poorer attendance. It is also a psychosocial challenge where girls were not emotionally prepared for the change or experience harassment (Sperling & Winthrop, 2015). Puberty may also signal readiness for marriage in some cultures, or post-primary age girls be required to become more involved with household chores and childcare. Also, as mentioned above, perceived (and actual) safety risks stemming from distance to school may lead parents to withdraw their children, especially girls (Banerjee et al., 2013).

However, boys also face unique challenges. MIET Africa named this as an important consideration

in their programming, especially as boys can feel side-lined when encouragement is given mainly to girls, who are assumed to be at a greater disadvantage (KII, March 2020). Putting Skills to Work, the 2012 GMR, reinforces this concern, noting that more girls are enrolled in secondary school than boys in some countries and that they often outperform them in reading, especially in upper-middle- and high-income countries. This "reverse gender gap" is sometimes the result of greater pressures for boys to work outside the home as they get older. Boys may also find some school contexts disengaging, especially where the majority of the teaching staff is female, leaving few male educational role models for boys (EFA GMR, 2012).

Forced and voluntary migration. Children impacted by conflict and natural disasters are often at a severe educational disadvantage, as are those who move voluntarily, following seasonal or temporary livelihood opportunities or practising nomadic lifestyle. With local schools often damaged or destroyed and undermined psychosocial wellbeing limiting children's ability to learn, emergency settings constrain learning opportunities. Populations displaced by emergencies face these and other challenges, including exclusion from host community schools. Even where students are admitted into host country schools, the language of instruction may differ, which can be a greater challenge for children joining systems at higher grades with more technical vocabulary. Furthermore, with secondary schools often in shorter supply under normal circumstances, access for forced or voluntary migrants becomes an even more severe challenge for post-primary than for primary. In KIIs, UNHCR emphasized the challenges that refugees face in accessing post-primary education, and MIET Africa pointed to challenges related to climate change, for example where increasingly frequent severe weather events, such as Cyclone Idai in Mozambique in 2019, damage livelihoods and school infrastructure.

Disability. A UNICEF analysis of household survey data in 15 countries shows that, on average, 41.5% of children of primary school ages with disabilities are out of school, with the percentage rising to 56.3% for children of secondary school ages. In those countries, out of school children (OOSC) rates for both primary and secondary school age groups are substantially higher among children with disabilities than children without disabilities, with the gaps at roughly 30 percentage points for both age groups statistically significant (Mizunoya, Mitra, & Yamasaki, 2016). Similarly, in an analysis of household survey data in 11 countries (some common to the UNICEF analysis) published almost a decade earlier, Filmer (2008) documents extreme disparities in OOSC rates, with slightly wider gaps for 12 to 17-year-olds with disabilities than 6 to 11-year-olds with disabilities compared to their non-disabled peers (median gaps were 25 and 21 percentage points respectively for the two age bands). Filmer also reports lower school survival rates (which go hand-in-hand with higher dropout rates) for children with disabilities compared to children without disabilities as students' progress through the education system in Bolivia, Colombia, Jamaica, and Romania. However, in Benin, Cambodia, Mongolia, and Mozambique, the gap in dropout between groups remained stable or closed.

While these analyses provide mixed results about whether disadvantage for children with disabilities deepens meaningfully throughout the education system, both recognize disability as one of the most profound barriers to education, finding it to be a stronger determinant of non-participation than any other factor, including poverty, rural residence, and gender, in econometric analyses for most countries examined. Moreover, both point to starkly low levels of initial access to school as the primary driver for deficits in school access for children with disabilities (dropout is not a concern where children are not enrolling to begin with). As a result of this dynamic, it is easy to imagine the possibility that improved school participation for children with disabilities in early grades might reveal obstacles to participation later in education systems, such as challenges (a) ensuring accessibility of post-primary institutions, (b) providing accessible teaching and learning materials to support the more diversified technical material in post-primary, and (c) with building a cadre of post-primary educators trained in inclusive pedagogy. If these or other challenges come to pass, they can be expected to bear on decisions about transition to post-primary, though, at present, we found little research into disability as a specific barrier for transition.

Language. As with primary school, language-related challenges limit learning in post-primary for those without fluency in the language of instruction. Two factors compound language challenges around the time of transition to post-primary. First, in multilingual contexts, language of instruction policies sometimes change in late primary school or early post-primary, with instruction shifting from mother tongue to another language, often a lingua franca. Where children do not know this language fluently, they may struggle to complete primary and/or participate successfully in post-primary.

CAMFED mentioned this challenge in Tanzania, where the language of instruction shifts from mother tongue to English in post-primary, as a substantial cause of dropout in the first year of post-primary. Furthermore, even where youth remain in school, language challenges may detract from learning, especially as vocabulary becomes increasingly technical in subject-specific classes. MIET Africa, as discussed earlier, and UNHCR both cited language as a challenge to post-primary transition. Notably, CAMFED emphasized that language is, in their experience, underrepresented as a barrier to transition.

Role models and emotional support. Another barrier that organisations raised and that CAMFED reiterated is the symbolic "distance" to post-primary education, especially formal education options, for students whose parents or community members did not attend post-primary school. In such situations, students may lack role models who understand the challenges they face and can provide support. They may also need to defend their decision to attend post-primary if those around them do not recognize the benefits to education beyond primary school.

Box C. Insights from Young Lives on the barriers that adolescents face in continuing school

Young Lives is a longitudinal study of approximately 12,000 children and youth in Ethiopia, India, Peru, and Vietnam. The study asked youth around ages 12, 15, and 19 who left school for the main factors influencing their dropout decision. Singh and Mukherjee (2018) map responses against a framework considering push factors, pull factors, and opt-out factors, reporting the most common in each category of factors. While such self-reports may underrepresent factors that are sensitive to report, like menstruation challenges, or fail to capture the complexity of dropout decisions, youth responses provide insights into barriers adolescents face to education. Although these self-reports do not focus specifically on the window of transition from primary school to post-primary opportunities, they inform our understanding of the pressures that youth of transition and secondary school ages face.

Figure 5. Presents youth self-reports on reasons for not attending school. Among "push" factors, common barriers relate to education costs (i.e., fees, books, or other supplies being too expensive), distance to school, and achievement (i.e., failing to achieve the necessary prerequisites to continue and being unable to understand the content of the lesson), with achievement factors reflecting on school readiness considerations. Work related factors - the need or desire to pursue paid work outside the home or unpaid work at home - and marriage are the barriers most commonly referenced as "pulling" students from school. Finally, youth named low attendance, disinterest, limited relevance, and factors related to disability, health, and age as reasons they "opted out" of education.

Figure 5. Reasons cited by adolescents in Ethiopia, India, Peru, and Vietnam for leaving school, figure based on results presented in Singh and Mukherjee (2018)

Push factors	1. Fees too expensive (38.6%)
	2. Failed to achieve necessary grade/level to continue with school (24.3%)
	3. Books and/or other supplies too expensive (8.9%)
	4. School too far from home (7.1%)
	5. Cannot understand the content of lesson (5.6%)
	6. Other (15.4%)
Pull factors	1. Marriage (23.0%)
	2. Have to do paid work to earn money (20.1%)
	3. Needed for domestic and/or agricultural work at home (14.5%)
	4. Wanted to start working (12.2%)
	5. Looking for work (7.5%)
	6. Other (22.6%)
Opt-out factors	1. Truancy, disinterest, does not want to go (59.5%)
	2. No need for schooling for future job (15.9%)
	3. Disability, illness (13.9%)
	4. Child too young (10.1%)
	5. Preparing to enter university/educational institution (0.7%)

Relevance. The low relevance of post-primary education both real and perceived to the labour market leads some youth to curtail their education (EFA GMR, 2012). A function of curriculum choices and instructional quality, educational relevance influences decisions about transition to post-primary and attendance more broadly, especially as the opportunity cost of staying in school versus working rises and the curriculum shifts from fundamental skills, like reading, to more subject-based curriculum, which youth may have more difficultly seeing as relevant to their futures (and which may, indeed, be less relevant). Key informants and survey respondents emphasized that this is a substantial barrier for transition to and persistence in post-primary education. Sustainable Development Goal 4 emphasizes the importance of relevance in two targets: Target 4.1 points to the need for free, equitable and quality primary and secondary education to result in relevant learning outcomes and Target 4.4 emphasizes the need for youth and adults to gain relevant skills for employment and entrepreneurship.

Health. Although less widely studied for post-primary than at earlier stages, poor nutrition and health-related challenges would influence post-primary performance in much the same way as at the primary school level (Null, Cosentino, Sridharan, & Meyer, 2017). Beyond these health factors, additional challenges arise as children reach puberty. Although menstruation is often cited as a challenge to attendance, including by survey respondents and key informants, it is important to note that the link between menstruation and participation is not necessarily supported by research with some finding negligible effects of menstruation on attendance (Banerjee et al., 2013; Grant, Lloyd, & Mensch, 2013). Nevertheless, it may be the case that the challenges of managing menstruation impact girls' school experiences in other ways, e.g., the stress of managing menstruation at school, especially in the absence of gender-segregated latrines, may undermine learning. MIET Africa also highlighted the difficulty that HIV/AIDS-positive youth face in attending school, as treatment options interfere with the school schedule (KII, March 2020). The onset of puberty and sexual activity increases the risk that youth will contract HIV/AIDS, making this an even greater barrier at the post-primary level relative to the primary level.

RQ3. What are the interventions or factors that support education leading up to and following transition?

In this section, we discuss common enabling factors and interventions mentioned in literature and interviews. Because of the dearth of research into transition-specific supports, we maintain a broad focus on factors and strategies that improve participation and retention in post-primary years (meaning a decision was made to transition) and, to a lesser extent, in primary (which would ultimately improve primary completion and eligibility to transition). In doing so, we capture factors that might impact decisions around transition, though future research is needed in this area to unpack the dynamics that influence transition specifically. Ultimately strategies to boost participation in primary are better understood, with few post-primary strategies supported (or contradicted) by rigorous research (Null et al., 2017). It is also important to note that interventions to support post-primary opportunities, which may incentivise transition, tend to be more costly than those for primary, an insight that several partners and key informants stressed. Appendix B maps out examples of programming in primary and around transition that EAC partners provided in survey responses.

Shorten the distance to secondary schools and other post-primary opportunities. Long distances to schools impose direct and opportunity costs on learners and may expose children, especially girls, to risks. Because long distances are more common at the secondary level than at primary, this challenge may discourage transition to post-primary education.

As Null et al. (2017) observe in their review of evidence, building more secondary schools is a common-sense solution to this challenge, however, there is limited rigorous evidence available for or against investments in secondary school buildings. There is greater evidence for infrastructure investments at the primary level, which may suggest that similar improvements at the secondary level would raise participation. For example, an evaluation of the BRIGHT school construction programme in Burkina Faso found that the programme increased attendance by 19 percentage points and increased test scores by 2.2 standard deviations among those caused to go to school by the programme (Kazianga, Levy, Linden, & Sloan, 2013). In Indonesia, Duflo found that a large government school construction programme was associated with an increase in the number of years of education that learners completed and their subsequent wages (Duflo, 2001). Finally, a study focused on girls' educational participation in Pakistan found that community schools improved participation (J-PAL, 2018b).

Reducing travel time by providing transportation is another option. A study in India found that providing bicycles to girls attending the first grade of secondary school improved participation and was more cost-effective than comparable conditional cash transfers (Muralidharan & Prakash, 2017). Other approaches to overcoming distance to schools, like improving options to board near schools, reducing the dangers of reaching schools, or providing distance learning

options, have not been rigorously studied at the post-primary level (Null et al., 2017), though key informants find them supportive of post-primary transition and participation.

Reduce the costs associated with post-primary education. J-PAL reports that public secondary school fees alone—not including additional costs like uniforms, books, and transportation to school—sometimes amount to as much as one-third of annual household income in low-income countries (2018b). With school expenses a common barrier to post-primary school options, especially in poorer households, many interventions seek to alleviate the financial burden of schooling for families. EAC partners emphasize that support to families must account for all school costs, not only fees, though some research on cash transfer programs suggests that eliminating school fees alone boosts participation.

Cash transfers, one of the most widely researched approaches, are an effective but costly Approach to improving school enrolment, attendance, and completion. While conditional cash transfers result in stronger effects than unconditional ones, both have proven influential (Banerjee et al., 2013; Null et al., 2017). Insights from cash transfers programmes for post-secondary suggest that timing matters, with larger transfers coinciding with the time enrolment fees are due more effective than standard transfer schedules. Promisingly for cost considerations, even small transfers, such as the provision of school uniforms or school meals, have been found to improve participation at the secondary and primary school levels. Moreover, in a study in Malawi, small conditional cash transfers incentivised participation in secondary school as effectively as larger transfers (J-PAL, 2018b).

Partner survey respondents and key informants reiterated the value of supporting students with educational costs. In an innovative strategy to do so, imagine1day provided seed money and training to families for income generating activities while covering one year of secondary school fees for their children, with the intention that families would cover school costs with their earned income in subsequent school years. It is worth noting that, although cash transfer programmes are effective at improving participation, they generally do not improve learning. Two notable exceptions to this trend can be found in Kenya and Cambodia where scholarships were granted based on merit (Barrera-Osorio & Filmer, 2016; Kremer, Miguel, & Thornton, 2009). In these cases, merit-based targeting led to increases in learning and participation. While this body of research is largely focused on participation outcomes, the opportunity to access post-primary, which is dependent on cost not being a prohibitive barrier, is a prerequisite for transition.

Improve quality. EAC partners stressed the importance of quality to successful transition to post-primary. Theoretically, quality influences transition in multiple ways. First, stronger foundational learning in primary school means that children will be better prepared to succeed with the more advanced, technical content typical of post-primary education, hence the emphasis on foundational skills in the discussion of readiness earlier in this paper, with achievement cited as a factor for successful transition (Rice et al., 2015). Moreover, where the entrance to post-primary

is determined by national examinations, demonstrated learning is a prerequisite for transition. Second, quality education provision at the post-primary level incentivises transition because the opportunity to learn meaningfully motivates continued engagement with the school system. Conversely, low-quality post-primary education may discourage families from investing in post-primary education, especially given the rising opportunity costs of staying in school with age and progression to higher (and often more expensive) levels.

While a review of what works to build education quality at the primary and post-primary levels is beyond the scope of this review, EAC partners pointed to a number of strategies including (a) enhanced curricula for literacy, numeracy, health, creativity, critical thinking, business, and other skills, (b) strengthening teaching and learning materials, (c) provision of tutoring, and (d) teacher training in differentiated instruction, in teaching strategies for classrooms where the language of instruction is not the mother tongue of students, and in science, technology, engineering, mathematics, and the arts (STEM and STEM-A). In a review of tailored instructional strategies, J-PAL concluded that adapting instruction to students' learning levels whether done by teachers, tutors, community members, or through technology has improved education in different contexts at the primary level and, though less studied, also at the secondary level. (J-PAL, 2019). Ultimately, however, there is limited research on strategies for improving instructional quality and there remain substantial gaps in our understanding of the effects of system characteristics, like class size, improved infrastructure, and the length of the school day on learning, especially in post-primary (Null et al., 2017).

Improve the salience of primary and post-primary education. Quality improvements, alone, may not be enough to motivate participation. A J-PAL review of randomised control trials observes that visible efforts to improve quality, like providing books, do not shift community perceptions unless the community is sensitised to these shifts and their implications for the delivery of relevant education. Therefore, strengthening understanding of the "salience" of education, i.e., building awareness of the benefits of education to future earnings potential, is important and does improve school participation that same review concludes (J-PAL, 2018a). An important caveat is that interventions targeting the salience of education are most effective at correcting inaccurate negative perceptions of education's benefits. Where communities overestimated the value of education to begin with, learning the true benefits can depress participation (Null et al., 2017). As a result, education must be thoughtfully designed and effectively delivered so that it is relevant to children's futures, something that partner survey responses and key informants highlighted. Interventions to improve salience are relevant to transition because they go hand in hand with quality: quality options for post-primary alone are unlikely to motivate transition to and participation in post-primary unless students and their families perceive quality options as such.

Build support networks for students transitioning, especially girls. The transition to post-

primary requires adaptation to new social environments and demanding academics. The absence of family support or role models especially where children's parents did not attend post-primary school themselves can imperil transitions, leading to dropout. Key informant interviews, including with CAMFED, MIET Africa, Girl Child Network, and UNHCR, stressed how central support networks are to successful transitions. Although they caution that support networks can be hard for programmes to influence, Null et al. (2017) point to studies that confirm the importance of social networks and supportive community cultures to educational outcomes. Sperling and Winthrop (2015), as well as CAMFED, emphasized the significance of building supportive, inclusive environments, e.g., through identifying mentors or having students from rural communities travel together to secondary schools, for girls. Support could come in a variety of formats, including clubs, empowerment workshops, and mentorship. Girl Child Network cited the importance of involving families, both helping them to support their children and ensuring they themselves receive support given the emotional toll of seeing a child leave home for post-primary opportunities. In sum, while the importance of socioemotional support arose prominently from partners and, moreover, was one of the few transition-specific strategies raised, how best to do this and what formats work well remains on open question as there is little conclusive research on this topic.

When should programmes intervene to influence primary completion and transition to post-primary?

Key informants observed that dropout increases in later primary grades. Although the specific reasons for this uptick in dropout are complex and context-specific, many reasons centre on the fact that children face greater pressures to leave school as they age, especially if they are overage. Students with poorer performance may drop out if they anticipate difficulty accessing or succeeding in secondary school (Hunt, 2008; Sabates, Westbrook, Akyeampong, & Hunt, 2010). For example, a CREATE case study of Bangladesh shows that children in Zone 3 of their Zones of Exclusion model—ones with weak attendance, repeated grades, and low levels of learning in primary school—often became the ones whose educational careers ended at Zone 4 when they failed to transition to post-primary school (K. Lewin, 2011). CAMFED added that students may drop out where they foresee challenges securing a place in secondary school, such as where entrance to post-primary is governed by results on primary school exit examinations (KII, February 2020).

However, research also points to the importance of enabling factors and interventions occurring further upstream and downstream from the transition point. Later in the education system, the perception that post-primary education is accessible, relevant, and high quality begets stronger transition rates, because the perception that later school cycles improve livelihoods and future earnings motivates participation in early cycles. Similarly, low transition rates to post-primary education disincentives primary school completion as children and their families assume that

there will not be a place for them or that the investment in securing a place, e.g., through tutoring or expenses for examination kits, is too costly.

Earlier on, nutrition, health, and cognitive stimulation in early childhood have influential, long-term effects both for participation and learning in school, suggesting that investing very early is one strategy that could improve experiences in both primary and secondary education and beyond (Null et al., 2017). Young Lives research from India and Peru finds that vocabulary development at Age 5 predicts later achievement at Age 12, which is when some children would transition to post-primary. The researchers explain that "[i]n the literature, this is known as the Mathew Effect, the main idea being that children with higher skills will tend to learn at higher levels than children with lower skills" (Cueto, Singh, Woldehanna, Duc, & Miranda, 2016, p. 4). The World Bank cautions that children who fail to develop strong reading skills by Age 10 fall further and further behind. Conversely, "[o]nce children have learned to decode and become fluent readers, they read faster, and this frees up cognitive space for them to focus on text meaning. Faster reading means more practice and very often more enjoyment. In a virtuous circle, more reading improves vocabulary and background knowledge, improving overall reading skills, which leads to more reading" World Bank (2019). Taken together, these results point to the importance of strong foundations in health and early learning on later learning, which suggests that investing in quality early primary learning may be one avenue to improved primary completion and transition to post-primary, assuming there are adequate spaces in secondary schools.

RQ4. What tools or frameworks are used to identify children at risk of not transitioning to post-primary?

This section provides an overview of risk factors present in four dropout risk frameworks: CREATE, OOSCI,[10] USAID School Dropout Prevention Program (SDPP), and the Secondary Transition Adjustment Rating Tool (START). For additional information on each framework see Appendix C. Based on the literature review and feedback from EAC partners, we isolate three key factors that may be particularly informative for EAC programming and targeting: achievement, age, and behaviour.

The CREATE and OOSCI frameworks are primarily intended as system diagnostics. Their macro approach analyses the profiles of children at risk of not transitioning to help identify the most influential barriers in a context and inform programming decisions to support those learners. In contrast, SDPP and START are designed to assess which individuals are at risk and to provide them support, with START focused specifically on transition and SDPP on dropout more generally. Despite these differences, all frameworks identify characteristics of individuals that are associated with dropout or failure to transition. Table 1 presents the risk factors within each framework: age,

10   We caution that the factors from CREATE are drawn from what they describe as a working definition of silent exclusion and the ones from the Out of School Initiative represent factors that are important but could be considered illustrative.

attendance, academic achievement, repetition, behaviour, and social bonds. We identify and discuss achievement, age, and behaviour because of their close relation to the concept of post-primary readiness and the barriers identified in the previous section. The remaining factors are important for understanding dropout but not necessarily in ways specific to the post-primary transition period. A background paper previously prepared for EAC has more information on dropout risk throughout the primary school cycle (EAC & FHI 360, 2018).

Table 1. Dropout risk factors from assessment frameworks

	System assessments _Help to diagnose system barriers_		Individual assessments _Help to identify individuals at risk of not transitioning or having difficult transitions_	
	CREATE	**OOSCI**	**SDPP**	**START**
Age	X	X		
Attendance	X	X	X	X
Achievement	X	X	X	X
Repetition	X			
Behaviour			X	X
Social bonds				X

Achievement. All four frameworks suggest that achievement, often measured as language and mathematics performance, predicts dropout risk. Notably, providing tailored instructional support to students as part of inclusive schooling environments begins, in some strategies, with regular screening of all children in a classroom through formative assessments based on local curricula (often reading, math, language, and writing through Grade 5), and then providing small-group interventions or individualised instruction where needed. Although such screening approaches are typically discussed in the context of supporting children with disabilities, the goal is to identify and support all struggling students whether due to hunger, poor attendance, or other reasons with necessary supports (Bulat, Hayes, Macon, Tichá, & Abery, 2017). In this regard, achievement serves as a useful catchall approach to identifying at-risk students, one that does not require specific data on demographic risk factors, attendance patterns, or diagnosis of health issues up front, though support strategies would likely consider these factors.

Furthermore, achievement is interrelated with the concept of transition in three important ways. First, achievement especially of the foundational skills promoted in primary school has emerged as an important potential factor in readiness for post-primary. Second, where entry to post-primary is governed by performance on national examinations rather than automatic promotion policies, achievement is a pre-condition for advancement. Third, collecting information on achievement could help allocate scarce resources, for example by prioritising high achieving

children with other dropout risk factors. Indeed, although there is limited literature devoted to this topic, some research, for example, Dupas, Duflo, and Kremer (2017), has chosen to target scholarships in this way, providing scholarships to those who have successfully secured a place at the next level but were financially unable to attend.

Age. As discussed in the barriers section, being overage poses a problem to continuing school. While being overage is problematic to participation throughout education cycles, the opportunity cost of schooling increases with age: the financial costs of schooling increase, the relevance beyond foundational skills is often seen to decrease, and pressures to work or start a family mount. As presented in Figure 6 CREATE illustrated this trend with data from Ghana, showing that the percentage of students who complete primary but fail to transition to post-primary rises with age. In keeping with this trend, CREATE proposes considering being overage—specifically two or more years overage in its working definition of silent exclusion, i.e., where children go to school but learn very little (K. Lewin, 2011, p. 42). Similarly, the OOSCI proposes being overage as one factor tied to the risk of dropping out at transition points. Like CREATE, the OOSCI suggests looking at youth who are two or more years overage, in part because inaccuracies around age in some contexts necessitate using a wider measurement window (UNICEF, 2015). Key informants for this background paper also pointed to the importance of age as an important risk factor in transition.

Behaviour and socio-emotional skills. Both frameworks devoted to tracking individual risk (SDPP and START) emphasize the importance of behaviour and/or the ability to establish strong bonds with peers and teachers to successful school engagement. For the SDPP framework, behaviour includes skills like completing homework and turning it in on time and participating in group activities. START sees classroom behaviour and the likelihood that a child will effectively form new bonds in secondary school with teachers and other pupils as essential, with this latter factor being one, as mentioned before, that key informants often emphasized as fundamental to effective transition. START also recognizes the importance of motivation, psychological adjustment, self-control, and managing stress to support these factors. With socio-emotional skills underpinning these social and behavioural factors, this area of risk is closely associated with an important area of readiness discussed above.

Figure 6. Changes in patterns of exclusion by age, CREATE Zones of Exclusion modelled with data from Ghana (K. Lewin, 2011)
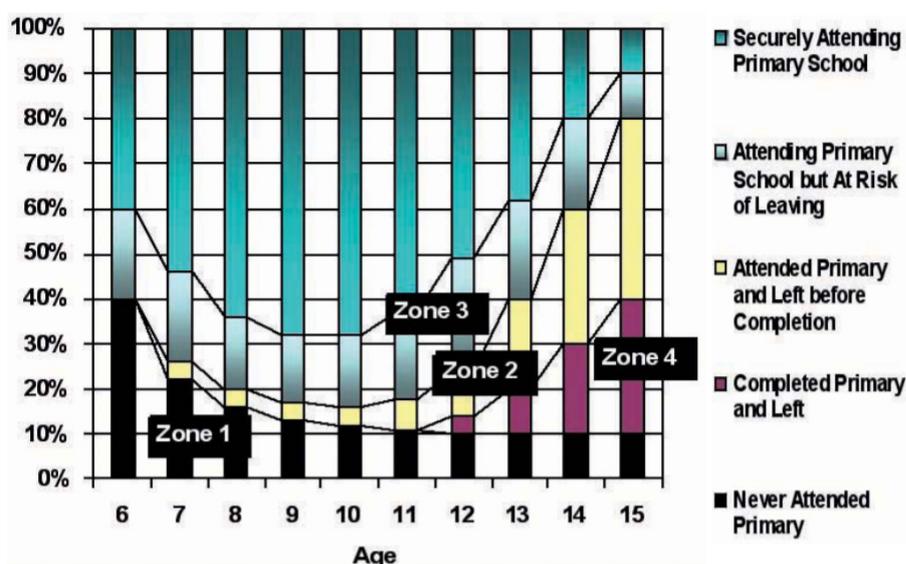
In sum, several factors have been conceptually linked to dropout risk. As Table 1 details, these include attendance, prior and current attainment, age, repetition, behaviour, and the ability to develop bonds at school. While all of these are important, three stand out as being particularly tied to the period of transition: being overage becomes a more entrenched barrier to transition as children get older and, moreover, is closely intertwined with other risk factors. The emphasis on academic achievement and socio-emotional skills, both of which emerged as important factors in readiness, suggest that the risk of not transitioning may closely mirror readiness.

RQ5. How is primary completion and transition to post-primary measured?

In this section, we review measures of completion and transition that could be used to track the education trajectories of individual beneficiaries and discuss how these are applied by EAC partners. Appendix D provides more detailed summaries of the definitions and indicators received from each partner.

Completion

The UNESCO Institute for Statistics (UIS) defines completion as "[p]articipation in all components of an educational programme (including final exams if any), irrespective of the result of any potential assessment of achievement of learning objectives" (UIS, 2020). Most EAC partners responding to the online survey reported using this definition (n = 10), though partner explanations on approaches to measurement suggest that only two adhere strictly to that definition. Others adopt the definition loosely, with differences in how participation is defined

and how examination results are treated. Below, we review the different measurement strategies that partners take when measuring completion.

Participation-focused measures of primary completion

Among partners who focused on completion in terms of primary school participation, in line with the UIS definition, CARE and Plan International Canada track students who enrol in the final grade of primary who achieved all completion requirements, such as completing all learning modules or having taken a completion exam.

imagine1day also has a participation-focused definition but uses a proxy measure for primary completion: gross intake into the last grade of primary school. While their method does not document whether students ultimately went on to complete the final grade of primary school, it is simpler to calculate it does not require partners to verify with schools whether graduation requirements were fulfilled and can be calculated from national census, school census, and household or school survey data.

Participation + learning measures

Other partners factor learning into their measures of primary completion. In contrast to the UIS definition, which does not attend to the results of primary school leaving examinations, DAM and MIET Africa both track successful completion of primary school examinations. Girl Child Network and HPPI also account for learning outcomes, though not necessarily from school leaving examinations, in addition to programme participation. Citing Sustainable Development Goals indicators, Girl Child Network points to the importance of literacy and numeracy skills as a component of completion measures. HPPI considers both learning outcomes in Grade 5 as well as fulfilment of programme requirements at the end of primary school (Grade 8). The emphasis that these definitions place on learning aligns with the Learning Metrics Task Force's Learning for All indicator, which proposes measuring both learning and completion given the widespread recognition that learning levels in many schools, despite increased school access, participation, and completion, remain low (LMTF, 2016).

Finally, while several EAC partners participating in the survey use the focused measures of primary completion discussed above, some track additional indicators related to primary completion, such as the cumulative dropout rate and promotion and repetition rates by grade.

Transition

Some EAC partners participating in the survey reported having definitions of post-primary transition (n = 6). Of those that elaborated on their definitions, some define post-primary transition simply as enrolment beyond primary. These are typically measured using net enrolment rates, which could be calculated using aggregated data, though CARE noted tracking enrolment

information at the individual level, documenting whether primary school completers registered for their chosen post-primary pathway the following year. While CARE monitors enrolment as an element of transition, their full definition goes beyond enrolment. The organisation uses the following multi-step definition:

> Post-primary transition is when a learner successfully completes his/her primary education, identifies his/her post-primary transition of choice (e.g. formal schooling, formal TVET training, non-formal education centres, etc.), qualifies for entry (e.g. through passing required examinations), enrols in said post-primary option, and begins attending.

This definition is notable because by including a measure of attendance, it emphasizes "durable" transition. CARE has found that tracking registration in post-primary is not enough because learners often enrol but do not attend. CARE also noted the importance of tracking all transition options, including informal ones, because some students, especially overage ones, "in rural or marginalised communities may not see the relevance of post-primary formal education, but they do see value in furthering specific skill sets that will help them in the job market." The organisation also stressed that monitoring of transition should happen at multiple points in time, ideally over a few years, because some youth do not enrol in post-primary immediately but do re-enrol later. These insights are crucial considerations for efforts to monitor transition accurately.

Table 2. Measurement approaches to monitoring primary completion and transition to post-primary

Concept	Measurement approach	Pros	Cons
Primary completion	Participation focused measures	Data inputs, especially those for enrolment, are widely available	Does not gauge the quality of learning, meaning that a child could leave primary without the foundational skills needed for post-primary and beyond, i.e., they would not be academically ready for post-primary Some example measures in this category assess participation at the start of the last grade of primary school and may miss dropout that occurs through the school year
	Participation + learning measures	Inclusion of learning results means focus is on meaningful completion (in terms of knowledge or skills)	Data on learning, which might come from national or programme assessments, may be unavailable or difficult to access Where school leaving requirements do not factor in assessment results, these measures may miss the role that a primary school certificate plays as a qualification even for low achievers
Transition	Enrolment in post-primary	Data inputs, especially when based on enrolment data, are widely available Provides a measure of immediate intention to engage in post-primary	Where focused only on immediate enrolment in the next level, these measures may miss students who dropout and then re-enrol later Would ideally track transition to all post-primary education programmes, which may be difficult
	Durable transition, including tracking transition over a longer period and gauging attendance not just enrolment	Focused on successful transition, at least in terms of continued attendance after enrolment Flexible measure that takes into account that not all children transition to post-primary education programmes immediately	Requires involved, long-term individual tracking, including following individuals who complete primary school, exit, and then re-enter the school system Would ideally track transition to all post-primary education programmes, which may be difficult Uses attendance data, which is more difficult to obtain than enrolment data

Conclusion and considerations for moving forward

The post-primary landscape is complex. Relative to primary education, educational and workforce pathways diversify in ways that vary, sometimes substantially, from country to country. In some contexts, the content and structure of early post-primary schooling options are closely tied to primary education, advancing a common set of foundational skills under compulsory, free basic education cycles. Elsewhere, post-primary more closely resembles upper secondary school, with fees, selective admissions, and the introduction of TVET. Barriers to education, often compounded by age, become increasingly entrenched as youth move through primary and into post-primary and new barriers, like marriage, arise. At the same time, while post-primary options, especially formal academic or vocational ones, are widely recognized as the route to developing skills to successfully navigate adulthood and contribute to the economy, research into how best to support transition to post-primary is relatively limited. Below, we summarise insights into conceptualising, supporting, and monitoring the transition to post-primary. We also highlight outstanding questions and debates about transition support strategies.

Define post-primary opportunities broadly, define the transition point, and consider that not all partners support all post-primary pathways. Post-primary pathways are manifold, often including academic pathways; technical and vocational pathways; alternative pathways, such as religious tracks, that operate in parallel to academic and TVET pathways; and informal learning related to workforce entry. Partner and key informant responses reflect this diversity and are captured by this statement by CARE: "It is important to track all potential transition options, including potential informal transition options. Many learners in rural or marginalised communities may not see the relevance of post-primary formal education, but they do see value in furthering specific skill sets that will help them in the job market." While there is broad agreement that post-primary pathways are varied, which pathways partners currently support it they support transition differs.

At the same time, there is a lack of consensus about the most relevant transition points among partner survey respondents. Many favoured prioritising national definitions for the primary cycle so that transition points reflect national policies. However, Plan International Canada argued for using the ISCED framework, which is often but not always aligned with national definitions, to define the transition to post-primary. In contrast to both definitions, UNRWA favours a focus on completion of basic education, not primary education, in the contexts it works in following local priorities.

Post-primary readiness could be defined narrowly, with a focus on individual foundational skills, or be expanded to include readiness at family, community, school, and system levels. In contrast to the primary level, the topic of post-primary readiness has been under conceptualised. There is broad agreement that solid foundational skills, such as literacy and numeracy, underpin

individual success in early post-primary and beyond, whether post-primary involves schooling or entry into the workforce. Others emphasise the importance of developing 21st century skills, pointing especially to social and emotional skills as essential to smooth post-primary transitions given the strain of adapting to a new school environment and relationships, especially in the absence of family or community role models with experience in secondary school. In Ending Learning Poverty, the World Bank argues for reading as the most salient metric given the relative availability of reading data, its resonance with families and other stakeholders, and the association of reading skills with other skills, including ones related to social and emotional skills, that it acknowledges to be important.

Some definitions of primary school readiness emphasise child health. Apart from psychosocial wellbeing, other health factors were rarely proposed as elements of post-primary readiness, though they would influence post-primary performance in much the same way as at the primary level (Null et al., 2017).

Beyond the individual, partners and key informants suggested conceptualising readiness at other levels, including at the family, community, school, and systems levels. The components of readiness proposed at those levels were various and sometimes context-specific.

Barriers to transition are complex, often exacerbated by age and the rising opportunity cost of staying in school. Like at the primary level, a multitude of barriers limit access to post-primary education. Although specific barriers vary by context, barriers tend to intensify at the post-primary level as children age and the opportunity cost of staying in school over working inside or outside the home intensifies. Other common barriers associated with post-primary transition include challenges accessing post-primary opportunities; the costs associated with post-primary schooling, especially for poorer households; gender; forced and voluntary migration triggered by conflict, natural disasters, and transitory livelihoods opportunities; language; disability; a lack of role models and emotional supports for successful transition to and retention in post-primary school; low relevance of schooling for the world of work; and ill health. Systems analysis, for example through approaches promoted by OOSCI, can help to identify the most relevant barriers to transition in a system (UNICEF, 2015).

Strategies to support post-primary transition could target the period immediately before and after transition or look more broadly, focusing, for example, on strengthening early childhood and primary school outcomes. Investment in research is also warranted. Despite the paucity of rigorous research into post-primary, generally, and transition to post-primary, specifically, literature and partner experiences point to the value of different types of support strategies. Many survey respondents and key informants, for example, emphasised late primary as a period when dropout increases, noting the importance of interventions in that period and immediately following transition. While a range of interventions that support this period have been utilised (see Appendix B for examples from partners), common approaches include: reducing the distance

to post-primary schools and other opportunities; reducing fees and other costs associated with schooling; improving the quality and relevance of schooling; and building emotional support structures for transition.

Given the limited rigorous research available on post-primary transition, investment in research on what works to support transition and the comparative advantages of different approaches would benefit the field broadly. With the focus of much research on impacts within a few years of an intervention, research could examine longer-term impacts, e.g., through tracer studies that follow investments from early primary through the transition to post-primary. As primary education systems improve and greater attention is devoted to secondary education systems in developing countries, others are investing in better understanding what is needed. For example, UNHCR mentioned research in progress about barriers to secondary schooling. A final consideration, and possibly an avenue for further research, is how support for post-primary might look in diverse systems, for example where the system focus is on basic education.

Strategies for assessing children's risk of not transitioning can borrow from literature on dropout risk and insights into post-primary readiness. Although few measurement frameworks focus directly on children's risk of not transitioning to post-primary, many of the frameworks designed to assess dropout risk more generally apply. Building on those frameworks, risk could, as one approach, be conceptualised as the inverse of readiness for post-primary, in which case-specific characteristics from dropout risk frameworks would form priority areas of risk: low achievement in primary school, with weak foundational skills making learning in any post-primary environment a greater challenge, and poor behaviour and/or weak social and emotional skills to adapt to the post-primary environment. Age may also warrant special consideration as a risk factor for not transitioning given its prominence in the literature on dropout risk and its increasing influence on decisions about school participation as children get older. Defining risk will require determining whether to focus on the most vulnerable students or to balance vulnerability against the likelihood of success in post-primary, e.g., targeting high achieving youth experiencing other risk factors.

Considerations for monitoring completion and transition. Partner survey responses speak to two general approaches to monitoring primary school completion, one emphasising participation, i.e., reaching the end of the primary cycle, and another that adds a focus on the quality of learning, i.e., by considering the results of learning results as well. For some, the selection of one approach over another is determined by local government choices for monitoring rather than for conceptual reasons. Turning to transition, CARE named several important considerations for tracking transition: (a) monitor all transition pathways, (b) monitor attendance at the post-primary level because individuals may enrol but never attend, and (c) monitor at several points in time, because individuals may not transition immediately but may re-enrol subsequently. Finally, it is important to consider transition in the context of participation and school completion measures,

as it would be possible to have situations with high transition but low levels of primary school participation, which would leave many excluded from education.

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Appendices

Appendix A.

Common primary and post-primary pathways

This diagram presents primary and post-primary education pathways common to many education systems. For simplicity, this high-level mapping does not capture the complexities of many systems, such as the fact that NGOs provide mainstream education in some contexts. As a note on terms used in the diagram,mainstream education systems focus on the delivery of general education (i.e., general knowledge and fundamental skills, such as literacy and numeracy) in state-certified public or private schools. Alternative approaches include accelerated catch-up programmes and full-term alternative systems, such as NGO or religious systems. The alternative systems illustrated in this diagram culminate in a recognized school certificate, though not all alternative programmes do.

Conceptual Diagram: Multiple Post-Primary Transition Pathways

Note on terms. Mainstream education systems focus on the delivery of general education (i.e., general knowledge and fundamental skills, such as literacy and numeracy) in state-certified public or private schools. Alternative approaches include accelerated catch-up programs and full-term alternative systems, such as NGO or religious systems. The alternative systems illustrated in this diagram culminate in a recognized school certificate, though not all alternative programs do. Please note that this diagram presents a simplified view of common educational pathways. It does not capture the complexities of all systems. For example, NGOs may provide mainstream education in some contexts.

Appendix B.

Illustrative partner activities that target primary school completion and transition to post-primary

Table 3. Illustrative partner activities that target primary school completion and transition topost-primary

TOPIC		SUPPORT FOR PRIMARY SCHOOL COMPLETION	SUPPORT FOR TRANSITION TO POST-PRIMARY
Access	Expand or improve school infrastructure	· Improvements/rehabilitation to existing infrastructure · Construction of schools, classrooms, and attractive play spaces · Adding school shifts to avoid conflict with Koranic education	· Support government to provide junior secondary schools closer to communities
	Lower the costs of school participation	· Cash-based interventions · Scholarships targeted to disadvantaged individuals · In-kind incentives: school uniforms, books, bicycles · Support families with seed money for income generation	· Scholarships to cover school fees and/or other costs · Support families with seed money for income generation
	Alternatives to formal educational pathways	· Accelerated programmes, some leading to mainstream school options · Online/distance learning options · Opportunities for self-learning in emergencies · TV educational lessons in emergency settings · Temporary learning spaces in emergency settings	· Accelerated education programmes, some leading to mainstream school options · Non-formal post-primary options, some leading to mainstream school options

Quality	Support for/ development of specific content areas	· Literacy and numeracy support · Ensure curriculum helps children develop into "critical, creative thinkers and global citizens" · Skills for health	· Literacy and numeracy support · TVET · Business skills, market-led livelihood activity training · Life skills
	Provision of media, materials and other learning supports	· Create multimedia hubs in classrooms · Provide learning materials · Tutoring and mentorship to improve learning	· Early childhood education impacts post-primary transition and success
	Teacher training	· Capacity building for teachers · Differentiated instruction	· Support for teachers where the language of instruction is a second language · Develop teacher knowledge of STEM and STEM-A · Address gaps in teacher knowledge
Equity and inclusion	Support to disadvantaged children	· Targeted scholarships, materials, or other support for disadvantaged and out of school children	· Target disadvantaged and out of school children
	Training/ education on inclusion	· Training tutors on gender-sensitive pedagogy · Training on gender-sensitive school planning · Training to teachers and officials in screening, identifying, and supporting vulnerable children · Awareness campaigns about education rights and opportunities for disadvantaged groups	· Gender transformative classroom practices · Girls empowerment forums
Safety	Safe educational spaces	· Violence reduction · Ensure the safety of learning spaces	
	Psychosocial support	· Provision of psychosocial support in emergency settings	

Commu-nity en-gagement	Aware-ness-raising	· Promote salience of education · Enrolment drives, sometimes promoting educational rights and opportunities for disadvantaged groups, e.g., children with difficulties and disabilities · Community mobilising	
	Training for parents	· Train parents to support their children's education	· Train parents (and students) in business skills and life skills (part of programme offering seed money for income generation to support educa-tion and other expenses)
Health	Nutrition	· School feeding	
	Sanitation	· Construction of water and sanitation systems · Rehabilitation of sanitation facilities	
	Menstruation and sexual and reproduc-tive health		· Provision of menstrual health and hygiene supplies · Adolescent-friendly sexual and repro-ductive health services
School Improve-ments	Whole school development	· Utilise Fellows (young university graduates) to work with communities and school leader-ship to improve schools. · Involve the community in school improve-ment	· Whole school development projects
	School moni-toring	· Track school quality (school report cards)	

Appendix C.

Identifying children at risk of not transitioning

The CREATE model of Zones of Exclusion categorises children excluded from basic education into seven distinct zones, depending on their grade and level of participation in education. The model acknowledges that trends and causes of exclusion from education may differ from zone to zone and vary depending on context. The zones most relevant to understanding the risk of not completing primary school or failing to transition to post-primary are Zones 3 and 4.

The CREATE model defines these zones as follows:

Zone 3 includes those in school but at risk of dropping out, most obviously as a result of low achievement and poor attendance. These children can be described as "silently excluded" since they are enrolled but may learn little, attend irregularly, and/ or are over age.

Zone 4 contains those who fail to transit to secondary education as a result of failing to be selected, being unable to afford costs, or located far from a secondary school, or otherwise excluded.

Figure 6. CREATE Zones of Exclusion model, modified from K. Lewin (2011)
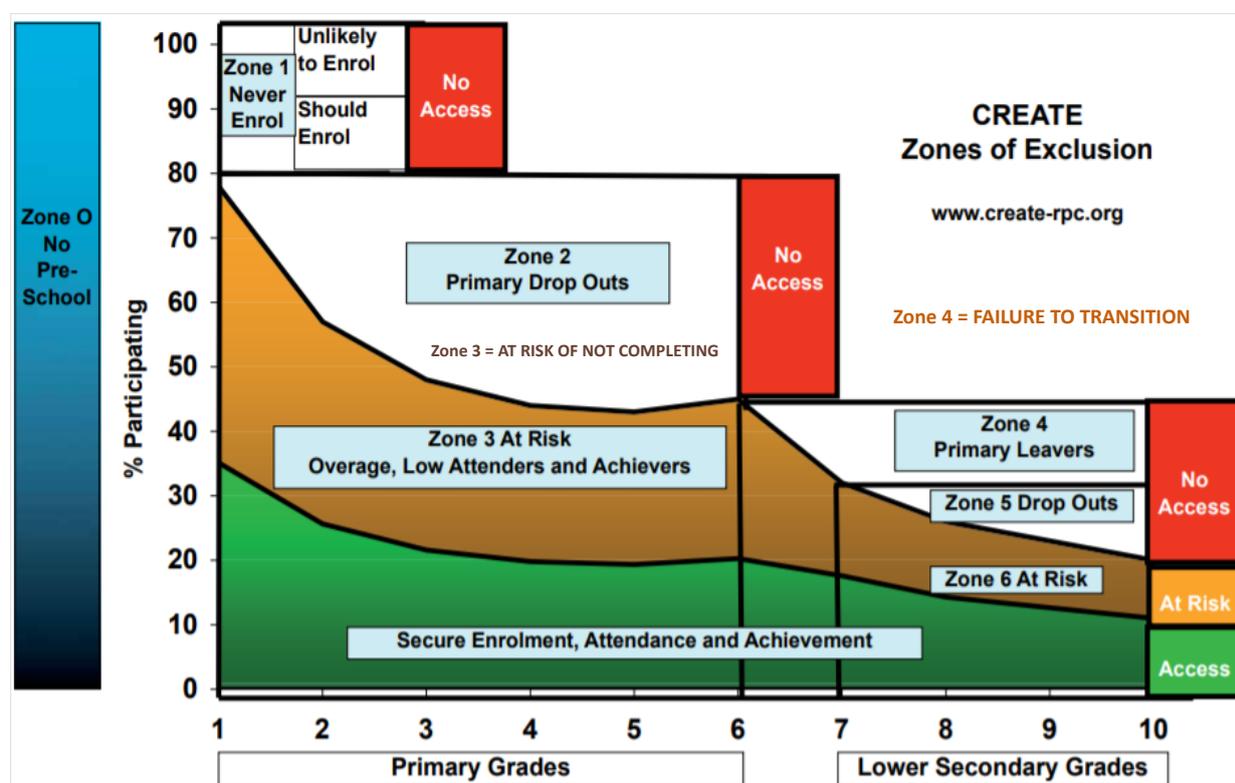
The Global Initiative on Out-of-School Children (OOSCI) (UNICEF, 2015)

The 5 Dimensions of Exclusion is an important element of OOSCI's approach to identifying and analysing school exclusion. Dimensions 1 to 3 represent children of pre-primary-, primary-, or lower-secondary-age who are out of school, while Dimensions 4 and 5 refer to children who are at risk of dropping out from primary or lower secondary school. Dimension 4 would include children at risk of not completing primary school or completing but failing to transition to post-primary.

The initiative prepared guidance for conducting national OOSCI studies to better understand patterns of exclusion and barriers to inclusion to inform the development of plans to address these issues. Their guidance includes approaches they recommend for examining the profiles of children at risk of dropping out under Dimensions 4 and 5. One method they propose—the one discussed earlier in this background paper—involves identifying children at risk of dropping out by assessing different risk factors, especially being overage, low learning achievement, and having not attending early childhood education (pp. 46-47). While this is not a formal framework and the risk factors they discuss are intended as examples, the guidance does recommend these factors as ones that are widely linked to dropout risk across contexts.

Figure 7. OOSCI Dimensions of Exclusion (UNICEF, 2015)

DIMENSION	GROUPS OF CHILDREN BY EXPOSURE TO EDUCATION:	GROUP OF VISIBILITY THESE CHILDREN MAY BELONG TO:
Dimension 1: Pre-primary-age out-of-school children	Have not entered school	Semi-invisible and Invisible out-of-school children
Dimension 2: Primary-age out-of-school children	Dropped out	Visible out-of-school children
Dimension 3: Lower secondary-age out-of-school children	Unregistered dropouts	Semi-invisible out-of-school children
	Have not entered school	Semi-invisible and Invisible out-of-school children
Dimension 4: At risk of dropping out from primary school **Dimension 5:** At risk of dropping out from lower secondary school	In school	May be visible at the school level, but invisible at regional and national level

USAID School Dropout Prevention Program (SDPP) (Creative Associates International, 2015)

The USAID School Dropout Prevention Program (SDPP) acknowledges that dropout results from factors at multiple levels: child, family, school, community, and regional and national policy. SDPP prioritises three interrelated child factors Attendance, Behaviour, Coursework or the ABCsin assessments of dropout risk. Figure 8 presents illustrative indicators for monitoring these factors (Creative Associates International, 2015).

Figure 8.The SDPP "ABC" Framework and illustrative indicators.

DROPOUT PREDICTORS AND ILLUSTRATIVE INDICATORS	
Predictor:	Indicator:
Attendance	Number of days absent in target months Number of consecutive days absent in target months Number of days coming to school late or leaving early
Behavior	Homework assigned turned in on time and completed Participation in group activities
Coursework	Quarterly marks in reading/language and/or math in final quarter of previous year Teacher-made continuous assessment activities Homework assignments that are correct

Secondary Transition Adjustment Rating Tool (START)

The START tool, tested in the United Kingdom, has been used to gather parent and teacher predictions on the likelihood of a child's successful transition to secondary school. Results show that teachers accurately anticipated all outcomes, both academic and behavioural ones, i.e., academic performance, participation, behaviour, and social bonding. Parents accurately predicted how well their child bonded in secondary school. The tool may or may not perform as well outside the UK in low resource contexts, since this presumes that teachers can engage with and observe each child and that transition though not always successful transitionis the norm.

The tool uses the following question stems for each area listed in figure 9.

For parents:

Do you expect your child to settle in well at secondary school?

For teachers: Do you expect this child to settle in well at secondary school?

Figure 9. Secondary Transition Adjustment Rating Tool (Rice et al., 2015)

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1. Academically	1	2	3	4	5
2 . Socially (with peers)	1	2	3	4	5
3 . Socially (with Teachers)	1	2	3	4	5
4 . To the new routine	1	2	3	4	5

The researchers note that pupils who scored, on average, at or below a 2 (equivalent to the Disagree category) are likely to require support for their transitions (Rice et al., 2015).

Appendix D.

Partner definitions and indicators related to transition

Table 3. Partner definitions of concepts related to transition

PARNTER	POST-PRIMARY EDUCATION	PRIMARY SCHOOL COMPLETION*	POST-PRIMARY TRANSITION	POST-PRIMARY READINESS?
Building Tomorrow	-	Recognizes UIS definition: "Participation in all components of an educational programme (including final exams if any), irrespective of the result of any potential assessment of achievement of learning objectives."	-	-
CARE	Post-primary = schooling opportunities beyond primary school: "[E]ducation beyond the locally defined primary school years (usually five to eight years, but varies slightly by context). This may include formal or informal educational options for learning and transition. Formal educational options may include lower secondary, or secondary school in government or private educational systems. Formal educational options also include formal TVET... schools. Informal educational options ... include training and/or apprenticeship programmes which train on vocational skills but are not certified TVET schools. Additional informal educational post-primary education may include non-formal education ..."	Recognizes UIS definition	Durable transition: Post-primary transition is when a learner successfully completes his/her primary education, identifies his/her post-primary transition of choice (e.g. formal schooling, formal TVET training, non-formal education centers, etc.), qualifies for entry (e.g. through passing required examinations), enrols in said post-primary option, and begins attending.	Focus on prerequisites and foundational learning: "Post-primary readiness is a student's cognitive and developmental readiness to engage at the post-primary level. This includes both meeting minimum competencies for completion at the primary level (e.g. minimum levels of learning outcomes and emotional functioning) as well as their readiness to engage in the post-primary environment (e.g. for those that are shifting to a boarding programme away from home, it would include their developmental and emotional readiness to live away from home at a residential boarding house)."

PARNTER	POST-PRIMARY EDUCATION	PRIMARY SCHOOL COMPLETION*	POST-PRIMARY TRANSITION	POST-PRIMARY READINESS?
Dhaka Ahsania Mission (DAM)	Post-primary = schooling opportunities beyond primary school: "As per the Bangladesh Education System, Post-Primary Education includes: Secondary education: Secondary education consists of multiple stages.	Alternative definition: Follows the government definition. "When a student completes grade-V class she/he has to appear before a public exam held countrywide … All registered students from government, Non-government under the monthly pay order (MPO) and private schools as well Madrasas (Arabic schools) under Non formal Education (NFE). So, the definition of primary education is same to all."	Defined as movement to the next level: Using national definitions, "[p]rimary to post-primary means Secondary education which is the second stage of formal education."	Focus on prerequisites and parental support: "As per DAM perspective, Post-Primary Readiness is defined as the child has completed primary course and passed out through the public exam and have achieved grade-wise pass out certificate by the government and prepared to enrol in the Junior Secondary or Secondary schools. Their parents are also agreed and intend to continue their children's education to the higher level."
Girl Child Network	Post-primary = schooling opportunities beyond primary school: Post Primary education is any education course following or after completion of primary education. It could be secondary education course, vocational training or any other form of skills acquisition. It may be either formal or non-formal.	Recognizes UIS definition	-	Focus on developmental readiness: "This is emotional, psychological/mental and physical preparedness for other pathways of education upon completion of primary education. The pathways may be formal or non-formal for academic and skills acquisition."

PARNTER	POST-PRIMARY EDUCATION	PRIMARY SCHOOL COMPLETION*	POST-PRIMARY TRANSITION	POST-PRIMARY READINESS?
Humana People to People India (HPPI)	Post-primary = schooling opportunities beyond primary school: "Humana People to People India (HPPI) adopts the definition of post-primary education as per the (Indian) National Policy on Education. As per the referred policy, post-primary education referred to education after Grade 8 (K8). In age terms, this typically covers children from age 14 onwards. We clarify that some States in India further divide the Primary Stage (Grades 1 – 8) into Lower Primary (Grades 1-5) and Upper Primary or Middle (Grades 6-8). The primary, or elementary, stage of education covers Grades 1-8."	Recognizes UIS definition	Defined as movement to the next level: HPPI defines post-primary transition as the promotion of a child from the last grade of the primary stage (Grade 8) to the first grade of the secondary stage (Grade 9), having acquired the prescribed learning competencies.	-
Imagine1day	Post-primary = schooling opportunities beyond primary school: "all alternatives of education after completing primary school including secondary education, Technical and Vocation Education, and Higher Education."	Recognizes UIS definition	-	-
MIET AFRICA	-	Recognizes UIS definition	-	-

PARNTER	POST-PRIMARY EDUCATION	PRIMARY SCHOOL COMPLETION*	POST-PRIMARY TRANSITION	POST-PRIMARY READINESS?
Plan International Canada	Post-primary = schooling opportunities beyond the development of fundamental skills/ISCED 1: "Plan International adheres to the International Standard Classification of Education (ISCED) in its terminology and definitions for education. Level of education can be categorised by age of participant, comparative level on a scale of educational attainment, or determined by the competencies or expected purpose of the education being provided. Well established systems will likely combine all three areas. Therefore 'post-primary will, in most contexts, be defined by the level, or grade, of education that follows the completion of the primary level, or specific last grade of the primary system (most commonly termed grade 6, but dependent on the specifics of the education system in question). 'Post-primary' is, therefore, any form of recognised, structured education or training that goes beyond Level 1 in the ISCED definitions."	Recognizes UIS definition	-	Focus on pre-requisites and foundational learning: "We do not use the term 'readiness' explicitly as this is largely reserved for pre-primary programming (see SDG 4 and UIS for details). However, in this sense, we may think of readiness as having achieved the requisite learning outcomes required of ISCED Level 1. This is the necessary requirement for participation in Level 2 +."
Save the Children	Post-primary = schooling opportunities beyond the development of fundamental skills/ISCED 1: "formal schooling including upper primary and secondary education or non-formal education offered after primary school or after primary school skills are mastered. Often post-primary education follows grades 1-5."	Recognizes UIS definition	Defined as movement to the next level: "Enrolment in secondary school."	-

PARNTER	POST-PRIMARY EDUCATION	PRIMARY SCHOOL COMPLETION*	POST-PRIMARY TRANSITION	POST-PRIMARY READINESS?
United Nations High Commissioner for Refugees (UNHCR)	Post-primary = schooling opportunities beyond primary school: "Post-primary education builds on primary education, and comprises all educational opportunities after completion of primary schooling, including secondary, as well as other forms of education, most notably technical and vocational skills development programmes and Accelerated Education Programmes (AEP) at secondary level."	Recognizes UIS definition	-	-
United Nations Relief and Works Agency for Palestine Refugees (UNRWA)	Post-primary = schooling opportunities beyond primary school: "UNRWA does not have an official definition for post-primary education however it defines elementary education as grades 1-6 and preparatory as grades 7-10 and post-primary education could be considered to include preparatory education and beyond."	Recognizes UIS definition	-	-

*Partners were asked to provide their definition of primary education if it differs from the UIS definition. They were also asked to list supporting measures for primary education. While most recognized the UIS definition, some of the supporting measures suggest differences in how they think about exams and learning.

Partner descriptions of measurement indicators related to the concept of transition

Below we summarise partner descriptions of indicators they use to monitor primary school completion, transition, and other related measures. We organise indicators by theme and group related measures together. Please note that organisations sometimes use several indicators and, as a result, may appear in multiple categories. It is also important to note that partners tended to provide descriptions of indicators, rather than specific calculation approaches.

1. Primary school completion

a. Completion measures involving learning assessment (n = 4)

    i. DAM and MIET Africa document successful completion of primary school-leaving exam. MIET Africa linked specifically to South Africa's promotion policy, which details examination score requirements for progression while placing caps on the number of times a student can repeat a grade within each school cycle and promotion remedial education for those who need it.

    ii. Humana People to People India has progressively adopted the assessment of learning level outcomes at Grade 5 in line with the draft (Indian) National Education Policy. HPPI defines primary education completion as the completion of Grade 8 with the achievement of the prescribed learning level outcomes.

    iii. Girl Child Network looks to indicators associated with SDG 4.1.1, which include consideration of proficiency with fundamental skills, specifically the proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics. SDG 4.5.1: Parity indices (female/male, rural/urban, bottom/top wealth quintiles and others, such as disability status, indigenous peoples and conflict-affected, as data become available) for SDG 4.1.1.

b. Completion measures independent of learning (n = 4)

    i. CARE and Plan International Canada use completion rates, i.e.:

        The number of learners who are enrolled in the last grade of primary school who are verified by the school/teacher as having fulfilled the requirements for completion (e.g. completion of lessons/modules, or having taken a completion exam). This is calculated each school year at the class level and includes measures to understand attrition within each school year. This is not dependent on the results of final examinations.

    ii. imagine1day uses a proxy completion rate the gross intake into the last grade of primary education, i.e.:

        The number of new students in the last grade (Grade 8 stu-

dents less of repeaters)/population official age in the last grade.

iii. Building Tomorrow also measures primary completion but did not specify the exact measure. They use government data.

c.   Other measures related to completion

i. UNRWA uses the cumulative dropout rate for the elementary cycle, though they don't measure this specifically for purposes of tracking primary completion. The cumulative dropout rate is defined as:

The proportion of a cohort of pupils enrolled in the first grade of the elementary cycle who are expected to drop out before reaching the last grade of the elementary cycle. Data source: EMIS/Excel monitoring tool. Calculation: The computation, is based on the reconstructed cohort method according to the formula and calculation template provided to the Fields. The calculation uses repetition rates per grade and average drop-out rates per grade. The reconstructed cohort method uses data on drop-out and repetition for at least two consecutive years in each grade of basic education.

ii. Building Tomorrow and CARE use promotion and repetition rates by grade.

2.   Transition

a.   CARE uses an individual tracking approach, i.e.:

The % of learners who completed primary, enrolled in a post-primary option (formal education, TVET), and are verified as attending. This is done through individual tracking of students at the beginning of the next school year.

b.   Plan International Canada uses an approach that does not require individual tracking. This measure could use aggregated data, such as data from school censuses:

Transition refers the number of new entrants to a form of education (grade/class/year) after ISCED Level 1 expressed as a percentage of the students enrolled in the last grade/period of ISCED Level 1 in a given year, minus repeaters.

3.   Post-primary enrolment

i. Save the Children uses net enrolment rates.

ii. CARE considers completion and enrolment:

> The % of learners who were marked as successfully completing primary school who have registered for their chosen post-primary pathway. This is done through individual tracking of students at the beginning of the next school year.

4. Other

a. DAM and CARE use primary education completion (see varied definitions and indicators in the previous appendix).

b. Save the Children uses progression to secondary school

c. and the lower secondary completion rate.

Appendix E.

Annotated Bibliography

Banerjee, A., Glewwe, P., Powers, S., & Wasserman, M. (2013). Expanding access and increasing student learning in post-primary education in developing countries: A review of the evidence (J-PAL Post-Primary Education Initiative Review Paper).

Document Type: Report – Review Paper

Intervention/ Topic: Conditional and Unconditional Cash Transfers

Description: The Abdul Latif Jameel Poverty Action Lab (J-PAL) has launched a Post-Primary Education Initiative intended to promote policy-relevant research on secondary and post-secondary education in developing countries, which together will be referred to as post-primary education. This paper is a first step in that process. The authors review the evidence to date on post-primary education and highlight the gaps in the literature, with a focus on identifying policies that should be given the highest priority for future research.

Barrera-Osorio, F., & Filmer, D. (2016). Incentivizing schooling for learning: Evidence on the impact of alternative targeting approaches. Journal of Human Resources, 51(2), 461-499.

Document Type: Primary Research Report – Randomized Control Trial (RCT)

Intervention/ Topic: Primary School Scholarships

Description: This article examines the impact of two primary school scholarships that use different targeting approaches (merit and need) on attendance, enrolment and learning. The article finds that both targeting approaches increase enrolment and attendance but that only a merit-based approach increases student effort, parental investment and student learning. This finding builds on previous research which has found that conditional cash transfers lead to increases in attendance and enrolment but not learning. The results suggest that a two-step targeting approach for scholarships might be preferable: first, target low-income individuals, and then, among them, target based on merit.

Billett, S. (2013). Learning through practice: Beyond informal and towards a framework for learning through practice. In UNESCO-UNEVOC (Ed.), Revisiting global trends in TVET: Reflections on theory and practice. Bonn, Germany: UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training.

Document Type: Essays from UNESCO's Education on the Move series

Intervention/ Topic: Technical and Vocational Education and Training

Description: The papers in this publication cover a wide range of topics relevant to current developments in TVET. Although by no means an exhaustive list, the issues covered enable interested readers to form a picture of current thinking in the field, both theoretical and practice-related.

Duflo, E., Dupas, P., & Kremer, M. (2019). The impact of free secondary education: Experimental evidence from Ghana.

Document Type: Primary Research Report - RCT

Intervention/ Topic: Secondary School Scholarships

Description: This study assesses the extent to which free secondary education would induce more children to attend secondary school, and to determine whether the strong correlations between secondary education and lower fertility, better reproductive health, female empowerment, technology adoption and greater civic knowledge and participation reflect causal effects. The study focuses on granting secondary school access to youth in Ghana by focusing on the financial barrier. In 2008, full scholarships were awarded to 682 adolescents, randomly selected among a study sample of 2,064 rural youth who had gained admission to a public high school but did not immediately enrol. Follow-up data were collected regularly until 2019, when these youth were on average 28, with a minimal attrition rate of 6%. The study found that scholarships increased educational attainment. Winners were 25 percentage points (51%) more likely to enrol in secondary school and spent 1.23 more years in secondary education than non-winners. However, back of the envelope calculations suggest that for every marginal student induced to attend secondary education by subsidies, 15 would receive transfers (assuming that the prospect of free secondary education does not lead more marginal people to successfully finish primary education.). The increase in education translated into an increase in cognitive skills. Five years into the study, scholarship winners scored on average higher on a series of practical math and reading comprehension questions modelled on the PISA. By 2013, when most participants were around age 22, women who had received a scholarship were 6.6 percentage points less likely to have ever been pregnant – a 14% drop compared to the rate in the comparison group (48.3%). Access to free secondary education increased the chance of having ever enrolled in tertiary education and increased the probability of completing tertiary as of 2019. Scholarship winners obtained better jobs along various dimensions.

EFA-GMR. (2012). Youth and skills: Putting education to work (Education For All Global Monitoring Report 2012).

Document Type: Report

Intervention/ Topic: Youth, Skills Development and Work

Description: The 2012 EFA Global Monitoring Report is divided into two parts. Part I provides a snapshot of progress towards the six EFA goals, and towards spending on education to finance the goals. Part II turns to the third EFA goal, paying particular attention to the skills needs of young people. Many young people do not have the skills they need for decent jobs. Part II outlines the urgency of making sure young people are given a second chance to acquire skills for work. It shows the regions in the world with the largest numbers of young people in need of foundation skills to find decent jobs.

FH I360. (2016). Looking through the lens of adolescent development to strengthen secondary education (Post-primary Education and Youth Initiative report).

Document Type: Working Paper

Intervention/ Topic: Adolescent Development

Description: The working paper series of FHI 360's Post-Primary Education and Youth Initiative features various research pieces complemented with actual field experiences from FHI 360's programmes and best practices from around the world. FHI 360 commissioned these papers to be written by experts in post-primary education topics in order to capture the outcomes from our field work, ideas from technical discussions, and the ideas that turned into integrated and locally-driven solutions for youth who are transitioning to post-primary education. The paper emphasizes the importance of connecting our understanding of secondary education with the realities of adolescent development in the context of the developing world. In addition, it aims to provide a starting point and guidance to policy makers, school administrators, and educators to re-conceptualise secondary education, especially in developing countries, by incorporating our understanding of how adolescents learn and develop.

GPE. (2020). 21st century skills: What potential role for the Global Partnership for Education? A Landscape Review.

Document Type: Report

Intervention/ Topic: 21st Century Skills / Socioemotional Learning

Description: The report considers the role that the Global Partnership for Education (GPE) could take in supporting partner countries in embedding 21st-century skills or equivalent within their education systems. The report recommendations consider the different levers that GPE can use as well as the core principles underlying GPE's work, including evidence-based policy dialogue, country ownership, harmonisation and aid alignment, and the promotion of mutual

accountability.

Hatch, R. (2015). Making waves: The Rising Demand for Secondary Education in Sub-Saharan Africa.

Document Type: Policy Brief

Intervention/ Topic: Secondary Education

Description: Participation in primary school rose in the decade and a half following the renewal of Education for All commitments in 2000. More students now progress through early grades to complete primary education, gaining important early literacy and numeracy skills. Completion rates in Sub-Saharan Africa climbed 16 percentage points between 2000 and 2012 from 54 to 70%. Yet progress in primary has not fully translated into advances in secondary in Sub-Saharan Africa. A higher proportion of children complete primary than enrol in secondary, suggesting only partial transition to what in many countries constitutes the second phase of compulsory, basic education. The primary school completion rate reached about 70% in 2012, while the gross enrolment rate for lower secondary remained at about 50%. This can be associated with a range of supply- and demand-side barriers including prohibitive school costs to households, long distances to secondary schools, availability of seats in secondary schools, quality of instruction, safety and health of students, increased participation from disadvantaged groups and the perceived benefits of secondary education. The brief also looks closer into Niger and identified an insufficient number of teachers qualified to serve students at the post-primary level as one of the main supply-side challenges to expanding secondary education in the country.

Jacob, J., Lehner, S. (2011). EQUIP2 State-of-the-Art Knowledge in Education: Secondary Education: A Guide to Education Project Design Based on a Comprehensive Literature and Project Review Secondary Education.

Document Type: Policy Brief

Intervention/ Topic: Secondary Education

Description: The brief highlights the current state of secondary education in the developing world, and summarised the main issues that are driving reform agendas in this sub-sector. Currently, countries, and donors, are increasingly looking to extend universal access, achieved in the primary system, into the lower secondary cycle. The donor community, through MDGs and EFA, is pushing for universal basic education (UBE) where children have access to a closely coupled primary and lower secondary curriculum. This push towards UBE is driven by two factors: 1) the increasing demand for lower secondary education brought about by a bulging cohort of primary school leavers; and 2) a growing realisation that more years of schooling leads, on

the whole, to greater economic growth nationally and increased income levels for individuals, particularly when education extends into adolescence and includes a greater emphasis on math and science. The paper had a particular focus on the role of secondary education in workforce development and in countries in crisis and conflict settings, examples of country-specific reforms and a review of the literature provided a summary of some of the lessons learned in planning and implementing secondary education reform. These reforms can follow many alternate paths: for countries where there is low secondary enrolment and/or inequities in access, expanding provision may be of foremost importance. For countries that have already expanded secondary enrolment, quality may be the primary concern, leading them to prioritise programmes that foster curriculum reform and modernisation, increased efficiency and lower costs, or recruitment and training of new teachers. For countries coming out of crisis, secondary education provision and reform may be prioritised in a larger process of national reconstruction, economic development, and political stability.

J-PAL. (2018a). Increasing Enrolment and Attendance by Making Education Benefits salient and changing perceptions (J-PAL Policy Insights).

Document Type: Policy Brief

Intervention/ Topic: Multiple / Universal Basic Education

Description: Nearly thirty randomised evaluations shed light on the link between the perception of education's benefits and enrolment and attendance at school. Of the 30 studies, 21 studies deliberately tried to change salience, and nine studies allow us to examine whether changes in quality affected attendance. Interventions that successfully addressed perception gaps related to the benefits of education or increased student motivation or the salience of benefits had positive impacts on student enrolment and attendance. However, programmes that improved the quality of education (as measured by test score improvements) did not typically increase participation, likely because parents and students find it hard to perceive changes in education quality. Even programmes that visibly increased school inputs (such as buying new textbooks or computers), which might have signalled improving education quality to parents, did not usually translate into higher attendance.

J-PAL. (2018b). Reducing costs to increase school participation (J-PAL Policy Insights).

Document Type: Policy Brief

Intervention/ Topic: Reductions of financial and non-financial cost of attending school

Description: A range of programmes have been evaluated which aim to reduce the financial and non-financial costs of attending school. The brief summarises the review of 31 randomised

evaluations of programmes which sought to increase student attendance by reducing costs. Lowering school fees, providing cash transfers and small incentives to parents, reducing child morbidity, and shortening distance to schools consistently increased school attendance and enrolment. The most cost-effective programmes addressed health problems (such as intestinal worms and chronic anaemia) or reduced the distance to school by leveraging existing resources to create low-cost schools in communities where no school existed previously.

J-PAL. (2019). Tailoring Instruction to Students' Learning Levels to Increase Learning (J-PAL Policy Insights).

Document Type: Policy Brief

Intervention/ Topic: Tailored Instruction

Description: Dedicating a portion of instruction time to tailoring instruction to the learning levels of students is one of the most effective and cost-effective ways of improving learning. Tailored instruction can be delivered effectively through multiple channels: during or after school and by tutors, volunteers, government teachers, or through education technology. The brief explains results from 13 randomised evaluations in Chile, India, Kenya, and the United States show that tailoring instruction to students' learning levels can overcome barriers to mastering basic skills in reading and math and increase test scores. Tailoring instruction to students' current learning levels was done through reorganising entire classes, training instructors to implement new pedagogies or leveraging technology through remedial game-based computer programmes.

Kazianga, H., Levy, D., Linden, L. L., & Sloan, M. (2013). The effects of" girl-friendly" schools: Evidence from the BRIGHT school construction programme in Burkina Faso. American Economic Journal: Applied Economics, 5(3), 41-62.

Document Type: Programme Report - Regression Discontinuity Design

Intervention/ Topic: Infrastructure Programme (amenities encouraging enrolment of girls)

Description: The study looks into the effect of a government programme designed to increase the supply of schools by using a uniquely implemented infrastructure programme in Burkina Faso. This programme, the Burkinabé Response to Improve Girls' Chances to Succeed (BRIGHT) programme, placed relatively well-resourced schools with a number of amenities directed at encouraging the enrolment of girls in 132 villages. These amenities included three classrooms, housing for three teachers, separate latrines for boys and girls, and a borehole equipped with a manual pump that served as a source of clean water. All students were eligible for school meals each day they attended school. Girls were also eligible for take-home rations conditional on 90 per cent attendance each month. Students also received school kits and textbooks. The study

found the construction of these schools to be a successful strategy for improving enrolment and test scores for all children 2.5 years after the start of the programme. The impact of BRIGHT on enrolment was an improvement of 19 percentage points for all children. This change in enrolment is also associated with large changes in test scores. The programme improved test scores for all children on a test that covered math and French subjects; for those children caused to attend school by the programme, test scores increased and consistent with these results, the study found reductions in children's engagement across a range of household activities. In addition, the programme increased girls' enrolment by 5 percentage points more than boys. However, this higher enrolment does not lead to a differential impact on test scores, both girls and boys test scores increased by the same amount. Finally, "girl-friendly" amenities increase enrolment by 13 percentage points above the 27-percentage point effect of providing a regular school, and they increase test scores for all children in the village.

Lewin, K. (2011). Making rights realities: Researching educational access, transitions and equity (Report No. 0901881805).

Document Type: Report

Intervention/ Topic: Access to Secondary Education

Description: This report summarises the results of research on access to education in Africa and Asia over the last six years by a multinational consortium of leading international institutions based in Bangladesh, Ghana, India, South Africa and the United Kingdom. It provides new insights into why so many millions of children in Africa and South Asia fail to complete a full basic education, with consequences both for them and for the societies in which they live. The knowledge, skills and values these children acquire will determine the pathways development will take in the future. This research demonstrates how much progress has been made, and how far there is to travel if human rights to basic education are to be delivered to all children. It provides many insights into the political economy of educational reform. The analysis of changing patterns of inclusion and exclusion contains many lessons for policy and practice in pursuit of the internationally agreed goals of Education for All.

LMTF. (2013b). Toward Universal Learning: What Every Child Should Learn (Report No. 1 of the Learning Metrics Task Force).

Document Type: Report

Intervention/ Topic: Measurement of Learning Outcomes for Children and Youth

Description: Toward Universal Learning: Recommendations from the Learning Metrics Task Force presents the full set of recommendations of the Learning Metrics Task Force, a multi-stakeholder

group of 30 organisations that met from July 2012 through September 2013. The 18-month process that led to development of these recommendations is described in detail in a series of three reports under the title Toward Universal Learning. In the first report, What Every Child Should Learn, the task force identified the competencies, knowledge or areas of learning that are important for all children and youth to master to succeed in school and life. The category of post-primary refers to the various contexts in which children learn beyond primary schooling. For most children, "post-primary" refers to secondary education. The task force decided that the recommendations of the LMTF should focus on lower secondary for this level, given the diverse areas of specialisation students experience after this schooling level. The UIS reports that in 2010, lower secondary education was part of compulsory education in three out of four countries reporting data, and upper secondary was included in compulsory education in approximately one in four countries (UIS 2012). It is estimated that globally, 91 per cent of children who entered school stay there until the end of primary school, and 95 per cent of those students transition to secondary school. However, for children in low-income countries, only 59 per cent make it to the last year of primary school and 72 per cent of those students successfully transition to secondary school (UIS 2012). For children who do not attend secondary school, learning occurs mainly through work, family and community experiences (i.e., non-formal, unstructured contexts).

LMTF. (2013a). Toward universal learning: Recommendations from the Learning Metrics Task Force (LMTF). (Report No. 2 of the Learning Metrics Task Force).

Document Type: Report

Intervention/ Topic: Measurement of Learning Outcomes for Children and Youth

Description: The second report, A Global Framework for Measuring Learning, presents a vision for how learning should be measured globally. The recommendations are: 1) The task force calls for a global shift in focus and investment from universal access to access plus learning; 2) The task force recommends that education systems offer opportunities for children and youth to master competencies in the seven domains of learning that are essential as they prepare children and youth for their future lives and livelihoods; 3) The task force recommends a small set of learning indicators to be tracked globally (meaning in all countries). These indicators measure fundamental learning opportunities over a child's educational career. They were chosen based on an extensive review of existing measures and an effort to address all domains of learning while presenting a framework that is feasible for all countries; 4) The task force recommends that countries lead, with the support of regional and international actors, a process to: diagnose the quality of their assessment systems; convene stakeholders, and assess the necessary technical and financial resources required to improve learning measurement and outcomes; 5) The task force recommends that learning data be collected and used with an explicit focus on identifying

and addressing inequalities, particularly within countries; 6) The task force recommends that donors and the private sector help eliminate cost barriers to assessment, especially in low- and middle-income countries. Full documentation of studies that are funded with public resources should be made widely available to ensure the transparency and reproducibility of results; 7) Stakeholders must take action to ensure the right to learn for all children and youth.

Martin, S., Kapungu, C., Goelz, M., & Fritz, K. (2019). Investigating Soft Skills Program Features with a Gender Lens: A global review of education and workforce interventions for youth.

Document Type: Report – desk review of evidence

Intervention/ Topic: Secondary Education and Workforce

Description: This desk review is the work of the International Center for Research on Women, with support from the International Youth Foundation and the PepsiCo Foundation. Soft skills (also called life skills, socio-emotional skills, and transferable skills, among other terms), refer to a broad set of skills, behaviours, and personal qualities that enable people to navigate their environment effectively, relate well with others, perform well, and achieve their goals. A variety of programmes that include soft skills training have already demonstrated positive impacts on girls' and young women's education, livelihoods, or employment. For girls, whose aspirations are limited by rigid gender norms and discrimination, soft skills training can enhance a sense of agency, which is the ability to see options, make choices, and exert control over one's own life. The main objective of this report is to elucidate the constellation of features that characterise the most successful soft skill programmes for girls and young women. The review aims to expand knowledge and understanding among programme designers and practitioners on strategies that empower the most vulnerable, including adolescent girls.

Singh, R., & Mukherjee, P. (2018). Push-out, Pull-out or Opting-out? Reasons Cited by Adolescents for Discontinuing Education in Four Low- and Middle-Income Countries. In J. E. Lansford & P. Banati (Eds.), Handbook of Adolescent Development Research and Its Impact on Global Policy. Oxford: Oxford University Press.

Document Type: Book

Intervention/ Topic: Early School Leaving/ Adolescent Development

Description: This is chapter 12 in the Handbook of Adolescent Development Research and Its Impact on Global Policies. Authors Renu and Protap draw on Bronfenbrenner's (1999) ecological framework in this mixed-method paper, recognizing school discontinuation not as an event but as a culmination of an interplay of various factors over time. Adopting a life-course perspective and analysing reasons given by adolescents for "not being in school" across the four low- and

middle-income Young Lives study countries, three broad categories of reasons for early school leaving emerge. These are push factors, pull factors, and opted-out factors. Findings revealed that pull factors emerge as the greatest contributor toward children discontinuing education as they enter middle and late adolescence. Besides household dynamics and shocks, boys, in particular, discontinue schooling due to paid work, while girls spend long hours in domestic chores at the cost of attending school. While in-school factors, particularly quality, cannot be ignored, it is important to provide social protection nets to the poorest families in order to achieve Sustainable Development Goal 4.

Smiley, A. (2012). EQUIP2 Leader Award Final Report: Nine years of Experience in Education Policy, Systems, and Management.

Document Type: Report

Intervention/ Topic: Multiple / Complementary (Alternative) Education Programmes & Secondary Education

Description: EQUIP2 began in 2003 and influenced USAID's 2011 Education Strategy. Relevant EQUIP2 publications include the Opportunity to Learn (OTL) research, which revealed huge inefficiencies of government schools and created an opening for improving school effectiveness and learning outcomes There was also the complementary education research which looks at the cost-effectiveness of reaching the underserved through non-governmental education programmes. The research team looked at nine successful "complementary education" programmes, ranging from home-based schools in Afghanistan to community schools in Zambia. The data focused on cost-effectiveness, including completion and, where possible, learning outcomes. A final analysis examined the programmes in contrast to government schools in terms of access, completion, and learning, as well as annual per-pupil costs, costs per completer, and costs per learning outcome. The results were startlingly clear: the complementary education programmes were significantly more cost-effective than government schools. Research suggests that in the majority of complementary education programmes, schools are community-managed and therefore able to offer students more consistent learning opportunities. The curriculum was simplified, local languages were used, and regular support and training were provided for teachers and school management committees. In 2006, EQUIP2 extended this research to include secondary schooling. The findings did not reveal much because there were simply not many non-governmental programmes for the provision of secondary schooling to underserved populations. However, there were a number of pressing concerns regarding the financing and provision of secondary education in developing countries, especially in Africa. In 2007, the research team conducted research to understand how inefficiencies and supply mechanisms might impact the expansion of secondary education, particularly in Africa looking

at 14 countries. The data clearly demonstrated that countries in many regions of the world would face major shortages of qualified teachers, and new approaches to the recruitment, training, and utilisation of teachers would be needed for those countries to effectively expand accessibility and availability of secondary education.

Sperling, G. B., & Winthrop, R. (2015). What works in girls' education: Evidence for the world's best investment: Brookings Institution Press.

Document Type: Book

Intervention/ Topic: Multiple / Girls Education

Description: In this book, the authors argue for greater support and investment in girl's education. They begin by discussing the individual and social benefits associated with greater levels of education among girls and identifying the progress, and remaining gaps, in girls' education. Then they discuss six types of evidence-based interventions that address girls' education needs, including school costs, health, distance to school, school safety, and quality of learning, community engagement, and education in emergencies. The book concludes with five key challenges for girls' education including quality learning, violence, secondary education, transitions to work, and empowering girls to lead.

UIS. (2012). International standard classification of education: ISCED 2011: UNESCO Institute for Statistics Montreal.

Document Type: Report

Intervention/ Topic: Multiple / Universal Secondary Education

Description: This edition of the Global Education Digest provides an overview of the status of secondary education with regard to access, equity, quality and financing. New indicators developed by the UNESCO Institute for Statistics (UIS) are presented such as:

This report examines current issues in secondary education globally, using data and indicators from the school year ending in 2009. Secondary education is more costly per student than primary education, and few low-income countries provide that level of education for free. Also, distance to school often increases at the secondary level, which is a barrier to entry. Dropouts in secondary education are a growing phenomenon in countries where youth are particularly affected by problems such as school violence, drugs and HIV/AIDS.

Primary Completion: At the global level, the UIS estimates that in 2009 primary completion rates (as measured by the gross intake rate to the last grade of primary education) were as high as 88%, although regional values ranged from 67% in sub-Saharan Africa to 101% in Latin

America and the Caribbean. The gross intake ratio (GIR) to the last grade of primary education is a proxy measure of completion, as it gives an internationally comparable picture of the capacity of education systems to enable children to complete a full cycle of primary education.

Transition: Currently lower secondary education is compulsory in approximately 80% of countries in the world, and the transition to secondary education needs to be ensured in those countries. The UIS has developed the effective transition rate to show the likelihood of a student moving to a higher level of education. This indicator can help assess the potential barriers in an education system. These barriers can be related to different factors, such as cost barriers (e.g. enrolment fees, expenses to purchase textbooks or school uniforms, etc.) or supply issues (e.g. limited number of teachers or classrooms). In general, a low effective transition rate is linked to two key factors: i) a high dropout rate from the last grade of primary education, and ii) limited access to lower secondary education. The new indicator better reflects situations where pupils repeat the last grade of primary education but eventually make the transition to lower secondary education. The effective transition rate from primary to lower secondary education is 95% or greater in most countries in Central and Eastern Europe, Central Asia, and North America and Western Europe. On the other hand, many countries in sub-Saharan Africa show low levels of transition from the primary to the lower secondary level: the effective transition rates of 17 out of 30 countries in the region with data were 80% or lower in 2009.

UNICEF. (2012). School readiness: A conceptual framework.

Document Type: Report

Intervention/ Topic: School Readiness

Description: While school readiness is gaining currency around the globe, there remain many issues linked with a cohesive understanding of the concept and its applications to improve the learning and development of all children, the quality of schools, and the participation of families and communities. This paper aims to provide the latest evidence and knowledge on school readiness within an easily understandable framework relevant to the lives of young children in the majority of the world. To that end, this paper focuses on three basic yet critical questions: What is school readiness? Why is school readiness important? And what are the consequences of inaction? This paper presents a broad concept of school readiness, describing in detail three dimensions: children's readiness for school; schools' readiness for children; and families' and communities' readiness for school. It then proceeds to provide a rationale for the importance of school readiness, not just for individual children, but also for societal and national development more generally. Finally, the paper makes a strong case regarding the costs of inaction for children, families, communities and countries, and addresses international strategies for action.

UNICEF. (2015). Global Out-of-School Children Initiative: Operational manual.

Document Type: Operational Manual

Intervention/ Topic: Multiple / Out of school Children

Description: The Out-of-School Children Initiative (OOSCI) aims to support countries in their study and analysis of out of school children and children who are at risk of dropping out by using innovative statistical methods to develop comprehensive profiles of excluded children, linking these profiles to the barriers that lead to exclusion, and identifying, promoting and implementing sound policies that address exclusion often from a multi-sectoral perspective. The manual aims to provide concise and powerful tools for achieving this goal. This manual is a how-to guide for using the OOSCI methodology, based on the shared experiences of the national and regional studies that have already been completed.

World-Bank. (2019). Ending Learning Poverty: What Will It Take?

Document Type: Report

Intervention/ Topic: Literacy & Foundational Skills

Description: In recent years, it has become clear that many children around the world are not learning to read proficiently. As a major contributor to human capital deficits, the learning crisis undermines sustainable growth and poverty reduction. To spotlight this crisis, the World Bank is introducing the concept of Learning Poverty, drawing on new data developed in coordination with the UNESCO Institute for Statistics. All children should be able to read by age 10. Reading is a gateway for learning as the child progresses through school and conversely, an inability to read slams that gate shut. Beyond this, when children cannot read, it's usually a clear indication that school systems aren't well enough organised to help children learn in other areas such as math, science, and the humanities either. And although it is possible to learn later in life with enough effort, children who don't read by age 10—or at the latest, by the end of primary school usually fail to master reading later in their schooling career.