Independent Commission for Aid Impact

Assessing UK aid's results in education

Literature review

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Abbreviations

CCT	Conditional cash transfer
CREATE	Consortium for Research on Educational Access, Transitions and Equity
DFID	Department for International Development
ECW	Education Cannot Wait
FCDO	Foreign, Commonwealth and Development Office
GDP	Gross domestic product
GEEAP	Global Education Evidence Advisory Panel
GEM	Global Education Monitoring
GPE	Global Partnership for Education
ICAI	Independent Commission for Aid Impact
IDA	International Development Association
LIC	Low-income country
LMIC	Low- and middle-income country
MHM	Menstrual hygiene management
ODA	Official development assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
RCT	Randomised control trial
RISE	Research on Improving Systems of Education
SBM	School-based management
SDG	Sustainable Development Goal
SRGBV	School-related gender-based violence
SWAp	Sector-wide approach
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNGEI	United Nations Girls' Education Initiative

1. Introduction

Overview

This literature review informs the Independent Commission for Aid Impact's (ICAI) assessment of the results of UK aid to education, particularly for girls. The research questions and methodology for this literature review were developed as part of the methodology for ICAI's review (see 'Assessing UK aid's results in education: approach paper'). The literature review should be read in conjunction with the main review, available on the ICAI website.

The literature review focuses on a list of specific topics relating to education in developing countries – marginalised girls, children with disabilities and children affected by crisis and/or conflict – to inform the main review. The literature review does not assess the results of UK aid to education, which the main review does.

The literature review is organised into six sections, including this introduction. The second section gives a summary of the findings. The third section compares the UK with other donors to education. The fourth section examines the common education system needs in developing countries as well as the needs of marginalised groups around access to and achievement in education. The fifth section considers the evidence on 'what works' in aid to support decent education[1] in developing countries. It also considers lessons around 'ways of working' to support decent education and the critiques of the different modalities the UK uses for its aid to education. Furthermore, it examines what evidence has been collated/used by the Foreign, Commonwealth and Development Office (FCDO) on 'what works' in aid to education and how much this is in line with views in the wider academic community. The final section examines the impacts of COVID-19 on education in developing countries.

This literature review is not intended to be comprehensive. It focuses on a series of topics relevant to the overall questions that guide the main ICAI review. It aims to provide an overview of available peer-reviewed and grey literature on these topics without being a comprehensive review. Tertiary education and technical and vocational education and training are out of scope.

2. Summary findings

How does the UK compare with other donors to education?

The UK is a major donor to education. The UK allocates more of its aid to basic education and to low-income countries than other donors as a whole. It has been a major donor to education via multilateral organisations and funds, particularly through the Global Partnership for Education (GPE) and the World Bank's International Development Association (IDA). The UK has had a particular focus on girls' education.

What are the common education system needs in developing countries?

Investment in education in developing countries is inadequate to support progress towards the Sustainable Development Goals (from all sources, most importantly domestic financing). **However, while more money is needed, money will not be enough unless education systems are reformed.** Teaching quality and learning are constrained by inefficient implementation. Systems and employers often do not (or cannot) invest in teachers' initial training and continuous professional development required to provide quality education and help children learn effectively. Many teachers in developing countries lack motivation, related to poor working conditions. Pedagogy techniques commonly remain ineffective and unable to respond to varying learning needs in a classroom. Inadequate education policies are often a result of poorly informed decisions related to inadequate data.

[1] The term 'decent education' has been used by DFID/FCDO. DFID/FCDO's definition of 'decent education' included children reached through DFID/FCDO programmes where it was confident that: i) quality education was being provided; ii) education quality was being improved; or iii) there was no alternative education provision (for example, emergency settings).

What are the needs of marginalised groups in developing countries around access to and achievement in education?

The Department for International Development (DFID) and FCDO have targeted three marginalised groups in their aid to education: marginalised girls, children with disabilities and children affected by crisis and/or conflict.

For **marginalised girls**, who experience disadvantages that intersect with gender, cost constraints can be an important barrier to accessing education. These girls and their families continue to lack the means to afford safe transport for long commutes, school fees or education materials. Hostile or unsupportive views from the community can also be an important barrier to school enrolment for marginalised girls. Moreover, marginalised girls often feel unsafe due to school-related gender-based violence, including physical and psychological violence on their way to/from school and on the school premises. Girls also need proper menstrual hygiene management facilities in schools to take full advantage of their learning opportunities. They also need school curricula that address gender stereotypes and power inequalities.

Accessibility problems are an important barrier for **children with disabilities**, both within and outside school infrastructure (for instance in their neighbourhoods and means of transport). Socio-cultural attitudes towards children with disabilities can also be an important barrier to them accessing or succeeding in education. Children with disabilities in developing countries often go to schools that lack an adapted curriculum and pedagogy. The lack of robust data regarding the number of children with disabilities and their needs hinders action to meet these needs.

Destruction of infrastructure and resources is often an important barrier in accessing education for **children affected by crisis and/or conflict**. Even when school infrastructure has not been destroyed, going to school in these contexts can be dangerous. Crises often lead to economic hardship and poverty is another major barrier to education for children affected. In addition, some displaced families may lack documentation needed for their children to access schools or education programmes or may not have the language skills to participate in schools in new areas. Crisis and conflict may lead to families not wishing to invest in education if the perceived returns to education decrease. Some children are recruited by the government in armies or by rebel factions. Crises affect children's health both physically and mentally, which can in turn affect their ability to access and succeed in education.

What is the evidence on 'what works' in interventions for supporting decent education in developing countries?

There are many areas where consensus is lacking around 'what works' in interventions for supporting decent education in developing countries, in terms of both attendance and learning.

Although findings vary across contexts, the literature generally recognises that stand-alone material inputs are unlikely to significantly improve learning in developing countries. Some improvements can be observed in school enrolments and progression as a result of school infrastructural developments. More research is needed to understand 'what works' in improving teaching practices. Studies on financial incentives and other support directed towards teachers and conditional upon student performance have generated mixed results. Effective school-based management (SBM) interventions can have positive effects on student participation and learning, but can be less effective in highly disadvantaged areas.

There is a broad consensus in the literature that cash transfers to households, conditional on participation in education, increase attendance but offer limited to no improvements in learning outcomes. Merit-based scholarships can be effective in improving learning outcomes but can also increase inequalities. Providing information to students and households on the expected returns to education in the labour market can sometimes improve attendance and learning, but more research is needed to confirm this.

There is a growing body of literature focused on how to improve access to education and learning for girls in particular. Some of this mirrors the more general research. It also suggests that reducing distances to schools matters for girls' attendance, as does providing adequate sanitation and hygiene facilities and preventing school-related gender-based violence. The evidence suggests that introducing gender-responsive pedagogy can contribute to improving attendance and learning for girls.

There is a lack of evidence on 'what works' to support education for children with disabilities in developing countries, hindered by the broad range of types of disability. There is a need for research in low-income countries, as most studies come from richer countries. There is insufficient evidence on 'what works' in promoting system-wide and school-level changes, rather than on improving the skills of individual children, or on which approaches are most cost-effective.

The available literature on 'what works' in education for children affected by crisis and/or conflict is relatively limited and is hindered by the diversity of contexts. For example, in some settings, community-based schools can lower children's exposure to insecurity and increase enrolment and learning. In some settings, children are integrated into formal education systems where they have sought sanctuary, but there is insufficient evidence around 'what works' in these circumstances. There are examples of successful interventions to support the mental health of children affected by crisis and/or conflict.

Are there any lessons around 'ways of working' to support decent education in developing countries?

Different ways of working are appropriate for aid to education in different contexts, such as the stage of development within the country.

There are growing calls to adopt 'systems thinking' to improve children's learning. Systems thinking requires attention from practitioners and researchers to whether programme designs are coherent with the education systems in which they are embedded, and whether systems are coherent with learning outcomes.

What are the critiques of the different modalities the UK uses for its aid to education?

The literature is inconclusive on whether either bilateral or multilateral aid is more effective overall. It notes areas of strengths and weaknesses for bilateral and multilateral aid, which can differ according to whose perspective is taken.

What evidence has been collated/used by FCDO on 'what works' in aid to education and how much is this in line with views in a wider education academic community?

DFID/FCDO has invested heavily in evidence as a public good and to support the designs of their programmes. Some of the conclusions that DFID/FCDO has drawn are not relevant for all contexts or groups. Moreover, some of the evidence that DFID/FCDO has generated has not yet been synthesised to make it readily usable by policymakers.

What has been the impact of COVID-19 on education in developing countries?

There is growing evidence showing **widespread negative impacts of COVID-19 on educational reach and quality.** COVID-19 has **exacerbated existing educational inequalities.**

3. Comparison of the UK with other donors to education

The UK is a major donor to education. Official development assistance (ODA) for education stood at an all-time high of $14.6 billion in 2019 (Donor Tracker, 2022). However, education has lost ground as a donor priority (UNESCO, 2022a). In 2019, the share of total development assistance going to education was 7.4%. In 2019, the top donors were Germany, France, the US, the UK, and Japan (Donor Tracker, 2022). These figures include scholarships and other costs of students from ODA-recipient countries studying in donor countries, which are high in Germany and France. When excluding these costs, Germany still remains the largest donor, followed by the US, the UK, Japan and France (Donor Tracker, 2022).

The UK spends a higher proportion of its aid to education on basic education than donors as a whole. Donor investments focus on post-secondary education, rather than basic education. On average, 42% of donor countries' education ODA was allocated to this sector in 2015, driven in large part by spending on scholarships and other costs for students from developing countries studying in donor countries. In contrast, Organisation for Economic Co-operation and Development (OECD) donor countries allocated only 26% of their bilateral

education ODA in 2015 to basic education (GPE, 2017). The bulk of the United States' education aid (84%) is allocated to basic education, while the UK allocated just half of its education aid to basic education (UNESCO, 2022b). The UK was the third-largest donor to basic education in 2015, after the US and the World Bank (UNESCO, 2017).

The UK spends a higher proportion of its aid to education on low-income countries than donors as a whole. Low-income countries receive a relatively low proportion of aid to education. Low-income countries received only 31% of aid to education in 2018 (UNESCO, 2022a). Overall, in 2018, funding from the US and the World Bank, and to a lesser extent the UK, dominated aid flows to basic education in sub-Saharan Africa, while flows from other bilateral donors were low (UNESCO, 2022b). The countries in which DFID/FCDO spent the most on basic education during this period through its country offices included Pakistan, Nigeria, Tanzania, Syria, Ethiopia and Bangladesh.[2]

The UK has been a major donor to education via multilateral organisations and funds. UK aid to education via core contributions to multilaterals was an estimated £1.3 billion between 2015 and 2019 (FCDO, 2021a). The UK has been the largest donor to GPE since it began in 2004. It planned to spend £434 million through GPE over two phases starting in 2015 (£210 million between 2015 and 2018 and £224 million between 2018 and 2021). The UK has been the biggest contributor to Education Cannot Wait (ECW). It plans to spend £120 million through ECW over two phases starting in 2015 (£30 million between 2016 and 2017 and £90 million between 2019 and 2023).[3] IDA is the part of the World Bank that helps the world's poorest countries. It aims to reduce poverty by providing zero- to low-interest loans and grants for programmes that boost economic growth, reduce inequalities and improve people's living conditions. The UK has been the largest donor to IDA over the review period. It periodically provides core contributions to IDA – for 2017 to 2020, this was a grant equivalent value of £2.9 billion. Over the review period, about 8% of IDA aid was for education (Akmal et al., 2021).

The UK has had a particular focus on girls' education (DFID, 2013a; The Conservative Party, 2015; DFID, 2018; FCDO, 2021b). Much of DFID/FCDO's education programming has had specific objectives for girls' education, and some has targeted groups of girls who are marginalised in education because of the way that gender can interact with other forms of disadvantage, such as poverty or disability. Most notably, DFID/FCDO has spent £565 million through the centrally managed Girls' Education Challenge over the review period, which aims to support marginalised girls to gain an education.[4]

4. Education needs in developing countries

Education system needs

According to Article 26 of the Universal Declaration of Human Rights, "everyone has the right to education" (United Nations, 1948, p. 7), to which FCDO (2021c) adds "[education] is essential for gender equality, lasting poverty reduction, and building prosperous, resilient economies and peaceful, stable societies". However, many children remain outside of school. Of the 787 million children of primary school age in the world, 58.4 million continue to be outside of school – more than 50% of which are in low-income countries in sub-Saharan Africa and South Asia (UNESCO, 2019). Although school enrolment is often used to assess education outcomes, a growing body of research has focused on exploring whether those in school are receiving quality education. Results from the 'Lost Potential Tracker' created by the Global Partnership for Education (GPE) show that this is not consistently the case: since the Sustainable Development Goals (SDGs) were established in 2015, over 400 million children remain without basic literacy skills, despite going to school (Khattri and Bourne, 2021). This section presents common education system needs in developing countries according to the literature.

Investment in education is inadequate to support progress towards SDGs. Disparities in spending on education per child or young person between rich and poor countries are large and have continued to widen (World Bank and UNESCO, 2021). In 2018-19, public education spending in high-income countries was 4.7% of

[2] Based on analysis of data provided to ICAI by FCDO.
[3] See the FCDO's Development Tracker website pages for its support to Education Cannot Wait, link and link.
[4] See the FCDO's Development Tracker website pages for the Girls' Education Challenge, link and link.

GDP, compared to 3.5% in low-income countries (World Bank and UNESCO, 2021; Lewin, 2020a). According to the Global Education Monitoring Report in 2015, education spending in low- and lower-middle-income countries would need to increase from 3.5% to 6.3% of GDP before 2030 to ensure that pre-primary, primary and secondary education are delivered universally (World Bank and UNESCO, 2021). As expressed by the Education Finance Watch, this is unlikely to be adequately tackled as current levels of government spending in education in low- and lower-middle-income countries continue to fall short of the levels required to achieve the improved quality of and access to education envisaged by the SDGs (World Bank and UNESCO, 2021). Since the onset of the COVID-19 pandemic, two-thirds of low- and lower-middle-income countries have decreased their education budgets (World Bank and UNESCO, 2021). Aid for education has increased by 21% over the last ten years, reaching its highest recorded level of $ 15.9 billion in 2019 (World Bank and UNESCO, 2021). However, the amount of aid is relatively small compared to what is spent on education by governments and households in developing countries.

Teaching quality and learning is constrained by system-level policies that often do not appropriately support, manage or motivate teachers. Increases in spending per capita over the last ten years have not always improved education outcomes. A recent study showed that average increases in per capita education spending increased education outcomes by a relatively small amount (World Bank and UNESCO, 2021). System-level policies often do not appropriately support, manage or motivate teachers, due to poorly backed public decisions and clientelism (Huang et al., 2020). Clientelism in these contexts distorts education expenditure by prioritising stakeholder interests over education goals: for instance, governments may provide employment to teachers and build schools, but may not demand that these fulfil their responsibilities or invest in non-salary items necessary for quality education, such as training, infrastructure maintenance or facilities. A rigorous review of the political economy of education systems in developing countries (Kingdon et al., 2014) concludes that clientelism, patronage and corruption are the three most intense political forces that push states to expand access to, rather than improve quality of, education. The politics of patronage suggests that it is more convenient to expand educational coverage, for example by building more schools or hiring more teachers, than to fix existing inefficiencies within the system because the former involves spending on political actors whereas the latter may involve reducing resources allocated to underperforming political stakeholders. Clientelism drives public teacher employment expansion without demanding that these employees fulfil the responsibilities of their positions. The literature shows that rent-seeking and exertion of political influence is also prevalent among teachers in a patronage-based system where powerful politicians and bureaucrats oblige politically helpful teachers with transfers of their choice, regardless of school need, which can negatively impact on the efficiency and equity of teacher deployment.[5]

There is evidence that systems and employers often do not (or cannot) invest in teachers' initial training and continuous professional development required to provide quality education and help children learn effectively. For example, according to a survey conducted by the World Bank (2021) in six countries in sub-Saharan Africa, 84% of grade 4 teachers do not have the minimum required level of mastery of the curriculum they teach, and only one in every ten teachers regularly checks for students' understanding and provides feedback, either due to lack of training on the need for this or demotivation. These outcomes are often fostered by system-level policies that do not require the recruitment of teachers with adequate levels of education to begin with, largely due to the challenge of finding sufficient teachers who have completed and achieved adequate levels in school and low requirements of entry into teacher preparation programmes in developing countries (World Bank, 2021; UIS, 2016; Shaw et al., 2017). This challenge becomes more daunting considering that the UNESCO Institute for Statistics (UIS) anticipates almost 69 million new teachers will be needed to reach the 2030 education goals (UIS, 2016).[6]

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[5] In another example, Rosser et al. (2021) find that the origin of Indonesia's 'learning crisis' is in the dominance of predatory political and bureaucratic elites. As these groups are motivated by rent-seeking and nationalism, their strong influence on national education policies tends to harm the greater public good: for instance, by encouraging the reduction of public funding for education, extracting from investments in the sector, or fostering policies that train students to be loyal to the nation, state and religion, as opposed to promoting learning as assessed by international standards.

[6] Goal 4 'Quality Education' targets include ensuring that all girls and boys complete quality education, all learners acquire relevant knowledge and technical skills, and the supply of qualified teachers increases (United Nations, 2020).

Many teachers in developing countries lack motivation. Analyses of the causes of the learning crisis in developing countries often point to teachers. Many education systems fail to provide basic facilities for teachers to perform and perform well, including professional preparation, teaching materials and appropriate living conditions. Without decent professional working conditions, teachers are unlikely to be motivated and deliver quality education (Evans and Yuan, 2018). As Burns and Guajardo (2016) note, poorly functioning educational delivery systems, poor working conditions, a lack of resources, limited human capacity, weak accountability, low salaries and poor management (including recruitment, selection, deployment, career advancement, motivation, incentives and retention) drain the motivation of even the most committed teachers."

Pedagogy techniques commonly remain ineffective and unable to respond to varying learning needs in a classroom. In some developing countries, where class sizes can be large, resources scarce and training misaligned, many teachers continue using a 'lecturing' teaching style, where students are expected to follow, copy or recite textbooks (Westbrook et al., 2013). In these cases, it becomes more challenging for teachers to adapt instructions and address different needs and abilities of children in the classroom – a problem that is particularly prevalent in developing countries, where initial preparation of children when they enter school is highly varied (Damon et al., 2016). As a result, teachers often end up engaging with the few students who can follow the class, ultimately neglecting the rest and reinforcing a system which is not inclusive (UNESCO, 2020a) – a problem which is particularly alarming given the already low average of teaching hours per day due to high teacher absence in some developing countries, particularly in sub-Saharan Africa (World Bank, 2021). A DFID-funded review of studies on pedagogy techniques and curricula in developing countries further suggests that effective practices – such as communication strategies that prioritise interaction – remain patchy. The reviewers highlight a need "to improve teachers' understanding and practices by a further shift towards students, their backgrounds, experiences, and current and potential levels of learning, and a more critical understanding of how the curriculum is aligned or not to students" (Westbrook et al., 2013, p. 64). The DFID-funded Young Lives programme conducted large-scale school surveys across four countries (Ethiopia, India, Peru and Vietnam) and identified situations where "curriculum pace" was not aligned with children's learning progress, identifying a "growing gulf between children's difficulties mastering the most basic skills and the often quite rigid expectations of school curricula and teaching" (Rossiter et al., 2018, p. 11).

Many commentators note that inadequate education policies are often a result of insufficient data for education systems. Strengthening the statistical capacity of developing countries has been consistently considered necessary to tackle existing data gaps in the education sector (Khattri and Bourne, 2021). Updated and informed statistics are necessary to inform areas including equitable teacher allocation and to tackle corruption in education expenditure (World Bank, 2021). Over time countries have made progress in their efforts, such as in tracking data on student enrolment and teacher supply (Khattri and Bourne, 2021). However, most developing countries continue to struggle to deliver: once data is collected, there is still a challenge in interpreting and synthesising that data – particularly given the complexity of the education system issues at play. This makes it difficult for developing countries to use increased data to make effective decisions on education (Tikly, 2020).

Needs of marginalised groups

This section reviews the literature on the particular needs of FCDO's target marginalised groups,[7] aiming to understand how education needs differ for these groups and identify the barriers these children face in accessing and succeeding in education.

Needs of marginalised girls

In its five-year plan for global action on girls' education, FCDO (2021c) clarifies that: "challenges differ for different groups of girls, but around the world, girls who are poor, disabled or live on the margins contend with the most". This section refers to these girls who experience disadvantages that intersect with gender.

Cost constraints are an important barrier to accessing education for marginalised girls, who continue to lack the means to afford safe transport for long commutes, school fees or education materials. According to the

[7] The Education For All Global Monitoring Report (UNESCO, 2010, p. 135) "Reaching the marginalised", defined marginalisation in education as a form of "acute and persistent disadvantage rooted in underlying social inequalities".

Global Education Monitoring (GEM) Report, primary school attendance is consistently lower among the poorest girls in rural areas in low- and middle-income countries, including Cameroon, Guinea, Pakistan and Yemen (Antoninis et al., 2020, p. 8). Particularly after the COVID-19 pandemic, when families required greater support at home due to losing jobs or access to vital health services, school-related costs have become a primary barrier to enrolment, with school and examination fees making up the largest costs to be assumed (UNESCO, 2020b). Additionally, when low household income intersects with certain cultural traditions, economic necessity often leads to parents prioritising male education over that of females (Benavot et al., 2015). Studies demonstrate how, when school fees are a sizeable burden to a family and marriage means a girl's learning potential is transferred to the husband's family, educating a daughter is not seen as cost-efficient. In some states in India, this is the case not only because marginalised girls' work life will be 'unproductive' as it is mainly constrained to the household, but also because a higher dowry for educated girls would make it more difficult to find suitable husbands (King and Winthrop, 2015; Arun, 2017; Ray et al., 2020; Kaul, 2018).

Hostile or unsupportive views from the community continue to be an important barrier to school enrolment for marginalised girls. Given that girls tend to spend more time on domestic work, they are often unable to complete homework or attend school. Even when cost constraints are relieved through scholarships or proximity to schools, girls are often pushed away from school activities (GPE, 2014). For instance, a household survey conducted across 65 countries by GPE demonstrates how girls continue to undertake more extensive and intensive household chores than boys, to a total of 20 hours a week, which severely impacts their school attendance (GPE, 2014). Prolonged over time, these dynamics also run the risk of reducing professional aspirations for girls in the long term (King and Winthrop, 2015).

Marginalised girls often feel unsafe due to school-related gender-based violence (SRGBV), including physical and psychological violence on their way to/from school and on the school premises. Lack of school provision close to students' homes affects all girls in developing countries, who have to travel long distances to school, cross dangerous areas and become subject to high risks of gender-based violence, including sexual assault and rape. However, levels of vulnerability are even greater for *marginalised* girls (Griffiths et al., 2015). Increased remoteness and lack of financial support to afford safe transport means that they may have fewer options for safe transport or supervisory support, may be coerced into sex with older men on commutes to pay for fees, and be further bullied for belonging to minority ethnic groups (Parkes et al., 2016; Pankhurst et al., 2016). These circumstances are likely to worsen physical/mental health and school performance, and lead to girls dropping out of school (Herat and Deligiorgis, 2015). The psychological impact of SRGBV has been seen to impede learning (Parkes et al., 2016).

There is strong evidence that girls need proper menstrual hygiene management (MHM) facilities in schools to take full advantage of their learning opportunities. Inadequate water and sanitation, disposal facilities for menstrual materials and soap to wash menstrual materials are common barriers that schoolgirls face to experiencing safe, hygienic and dignified menstruation (Sommer et al., 2021). Inadequate MHM facilities not only contribute to creating gender-discriminatory school environments that foster pervasive menstruation-related stigma and anxiety/shame around menstrual accidents, but they also force girls to miss hours/days of school due to their menstruation, making it more difficult for them to participate and engage in the classroom as equals and maximise their potential (GPE, 2014; Alam et al., 2017; Chinyama et al., 2019). A UNICEF (2009) study in India, Nepal, Bangladesh and Bhutan reported how "existing facilities were such that it embarrassed the girls, offering them no privacy and dignity", an issue which persists as girls get older, and which also affects the retention of female teachers. In a study of 600 girls in Delhi, 65% of adolescent girls reported missing class tests due to poor MHM at school and menstrual embarrassment (Vashisht et al., 2018). Schools in developing countries continue to lack the gender-specific infrastructure required to create adequate physical environments and build social support to mitigate the challenges faced by girls around managing menstruation in school settings (Parkes et al., 2016).

Marginalised girls need school curricula that address gender stereotypes and power inequalities. Several studies identify the need for school training programmes that specifically address and transform gendered power imbalances to prevent violence and empower girls (Sperling and Winthrop, 2016). Marginalised girls need a curriculum that not only fosters their critical thinking about how gender norms or power manifest, but also

provides instructions on how to handle harassment, acknowledging their power to improve their sexual and reproductive health and thereby encouraging them to remain in school for longer (Haberland, 2015).

Needs of children with disabilities

Accessibility problems are an important barrier for children with disabilities, both within and outside school (for instance in their neighbourhoods and means of transport). If the school infrastructure is not accessible for children with physical disabilities – including, for example, lack of ramps, wide doors, moveable furniture, or wide windows for children with impaired vision – they are not able to attend school, even though they may be enrolled (GPE, 2018). Exclusion from the formal education system due to inaccessibility problems makes children with disabilities even more vulnerable: not only are they missing out on education opportunities, but they are also excluded from critical child survival initiatives, which are often implemented through education programmes in schools (Trani et al., 2011). Accessibility problems often arise outside of the school: many children with disabilities live in rural/remote areas and cannot go to school because public transport is not adapted to their needs. Problems with education opportunities and outcomes for children with disabilities are further intensified when they intersect with other inequalities associated with gender, ethnicity, poverty and location (Singal, Lynch and Johansson, 2019).

Demand-side factors, including socio-cultural attitudes towards children with disabilities, are an important barrier to them accessing or succeeding in education. Many cultures in developing countries marginalise disabled children from society (GPE, 2018). Some studies claim that parents' attitudes towards disability can be one of the most defining factors of attendance: some parents may keep their child at home because of shame, an internalised misconception of their ability to learn, or to protect them from abuse in schools (GPE, 2018). Choruma (2007) states that it is not so much their impairments, but rather the common belief that they need to be taken care of permanently that marginalises children with disabilities. However, stigma and attitudinal barriers do not only appear in the family sphere: the attitudes of teachers and school authorities towards disability are also important in determining children's attendance. Indeed, GPE (2018) reported that children have been discouraged from attending school due to discriminatory treatment from school staff, eventually leading to them dropping out. Discrimination and physical abuse from other children in school can also strongly influence enrolment: following a study in Uganda and Malawi, 84% of children with disabilities surveyed claimed to have experienced some form of violence in the previous week (Kuper et al., 2016). According to the United Nations Girls' Education Initiative, this discrimination is often strongest against girls with disabilities, who face double discrimination due to social norms and cultural bias around both gender and disability (Al-Ghaib et al., 2017).

Children with disabilities in developing countries often go to schools that lack an adapted curriculum and pedagogy. Curriculum flexibility allows teachers to make the necessary modifications to ensure that content, mode of delivery and measurement of achievement suit the needs of all students in the classroom (GPE, 2018). In developing countries, education systems rarely modify curricula to meet the needs of disabled children, causing many to lag behind or even drop out. In particular, few teachers are trained on inclusive teaching practices and learning materials are not adapted to the learning needs of children with disabilities (Wodon et al., 2018; Wapling, 2016). In a summary of its research outputs, the DFID-funded Consortium for Research on Educational Access, Transitions and Equity (CREATE) similarly notes that pedagogical approaches that suit disabled children are crucial to effective teaching, but that mainstreaming of disability-specific pedagogies is often inconsistent (CREATE, undated). Even when they *are* enrolled, children with disabilities are often excluded from learning as they are not offered the individualised support and learning assistance they require (Papakosta, 2018). Despite the widespread recognition that successful interventions commonly require a complementary focus on equipping teachers with the tools necessary to provide tailored support and prevent discrimination, studies identify insufficient teacher preparedness to deliver these outcomes (Singal 2016; Kuper et al., 2016).

There is a lack of robust data regarding the number of children with disabilities and their needs, hindering action to meet these needs. Lack of data on children with disabilities at the community and school levels means that it is difficult to inform evidence-based decision making and policy changes, monitor outcomes, or engage families facing challenges with accessing education (GEM, 2017; Cappa and Castro, 2021). As measuring disability is already complex, due to children developing at different speeds and with different variations in normal development, several international organisations have supported countries to better and more systematically measure/monitor the issue (UNICEF, 2013a). However, many developing countries lack the resources to

implement these screening tools (Hayes et al., 2018). Croft (2013) asks whether a national survey of disability prevalence is the best starting point to identify disability needs for children in developing countries and concludes that the most pragmatic and ethical strategy is to focus on developing an understanding of existing data, rather than focusing on collecting new data that might not be appropriately examined. Trani et al. (2019) highlight the importance of addressing the entire range of disabilities equally.

Needs of children affected by crisis and/or conflict

Crises, conflicts and disasters create disruption in education settings through, for example, violence, displacement and infrastructure damage (Burde et al., 2015; Ouili, 2017). Further research is needed to disaggregate the different forms of crises affecting children (such as protracted conflict, natural disaster, displacement) to better understand the context-dependent education needs of children and good practice responses (Burde et al., 2019).

Destruction of infrastructure and resources is often an important barrier in accessing education for children affected by crisis and/or conflict. Some of the most visible consequences of violent conflict are the destruction of infrastructure and the disruption of public goods and services provision (Cervantes-Duarte and Fernández-Cano, 2016). In some cases, when infrastructure has been demolished and households/communities are displaced into camps, education is also severely disrupted: the schools set up are disorganised, temporary, overcrowded and often limited to primary education (Novelli and Higgins, 2016). Looking for schools outside of camps is often not a possibility either due to restrictions of movement or insecurity. Although situations of displacement are expected to be temporary, many can become protracted and last for decades, resulting in generations without access to adequate, quality education (Novelli and Higgins, 2016; Watkins, 2013). Children in conflict zones often have limited access to technology and so cannot rely on distance learning (Jones et al., 2021).

Even when school infrastructure has not been destroyed, going to school in these contexts can be dangerous. Schools, teachers and students are sometimes targets of violent attacks in certain conflict-affected settings as they are seen as symbols of state presence and leadership in the community (Justino, 2014). Attacks on schools, teachers and students lead to heightened perceptions of fear and insecurity that often result in parents removing their children from schools (Cervantes-Duarte and Fernández-Cano, 2016). Heightened perceptions of violence and insecurity may mean that it is difficult to recruit teachers in certain areas, affecting teacher supply and the recovery of education systems in conflict-affected settings (Justino, 2016). Children in conflict-affected contexts often prefer to stay at home or cannot focus on improving school attainment, if still attending school (UNICEFb, 2013).

Poverty is another important barrier to education for children affected by crisis and/or conflict. Crises often lead to considerable economic losses and severe cases of poverty and destitution, often resulting in parents removing their children from school to start working and financially support the family or take over household chores (Kechangia and Metaxas, 2021). Poverty is a particularly relevant barrier to education among the most vulnerable populations in conflict – refugees and the internally displaced – as they have left their homes and jobs and are often not able to afford the costs of uniforms, school fees, books and materials or transportation (UNICEF and UIS, 2012).

Some displaced families may lack documentation needed for their children to access schools or education programmes or may not have the language skills to participate in schools in new areas and may not be able to afford language classes (MacLeod et al., 2020). Recent studies focus on language as a key barrier faced by displaced children. In an update to their 2015 systematic review,[8] Burde et al. (2019) note that studies have identified language as a barrier to quality learning in Syrian refugee students.

Crisis and conflict may lead to families not wishing to invest in education. The destruction of industries, markets and infrastructure can mean that job opportunities for skilled labour become scarce. As returns to education fall, the incentives to send children to school beyond primary level are considerably lowered (Santos, 2014).

[8] Burde et al. (2015; 2019) offer the most comprehensive reviews to date on the available evidence on 'what works' for education in emergencies.

Some children are recruited by the government in armies or by rebel factions as child soldiers, porters, messengers, cooks, or even providers of sexual services (Justino, 2014). Between 2005 and 2020, more than 93,000 children worldwide have been recruited and used in armed conflict, although the real number of child soldiers is believed to be considerably higher (UNICEF, 2021). These children are not only removed from schools and denied the opportunity to accumulate skills and knowledge, but they are also less likely to ever return to school and subject to numerous traumatising events that will increase their likelihood of depression and social withdrawal in the long term (Justino, 2016).

Crises affect children's health both physically and mentally (World Bank, 2018). Children affected by crisis and/or conflict need education systems that are adjusted to their psychological circumstances. Exposure to violent conflict and constant fear and insecurity mean that children experience elevated levels of stress at an early age, which can have long-term effects on their cognitive abilities and result in limiting their school attendance and performance (Justino, 2016). In addition to the poverty provoked by situations of conflict and crisis, poor health and the loss of family members can severely impact school attendance (Evans and Miguel, 2007). Children affected by conflict also often face adverse physical health shocks: malnourishment either due to mother stress during pregnancy or because of lack of resources once born affects child development and educational attainment by increasing the likelihood of facing illness and reducing concentration levels (Justino, 2016). Children in these situations therefore require a curriculum and certain classroom practices that address psychological trauma as well as healthcare attention to encourage them to continue learning despite their vulnerable contexts (Novelli et al., 2014).

5. Evidence of 'what works' in aid to support decent education in developing countries

The literature on aid to education includes numerous studies assessing the impact of individual interventions or programme packages on school attendance and learning, the two most utilised indicators of success. As a result of financial constraints in the sector, much research has also focused on assessing the cost-effectiveness of education programmes (for example GEEAP, 2020). This section synthesises and discusses the available evidence on 'what works' to improve children's access to quality education across measures such as improving attendance, enhancing learning outcomes and evaluating cost-effectiveness, with an added focus on the specific needs of marginalised girls, children with disabilities and children affected by crisis and/or conflict.

Abstracting the available evidence on good practices from its local context is complicated due to the dependence of programme designs on local needs and constraints (GEEAP, 2020; Gibbs et al., 2020). Given the heterogeneity of programme structures, measures of effectiveness, frequency of follow-ups, and implementation contexts, the evidence that emerges from the literature can be inconsistent (Evans and Popova, 2016). Despite contextual disparities, combining several meta-analyses and systematic reviews produced on the topic (for example Conn, 2017; Glewwe and Muralidharan, 2016; Krishnaratne et al., 2013; McEwan, 2015; Snilstveit et al., 2015) allows for some insight on general trends of good practice. However, as emphasised by Lewin (2020b), it is important to note that interventions with the most evidence are often linked to long-standing, business-as-usual practices in the sector. This section also discusses promising novel interventions, for which more research on effectiveness is needed.

To make sense of the broad range of strategies deployed to support quality education, the analysis follows the typology outlined below and adapted from Krishnaratne et al. (2013) and Masino and Niño Zarazúa (2016).

- **Supply-side interventions:** these refer to investments in education inputs, commonly including the provision of new schools and infrastructure, instructional materials, human resources, pedagogical methods and school management systems (Krishnaratne et al., 2013).
- **Demand-side interventions:** these operate to incentivise households and students to utilise education services either by reducing financial access barriers and maximising intermediate returns (such as conditional cash transfers, scholarships, fee reductions) or providing households with information on educational opportunities and the benefits of education (Glewwe and Muralidharan, 2016).

Supply-side interventions

Although findings vary across contexts, the literature on aid to education generally converges in recognising that stand-alone material inputs are unlikely to significantly improve learning in developing countries. Instructional resources, such as textbooks, posters and chalkboards, can enhance students' learning experience and assist teachers in conducting lessons. Nevertheless, the systemic challenges rooted in education delivery in developing countries, such as the misalignment between pedagogy, teacher training and curricula, largely offset the potential contributions of additional material supplies (GEEAP, 2020). For example, through an evaluation of a programme providing textbooks to randomly selected primary schools in rural Kenya, Glewwe et al. (2009) find that the beneficial effects of additional resources on test scores are limited to previously high-achieving students. The authors largely attribute this to the failure of centralised programmes to account for in-class learning disparities.

Some improvements can be observed in school enrolments and progression as a result of infrastructural developments. There are currently only a small number of studies focused on investigating the impact of new schools and infrastructure on time in school and learning quality (Snilstveit et al., 2015). Despite the limited evidence, the literature on the topic identifies promising effects of infrastructural developments on enrolments in communities that previously lacked school facilities (Glewwe and Muralidharan, 2016). This is because minimising physical access barriers can prevent students from incurring transportation costs and security threats when travelling to school (Damon et al., 2016). In addition, as identified by the Global Education Evidence Advisory Panel (GEEAP, 2020), alternative ways of reducing the distance travelled by students, such as setting up schools in existing community structures, can contribute to similar gains at lower costs. There is also some evidence to suggest that the positive outcomes of these programmes are replicated in terms of learning and progression, specifically in circumstances where inadequate infrastructure would otherwise prevent children from attending schools altogether (Glewwe and Muralidharan, 2016).

More detailed research is needed to assess 'what works' in the practical implementation of pedagogy, including specific activities and facilitating factors (Westbrook et al., 2013). As a result of the modest impact on learning quality of the interventions discussed so far, the literature on the topic suggests that education aid should move beyond stand-alone investments in material inputs to address how these inputs are put into practice (Glewwe and Muralidharan, 2016; Snilstveit et al., 2015). In this context, there is a significant body of literature on pedagogical strategies that considers the interactions between students, teachers and learning materials to inform and enhance the learning process. Increasingly, studies on pedagogy have encouraged a theoretical shift towards 'student-centred' or 'active learning' approaches, emphasising the co-construction of knowledge by teachers and students, as opposed to top-down, teacher-directed learning (Westbrook et al., 2013; Vavrus 2021). Nevertheless, the 'student-centred' label is ill-defined in the literature, with studies referring to a wide range of pedagogic packages and classroom activities, including group work, interactive demonstrations, student questioning, and the use of local languages (Westbrook et al., 2013). According to Meyer and Gent (2016), schools need to allow teachers to go beyond the curriculum to foster innovation in content and class delivery, support development of content that is cognisant of resource constraints and local conditions (such as connectivity limitations), and encourage the development of content that allows for the use of different languages to fully improve effective learning. More research is currently needed to assess the effects of specific teaching practices on student learning. For this reason, Westbrook et al. (2013) caution against devaluing teacher-directed approaches (such as lecturing and rote learning), which may be needed to prepare for school and national examinations, and instead encourage greater harmonisation between teaching practices, curricula and teacher training.

The available literature identifies varying magnitudes of impact associated with technology-enhanced learning, mainly resulting from implementation and sustainability challenges caused by a lack of widespread digital access in developing countries. An emerging body of literature is considering the promising potential of computer-based instruction and other forms of technology-enabled learning to assist self-learning, enhance student engagement, and offer tailored instructional support. The technology-enhanced programmes that have been implemented so far are varied, spanning from relatively inexpensive interventions such as radio-broadcasted instruction to the more costly provision of laptops and tablets for interactive instruction and at-home learning (Glewwe and Muralidharan, 2016; Shah, 2011). Nevertheless, the available evidence from developing countries identifies varying magnitudes of impact on student learning, as a result of immediate and long-term challenges in mainstreaming education technology. Implementation challenges include a lack of basic infrastructure, including the absence of stable electricity, internet connectivity and sufficient devices in schools (UNESCO, 2015; UNESCO, 2021a). The sustainability of these interventions is hindered by a lack of continuous professional training and resources to respond and adapt to rapidly changing technologies (Lim et al., 2018).

Studies on financial incentives and other support directed towards teachers and conditional upon student performance have generated mixed results. Numerous research studies state that having adequately trained and supported teachers is essential for a strong education system and is also a major determinant of children's learning and well-being, with consequences for both their academic achievements and their longer-term social and labour outcomes (World Bank, 2019; Snilstveit et al., 2017). Teacher absenteeism is a widespread issue in the education systems of developing countries (Guerrero et al., 2012). Consequently, interventions have been designed to address and incentivise teacher accountability. The most common of these involve linking teacher pay to demonstrations of quality performance, commonly measured through improvements in students' test scores. Nevertheless, impact evaluations investigating bonus teacher pay have generated mixed results (Filmer et al., 2020; Muralidharan and Sundararaman, 2011), largely due to difficulties in designing effective interventions (GEEAP, 2020). For example, in a recent evaluation of performance-based incentives in Tanzanian secondary schools, Filmer et al. (2020) find that improvements in learning outcomes are concentrated in previously high-performing schools and among high-achieving students. A study by Glewwe and Muralidharan (2016) also suggests that group incentives have also not generated significant improvements, largely as a result of free-riding tendencies. This therefore suggests that more research is needed to identify and design programmes that reward teacher accountability and promote equitable learning. There is limited evidence about how *unconditional* pay increases affect the motivation and performance of incumbent teachers, and how this translates to student learning. One research study found that doubling teacher salary in Indonesia had no effect on teacher knowledge, student test scores or self-reported teacher attendance (de Ree et al., 2012).

Effective school-based management (SBM) interventions can have positive effects on student participation and learning, but studies emphasise how highly disadvantaged areas commonly experience implementation challenges as a result of limited decision-making capacity and power imbalances between communities and teachers (Carr-Hill et al., 2018). SBM approaches operate through the decentralisation of decision-making power and accountability for the management of schools to community-level committees in an effort to improve responsiveness to contextual needs. Models of SBM differ across the range of decisions that can be devolved (for example curricula, finance, teachers) and based on whom this responsibility is transferred to, commonly either school personnel or community members (Carr-Hill et al., 2018). Through a systematic review of the available literature, Carr-Hill et al. (2018) conclude that SBM programmes can have somewhat beneficial effects on teacher and student attendance and a more robust positive impact on student learning, specifically when measured in the long term. Nevertheless, several studies find that the decentralisation of school-based decisions is less likely to generate these beneficial effects in highly disadvantaged communities, as a result of insufficient decision-making preparedness and status relative to school personnel, making it difficult to impose decisions such as hiring and firing staff (Carr-Hill et al., 2018; Damon et al., 2016; Glewwe and Muralidharan, 2016).

Demand-side interventions

Demand-side interventions are generally considered effective in increasing attendance (conditional cash transfers, information campaigns) and, to a lesser extent, learning (merit-based scholarships) but vary considerably in cost-effectiveness (Glewwe and Muralidharan, 2016). This category includes interventions focused on reducing the costs for students and households (direct and indirect) of attending schools (for example CCTs, fee reductions, scholarships), as well as interventions providing information on returns to education as incentives for attendance.

There is a broad consensus in the literature that conditional cash transfers (CCTs) increase attendance but offer limited to no improvements in learning outcomes (Bastagli et al., 2016; GEEAP, 2020; Khrishnaratne et al., 2013). CCTs are one of the most implemented and researched demand-side programmes and consist of regular household payments conditional upon recipients' actions. In aid to education, the delivery of CCTs is commonly dependent on children being enrolled in school and attending regularly (Glewwe and Muralidharan, 2016). Although the process of monitoring conditions can be expensive, unconditional cash transfers, operating without conditionality, and cash transfers explicitly labelled as intended for children but unmonitored in practice, are generally less effective (Bastagli et al., 2016; Damon et al., 2016).

Although studies suggest that merit-based scholarships can be effective in improving learning outcomes through the provision of tangible returns to performance in schools, these interventions can also increase inequalities by targeting previously high-performing students. Through a meta-analysis of the available literature on merit-based scholarships for primary and secondary school students in developing countries, Snilstveit et al. (2015) find promising improvements on test scores across subjects, despite heterogeneities in effect sizes. Nevertheless, as emphasised by Herbaut and Geven (2019), scholarship programmes can exacerbate

inequalities by rewarding previously high-achieving students. More research is therefore needed to assess 'what works' in programme designs to promote impact and equity in learning, for example by exploring the effectiveness of incorporating needs-based components in scholarship designs.

Providing information to students and households on the expected returns to education in the labour market can sometimes improve attendance and learning, but more research is needed to confirm this. For example, through a field experiment in Madagascar, Nguyen (2008) concludes that households lack reliable information on the returns to education, but when this information is provided, they commonly act upon it with positive consequences for both attendance and learning. Moreover, the attractiveness of these programmes is further reinforced by very low implementation costs (GEEAP, 2020). However, there is currently only limited evidence confirming the effects of these interventions on longer-term learning outcomes (Lewin, 2020b).

Interventions for marginalised girls

There is a large and growing body of literature focused on how to improve access to education and learning for girls. This section addresses some of the previously discussed supply- and demand-side interventions that have been examined in relation to gender (for example CCTs), together with a range of gender-specific interventions such as gender-responsive pedagogy and the establishment of appropriate hygiene facilities and in-school measures for gender-based violence prevention.

The literature suggests that reducing distances to schools matters for girls' enrolments, especially for those living in rural areas. For example, Burde and Linden (2013) find that village-based schools in rural Afghanistan contributed to increasing girls' participation to the point of eliminating gender disparities in school attendance. Similarly, Muralidharan and Prakash (2017) observe significant improvements in secondary school enrolments as a result of a programme providing bicycles to girls living in rural communities. Moreover, the establishment of community-based schools entails a greater degree of local monitoring and parental involvement, which contributes to fostering a more trusted and safer environment for girls (Sperling and Winthrop, 2016).

Adequate in-school sanitation and hygiene facilities can contribute to increasing girls' time in school. Kazianga et al. (2014) observe that sanitation facilities, including separate female latrines and in-school access to clean water, contributed to significantly increasing girls' attendance in rural villages in Burkina Faso. Similarly, Dolan et al. (2014) find that menstrual hygiene management interventions implemented through the dissemination of puberty information and the distribution of sanitary pads to menstruating students increased attendance levels and assisted girls in overcoming feelings of insecurity and shame.

Programmes that lower the financial barriers encountered by households in sending girls to school (such as CCTs, fee reductions, free uniforms) have significant potential to reduce gender disparities in attendance (Sperling and Winthrop, 2016). Consistent with previously discussed findings, a substantial body of literature finds that CCTs significantly improve girls' attendance but have limited effects on learning outcomes (see, for example, Bastagli et al., 2015). Therefore, to strengthen long-term quality learning, CCTs should be complemented by programmes that more stringently address learning progression (Sperling and Winthrop, 2016). Other forms of in-kind assistance, such as fee reductions and free uniforms, have also been positively associated with improved attendance rates of girls from disadvantaged backgrounds. For example, three different studies conducted across the past two decades in Kenya all find significant reductions in girls' absenteeism and dropout rates as a result of the provision of free school uniforms (Duflo, 2014; Evans et al., 2008; Mutegi, 2018).

The available evidence suggests that interventions focused on mainstreaming gender-responsive pedagogy through teacher and student training can contribute to increasing time in school and maximising learning for girls (Unterhalter et al., 2014). Through a systematic review on 'what works' to improve girls education, Unterhalter et al. (2014) emphasise that interventions focused on teacher education can assist girls' participation and performance in schools through improved teaching practices and attitudes towards inclusiveness. Although there are only a few studies assessing the effects of gender sensitivity training on girls' education outcomes (see, for example, Haberland, 2015), the current literature suggests that these interventions can nevertheless generate positive changes in awareness levels relating to girls' well-being within school communities (Sperling and Winthrop, 2016).

Supporting girls' education also requires preventing all forms of school-related gender-based violence. Practitioners and academics have identified the need for whole-school approaches that establish effective

reporting and referral mechanisms, promote curricula that challenge harmful gender-based norms, and equip education personnel with the tools to prevent and address all forms of physical, sexual and psychological violence against girls (Sperling and Winthrop, 2016; UNESCO and UN Women, 2016). In line with this, Parkes and Henslop (2013) identified some improvements in girls' knowledge and use of reporting mechanisms as a result of a multi-dimensional intervention including girls' clubs, community dialogue, and teacher training. Nevertheless, further research is needed to assess promising approaches to reducing the vulnerabilities of female students, including the effectiveness of gender sensitisation programmes, school-based clubs and teacher training materials (Unterhalter et al., 2014).

Interventions for children with disabilities

There is a lack of evidence on 'what works' to support education for children with disabilities in developing countries. This "leaves important questions about how and where to best invest unanswered" (Singal, 2016, p. 181). A review conducted on inclusive and special education approaches in developing countries (Price, 2018) found that a number of meta-analyses have recently been conducted on inclusive education.[9] They all conclude that more and better-quality studies are needed, especially in developing countries. A recent evidence assessment concluded that there were no areas of strong evidence given the lack of consistency in intervention implementation or outcome measurement, and the overall low quality of the studies carried out. It also noted that it is difficult to generalise successful interventions due to the wide range of disabilities surveyed by the literature (Kuper et al., 2018). This assessment concluded that there is "promising" evidence that interventions can be effective in improving the educational skills of primary school-aged children with disabilities, and that school-level changes can be impactful. In particular, there was consistent evidence that specific interventions (for example. computer-based interventions, visual strategies, modified teaching approaches) can improve children's learning skills. The assessment also found that school-level interventions (inclusive teacher training, violence prevention) worked to improve teachers' preparedness to educate children with disabilities, and reduced violence perpetrated against children with disabilities. Evidence was "insufficient" on 'what works' to improve educational outcomes in secondary education (Kuper et al., 2018). Commentators also note "gaps" that occur when "the international standards for disability and inclusive education developed for Northern contexts are applied without consideration of local contexts in the global South" (Kalyanpur, 2016, p. 20; Kamenopoulou, 2018).

There is a need to expand research towards low-income countries, as most studies on 'what works' for people with disabilities come from richer countries (Saran, White and Kuper, 2020; Bakhshi et al., 2013).

There is currently insufficient research focusing on 'what works' in promoting system-wide and school-level changes, rather than on improving the skills of individual children (Kuper et al., 2018; The Impact Initiative, 2018). Studies on school-level programmes have shown that these interventions can have positive effects for children with disabilities. Carew et al. (2018) show that an inclusive education intervention in Kenya increased teacher preparedness to teach children with disabilities. A qualitative study – also based in Kenya – concludes that barriers to education for disabled children can be reduced through the development of multi-sector approaches to support families with disabled children, government incentives to schools so that they introduce inclusive practices, and the adoption of co-teaching practices (Elder, Payne and Oswago, 2021).

There is little evidence on which approaches are most cost-effective. Bakshi et al. (2013) mapped existing evidence about the impact of initiatives that provide education for children with disabilities and their cost-effectiveness. They found that, although some studies provided estimates of the expenditures, they did not identify any cost analyses that compare various approaches to educating children with disabilities. Similarly, the evidence assessment by Kuper et al. (2018) found that cost-effectiveness analyses were lacking.

There is little understanding about how technology can best support education for children with disabilities in developing countries. A systematic literature review aimed to establish the categories of EdTech that may be appropriate to support the learning of children with disabilities in developing countries (Lynch et al., 2021). It found that there is little understanding of how, when, and what type of technology should be introduced into the

[9] These include those by Dyssegaard and Larsen (2013), Hayes and Bulat (2017), Kuper et al. (2018), Oh-Young and Filler (2015), Okyere et al. (2018), Szumski et al. (2017) and the European Agency for Special Needs and Inclusive Education (2018).

learning process in order to respond to the specific needs of children with disabilities. Many of the studies are still at an early stage with little projection of how they can be scaled up in regions where there is reduced access to power, a lack of technological expertise, or a lack of dedicated funding streams.

Interventions for children affected by crisis and/or conflict

The available literature on 'what works' in education in emergencies and for children affected by crisis and conflict is relatively limited (Burde et al., 2019).

Aid organisations have tested several 'alternative education' practices to address the specific needs of crisis-affected children, but more rigorous research is needed to understand 'what works'. An example of common practice is 'double shifting'. The aim of 'double-shift' schooling is "to increase the supply of school places while limiting strain on the budget" by placing two or sometimes three shifts in the same buildings, allowing "a single set of buildings and facilities to serve more pupils" (Bray, 2008, p. 19) and thus saving on building costs. Although these programmes may facilitate access for some students, studies have emphasised that by offering the option to attend evening school there is a risk of accommodating the labour exploitation of young children during the day (Burde et al., 2015). There is currently a substantial lack of available evidence to support whether children affected by conflict should be integrated in formal education systems or offered less formal and more flexible support (Burde et al., 2019).

In emergency settings, community-based schools can lower students' exposure to insecurity and increase enrolment and learning. Through an evaluation of the impact of village-based schools in rural Afghanistan, Burde and Linden (2013) find evidence to confirm that proximity to schools improves participation, increases test scores, and reduces gender learning disparities. Moreover, Burde et al. (2017) suggest that in some cases community-based schools are less likely to be targeted by armed attacks as they are locally monitored and often set up in informal facilities.

Retrofitting existing school structures to respond to the specific needs of children affected by crisis could support learning continuity, but there is currently not enough evidence to support this. As the interventions discussed so far respond to emergency needs, they are unlikely to account for aspects of sustainability. Where context stability allows, aid organisations often prefer to integrate children into formal education systems. In these circumstances, funding is directed towards schools to assist them in building the capacity (supplies, teachers, sanitation facilities) needed to take on additional students (Burde et al., 2015). However, more research is needed to assess the effectiveness of retrofitting programmes on learning continuity and inclusion for students affected by crisis.

Alternatively, remote education programmes can supplement learning where students do not have access to schools due to either mobility restrictions or a lack of nearby facilities (Burde et al., 2015). Given the extensive utilisation of remote learning alternatives due to COVID-19 mobility restrictions, a new body of research on remote education is growing. In a 2021 assessment of current evidence, the World Bank (2021) presents five principles for the future of remote education: ensure remote learning technology is fit for purpose; use technology to enhance teacher effectiveness; establish meaningful two-way interactions; engage parents and students as partners in the teaching and learning process; rally all actors to cooperate for learning.

As a result of the severe effects of exposure to conflict and crisis on children's mental health, the literature on the topic identifies the need for school-based psychosocial support mechanisms. Examples of successful interventions to support children affected by crisis include stress management, cognitive behavioural activities, and teacher training to assist students in developing positive coping mechanisms (Burde et al., 2017). Through an evaluation of a series of school-based psychosocial support interventions aiming to assist conflict-affected children in Uganda in resolving trauma, Ager et al. (2011) found significant improvements in children's well-being.

Ways of working

Different ways of working are appropriate for aid to education in different contexts – for instance budget support would not be efficient in a corrupt government that lacks technical capacity (Bandstein, 2007). Some contextual factors are thought to influence the relative merits of different ways of working, for instance the stage of development within the country (both generally and in the education sector specifically) and the country's public financial management system.

Project aid or project support in aid to education is typically viewed unfavourably (Riddell and Niño-Zarazúa, 2016; Bandstein, 2007). Project aid is defined by Foster and Fozzard (2000, in Riddell and Niño-Zarazúa, 2016) as "funds provided to implement a specific and predefined set of development activities over a specified period of time [via] a separate management structure and detailed objectives, activities and expenditures" (p. 13). Numerous scholars argue that project aid tends to fail to produce sustainable impacts because the modality is unable to account for the complexities involved in achieving reform within the education sector, as well as the need for cohesion between stakeholders at a variety of levels, and across wider aid and sectoral landscapes within countries and regions (Riddell and Niño-Zarazúa, 2016; Bandstein, 2007; Snilstveit et al., 2015; Ridell, 2012). This is not to say that project aid cannot produce sustainable outcomes by default, but rather that the additional challenges (such as their operational isolation and specific pre-defined objectives) make such outcomes far less likely than when applying other modalities, such as sector-wide approaches (SWAps)[10] or budget support. However, some recognise that project aid can be beneficial in specific contexts, such as for conducting pilot studies, or when operating in environments where the government is regarded as abusive or corrupt (Riddel and Niño-Zarazúa, 2016; Bandstein, 2007). Moreover, if project aid is delivered via government systems rather than parallel systems which are designed and appraised by the donor, outcomes are potentially more sustainable and cohesive with in-country and regional strategies (Bandstein, 2007). Perceptions on SWAps are more mixed (Riddell and Niño-Zarazúa, 2016). SWAps emerged to improve donor harmonisation and increase partnerships (Bandstein, 2007). Barriers to implementing SWAps include capacity development and political obstacles in recipient countries (UNESCO, 2007; Evans et al., 2006). SWAps are argued to reduce conditionalities and earmarking – topics which are frequently critiqued with regard to project aid (Bandstein, 2007; Riddell and Niño-Zarazúa, 2016). A similar mixed picture emerges from the literature on budget support (Riddell and Niño-Zarazúa, 2016).

Scholars generally view capacity development positively, but argue that the impacts remain sub-optimal because of the way donors implement it. The focus of capacity development should be on improving the ability of national staff to set targets and allocate resources (Riddell and Niño-Zarazúa, 2016). However, some donors have in the past prioritised training for shorter-term goals rather than these system-strengthening competencies (Riddell, 2012). Focusing on such issues creates challenges pertaining to monitoring and evaluation – attributing improvements to donors' work is very challenging and creates a deterrent effect, as results are difficult to claim (Vallejo and When, 2015). Politics is also cited as an issue – without appropriate leadership and willingness from national staff, the impact of capacity development will continue to be reduced. Ohno and Niiya (2004) acknowledge that capacity development depends upon the existence of local ownership, and yet some recipients may not have the necessary capacity to exercise ownership in the first instance or, put differently, "the national education coordinator may well be one of those whose capacities require further development in order to carry out his role" (Riddell and Niño-Zarazúa, 2016: 8). Riddell and Niño-Zarazúa (2016) describe "mantras of good practice in capacity development", including the Accra Agenda for Action (2008) which stresses the fundamental importance of leadership, management and coordination by recipient governments.

There are growing calls to adopt 'systems thinking' to tackle the learning crisis. An education system covers the full span of education provision across both public and non-state sectors. It is made up of inputs, processes, people and politics, which together determine whether children are learning. Systems consist of a set of elements connected by "feedback relationships (...) organised in a way that achieves a function" (Spivack, 2021). Systems thinking requires attention from practitioners and researchers to whether programme designs are coherent with the education systems in which they are embedded, and whether systems are coherent with learning outcomes (Pritchett, 2015; London, 2020). The Research on Improving Systems of Education (RISE) programme is a major proponent of systems thinking approaches, noting that "when a programme fails to have the desired impact, it is tempting to look for a devil in the details, some aspect of programme design or execution that could be tweaked to produce better performance. But often the devil is in the system, not in the details" (Silberstein, 2020; Spivack,

[10] SWAps have many definitions, yet often involve a type of development cooperation with the following attributes: "all significant public funding for the sector supports a single sector policy and expenditure programme; under Government leadership; with common approaches adopted across the sector by all funding parties; and a progression towards relying on Government procedures to disburse and account for all public expenditure, however funded" (Ridell, 2007, p. 4).

2021, p. 5).[11] Samoff, Dembélé and Sebatane (2011) find that efforts to "scale up" successful education programme pilots must also "address the broader development objectives of empowerment, equity, social transformation, and sustainable change" (p. 18). Their review of the literature and several African countries' experiences of reform indicate that reform success stories often share the following traits. "The initial reform addresses a well-understood local need and responds to significant local demand. The reform itself is largely locally derived and is led, nurtured, and often protected by leaders who are charismatic, forceful, inventive, and able to build political coalitions to support and shelter the reform. The reform is adequately financed, which means either a long-term commitment by government or other agency or, more often, significant continuing local funding. Most important, there is significant local ownership of the reform" (p. 18). Some academics suggest that without at least a partial focus on systems, success is very unlikely for initiatives to target marginalised groups. These initiatives cannot be undertaken in isolation of the systems and institutions which are causing their marginalisation (Unterhalter, Robinson and Ron Balsera, 2020).

The evidence on the impact of private schools on learning outcomes in developing contexts suggests that if private schooling confers better outcomes for children, the impact is reserved for those that are comparatively privileged. A much-debated 2014 DFID review (Day Ashley et al., 2014) on the effect of private schooling on learning outcomes found moderate evidence that private schooling achieves better outcomes for children, but called for a need to better account for the socio-cultural backgrounds of children to avoid selection bias. The review also found moderate evidence substantiating concerns that some countries may be ill-equipped to regulate and control private schooling enterprises. Later studies have confirmed these findings and substantiated the claim that private schooling has minimal positive effects and does not reach the poorest in developing countries (Akmal, Crawfurd and Hares, 2019; Härmä, 2017). In most studies, privately schooled children do not perform better than their publicly educated counterparts when socio-economic controls are applied (see, for example, OECD, 2011 for Programme for International Student Assessment tests). There is a large body of literature detailing how private schools fail to narrow inequality between the richest and poorest students (Rose and Alcott, 2016).

Multilateral aid to education

The UK uses different modalities or channels for its aid for education. In this section, we consider some of the criticisms and positive areas around these different modalities highlighted by the literature. In particular, we focus on the education activity of the World Bank's cross-sectoral International Development Association (IDA), the Global Partnership for Education (GPE) and Education Cannot Wait (ECW), which are multilateral funds that the main ICAI review selected for detailed assessment.

Bilateral aid describes money which is given directly from one government to another, whereas multilateral aid involves pooling funding from numerous different governments and organisations which delegate the delivery and management of operations to a particular multilateral organisation such as the World Bank or the UN. Multilateral organisations receive funds from national governments as core aid funding (which is unrestricted, and may be used as the organisation thinks best, so long as it is in line with its mandate and agreed by the governing body) and as non-core aid funding, or 'multi-bi' aid (which must be spent on specified programmes, to achieve particular objectives or in named countries or regions) (DFID, 2013b). The scope of the main ICAI review covers all of the channels for UK aid to education.

The literature is inconclusive on whether either bilateral or multilateral aid is more effective overall and notes that the relative effectiveness of aid channels may vary across sectors, donors and recipient countries (Biscaye et al., 2016). It notes various areas of strengths and weaknesses for the different channels (see Table 1). Some of these depend on whose perspective is taken – for example, bilateral aid is viewed as more accountable to donor country taxpayers, but this also means that it can be less driven by the needs of those expected to benefit.

[11] The RISE systems thinking approach focuses on four accountability relationships found in education systems: "politics", "compact", "management" and "voice and choice". See more in Spivack (2021) and Pritchett (2015).

Table 1: Areas of strengths and weaknesses identified in the literature for bilateral and multilateral aid

	Bilateral aid	Multilateral aid
Areas of strength	More controllable by bilateral donors (Gulrajani, 2016) More visible and accountable to donor country taxpayers (Gulrajani, 2016) More selective on governance criteria (Gulrajani, 2016) Lower administrative costs (Gulrajani, 2016; Biscaye et al., 2016)	Less politicised since it is less specifically tied to donors' foreign policy agendas (Findley et al., 2017; Gulrajani, 2016) More demand-driven/ more selective in terms of poverty criteria (Gulrajani, 2016) Greater legitimacy to those expected to benefit (Biscaye et. al., 2016) Less fragmented (Biscaye et al., 2016) Better conduit for advancing a common global cause (Gulrajani, 2016) Broader technical base than individual bilateral donors (OECD, 2011; DFID, 2013b) Can extend geographical reach of bilateral donors by providing aid to countries where they do not have bilateral programming (OECD, 2011)
Areas of weakness	More politicised (Findley et al., 2017; Gulrajani, 2016) More fragmented (Gulrajani, 2016; Biscaye et al., 2016)	Less controllable by bilateral donors (Gulrajani, 2016) Less visible and accountable to donor country taxpayers (Gulrajani, 2016) Viewed by some as less efficient (ODI, 2017)

Over the past two decades, 'multi-bi' aid has become a significant feature of the global aid architecture. This type of earmarked multilateral finance has grown in popularity for several reasons:

- **Gaps and inadequacies in the multilateral system** – donors often deploy multi-bi aid to circumvent slow decision-making procedures and to enable multilateral activity that is otherwise precluded due to institutional limitations and restrictive mandates (ODI, 2017).
- **So that donors can exert greater control/influence over policy** (ODI, 2017; Pipa et al., 2018).
- **To satisfy the demands of donors' domestic stakeholders** that care about specific recipients, sectors or themes because multi-bi aid can increase the visibility of multilateral giving and offer accountability to such stakeholders (ODI, 2017; Pipa et al., 2018).

- **Gaining value and leverage from the coordinated and collaborative action that multilateral participation offers**, harnessing the global expertise and implementing capacities of multilateral agencies, while retaining a greater degree of control over how the money is spent and accountability to domestic stakeholders (ODI, 2017; Pipa et al., 2018).

The literature, summarised by the Overseas Development Institute (ODI), identifies potential problems with multi-bi aid (ODI, 2017):

- **Transaction costs** – these arise from the preparation, negotiation, implementation and enforcement of multi-bi agreements for the delivery of ODA.
- **Policy incoherence** – the explosion of donor-funded earmarking makes it difficult for multilateral agencies to formulate coherent development strategies.
- **Harmful competition** – multi-bi aid encourages competition among different agencies. While 'mild competition' may promote efficiency, harmful competition diverts attention from recipient country needs and prevents system-wide coordination.
- **Politicisation of multilateral institutions** – multi-bi aid paves the way for undue influence by individual donors.

The literature provides some insights around UK aid to education via IDA, GPE and ECW. UK support to IDA is via core contributions to IDA, while UK support to GPE and ECW is 'multi-bi' aid.

GPE is more focused on low-income and fragile countries compared to IDA's education activity, spends a greater proportion of its money on basic education and aims to give rich countries relatively less control of the money (Akmal et al., 2021). The Center for Global Development compared aid to education via GPE and IDA (Akmal et al., 2021). It found that, geographically, GPE allocates a larger proportion of its money to low-income and fragile countries compared to the World Bank's IDA education activity. Sectorally, GPE spends a larger proportion of its education funds on basic education compared to the World Bank and bilaterals and attracts commitments from donors that typically don't have a big focus on basic education in their bilateral spending, such as France and Germany. GPE's constituency-based governance also gives rich countries relatively less control of the money compared to other funding bodies – GPE is governed by a constituency-based board of directors, with 20 members, representing low- and middle-income countries (LMICs), civil society organisations, multilateral agencies, donor countries, and private sector organisations. In IDA, on the other hand, the voting share of each of the 173 members is largely determined by their financial contribution to the World Bank. GPE has a relatively larger share of developing country representation compared to IDA and prioritises consensus-building in its board decisions. However, the Center for Global Development comparison noted that multi-stakeholder governance has its downsides – the need for consensus on a board representing widely divergent interests can lead to gridlock. Menashy (2018) also argued that power asymmetries are apparent within GPE. In spite of efforts to create a more equitable environment via GPE, she argued that bilateral donors and the World Bank in particular retain their hierarchical positions through the maintenance of structures that reproduce their dominant status, thereby countering the principles that underpin GPE's mandate.

The World Bank's International Development Association (IDA) is notable for its 'aid quality' across all the sectors it supports. It scored highly using the QuODA scoring system, which compares performance across various dimensions of aid quality. IDA ranked third overall in 2021 among 49 of the largest bilateral and multilateral agencies. It was also assessed in the top category of the UK's 2011 and 2016 multilateral aid reviews, offering "very good" for value for money (Hughes et al., 2021).

Stakeholders argued that ECW was needed to deliver a more ambitious, joined-up response for education provision in emergency contexts. An ODI report on proposals for ECW, which resulted from a process of research, consultation and design work involving many contributors, made the case for why a new multilateral fund was needed to address education in crisis situations. It argued that, at country level, a diversity of national and international groups organise and support the education response when there is need and that, with so many actors largely working independently, significant gaps can appear across and between existing coordination mechanisms. The ODI report argued that the platform and its resources would help bring together and support

these groups to deliver a more ambitious, joined-up response in line with national policy and plans in emergency contexts and beyond (ODI, 2016).

Evidence generation that DFID/FCDO has supported

DFID/FCDO has invested heavily in evidence as a public good and to support the designs of its programmes. Relevant examples of such investments include: (i) the Report of the Global Education Advisory Panel (2021); (ii) the RISE programme.

(i) In 2021, FCDO and the World Bank published the Report of the Global Education Evidence Advisory Panel (GEEAP, 2021). The study promotes what is argued to be evidence-based good practice interventions for donors and aid recipients. Table 2 lists the interventions noted in the report, which are divided into: "great buys", "good buys", "promising but low-evidence", and "bad buys".

Table 2: Interventions classified in the GEEAP report

Great buys	Good buys	Promising but low-evidence	Bad buys
Giving information on the benefits, costs and quality of education	Structured lesson plans with linked materials and ongoing teacher monitoring and training	Early childhood stimulation programmes (for ages 0 to 2), targeting parents	Additional inputs alone, when other issues are not addressed, including: textbooks, additional teachers to reduce class size, school buildings, grants, salary, libraries
	Targeting teaching instruction by learning level, not grade (in or out of school)	Teacher accountability and incentive reforms	Investments in laptops, tablets and other computer hardware alone
	Reducing travel times to schools	Community involvement in school management	Cash transfers (as a tool for improving learning)
	Giving merit-based scholarships to disadvantaged children and youth		
	Using software that adapts to the learning level of the child (where hardware is already in schools)		
	Pre-primary education (for ages 3 to 5)		

The document represents FCDO's most prominent source of evidence for interventions. It identifies promising interventions and "bad buys" and classifies them in terms of "cost-effectiveness at improving learning and the strength of the evidence" (p. 7). For each category, there is a specification of the kind of learning institution in which the different 'purchases' could be used. There have been various critiques of this work.

The report is based on a narrow set of evidence. Conclusions of the GEEAP are underpinned by two forms of research: systematic reviews and randomised control trials (RCTs). The report uses five systematic reviews published between 2012 and 2017. In their review, Evans and Popova (2016) argue that there is a lack of agreement across the reviews cited regarding effective interventions and 'what works'. Some of the interventions on the "good buys" list (such as reduced travel time to school, merit-based scholarships to disadvantaged children, and

early childhood education) are not identified by these systematic review studies. Lewin (2020b) also notes that only a few studies are cited to support interventions being classified as great and good buys, arguing that these are not sufficient to reach robust conclusions.

Furthermore, the evidence used to draw conclusions means that these conclusions may not be relevant for all contexts or groups. Although the evidence presented originates from rigorous sources, this results in an evidence base that is somewhat lacking in methodological diversity. While RCTs are generally considered to minimise biases and produce rigorous, reliable results, commentators have noted that they are not well set up to look at the complexities of inequality and marginalisation (for example Ravallion, 2020; Kabeer and Datta, 2020) and that they can experience problems regarding generalisability over space and time and between different kinds of populations (Barrett and Carter, 2010; Rosenzweig and Udry, 2020; Ravallion, 2020). Commenting on the report, Lewin (2020b) notes that although the needs of low-income countries (LICs) may be different from those of middle- and upper-income countries, only 14% of the studies cited in the report are from LICs.

When looking specifically at the research underpinning the "great buys", other issues are identified. Four of the studies are more than ten years old, and there is limited focus on groups of marginalised children. In particular, none of the studies engage with issues about education for children with disabilities or in conflict-affected areas.

The panel also identifies "areas where governments nevertheless need to make decisions or take action, but evidence on how to do it effectively is low" (GEEAP, 2021, p. 20). The panel notes that while there is a need to act on elements such as teacher training, there is a sustained lack of evidence that can guide those decisions. Given that action is still required in these areas, the panel notes an "urgent" need for relevant research. These areas have been important parts of DFID/FCDO programming. The panel includes illustrative examples:

- **General skills teacher training (in-service)** – in particular noting the lack of research on the effectiveness and cost-effectiveness of in-service teacher training impact on student outcomes.
- **Selection and allocation of teachers** – where decisions clearly need to be made, yet there is little evidence on how to do it effectively. The panel notes the likelihood of patronage appointments undermining outcomes, and adds that evidence development on how favouritism or uneven hiring affects schooling is needed.
- **Differentiating support by gender** – "more research is needed on the effectiveness of programs that specifically target girls, especially in areas where girls are far behind boys" (p. 21).
- **Targeted support for children living with disabilities** – noting in particular that studies on support for these children are often of low quality.
- **Interventions to safeguard children from violence** – especially finding evidence-based interventions to safeguard against corporal punishment and other forms of violence.

The report also dedicates some space to discussing the importance of systemic reform. Echoing the work of the RISE programme on calling for systemic reform, the panel notes the importance of generating education systems that are "coherent and aligned toward learning" (GEEAP, 2021; Pritchett, 2015). Achieving systemic reform requires political commitment at the top, and examples of success are rare. The report cites the Brazilian state of Ceará as an example of success, citing its "recent gains in learning during more than a decade of reforms, rising to become one of the country's top-performing states despite also being one of the poorest" (p. 10).[12] Finally, the report highlights the need for systemic reforms that aim to re-orient learning away from "elite students, and toward the actual skill distribution in the entire student population" (p. 10). However, in his critique of the GEEAP report, Lewin (2020b) states that "The question is how to avoid the collection and consumption trap that arises from seeking best buys for discrete educational interventions that are not part of a system specific development plan" (Lewin, 2020b, para. 2).

While there is an overall caveat in the report noting both the importance of systemic reform and context in making assessments, the report lacks guidance on how context-specific needs should be investigated, and

[12] See Loureiro et al. (2020) for a report on Ceará's systemic reforms.

how thinking about these might lead to qualifications regarding the "great" or "good" buys in relation to education quality.

(ii) The Research on Improving Systems of Education (RISE) programme, largely funded by DFID/FCDO, is a flagship research project. RISE aims to research and publish in a wide range of formats on 'what works' in improving education systems.[13]

The largest volume of RISE's work has been on education outcomes, with both national and cross-national studies. The programme of work has generated studies of particular modalities in the system that might work at particular times – management practices, forms of teacher pay and incentivisation, class size, and relationships of accountability at national and local level. The key insights from this programme of work direct attention less to the features of political economy and much more to changes within teaching and learning relationships, notably teachers' levels of knowledge, the ways in which foundational learning is delivered to underpin later learning acquisition, and the ways in which those with low levels of learning are supported.

Several issues identified in the GEEAP report are also present in the RISE body of literature. For example, although gender inequalities and socio-economic status are considered within some papers, issues relating to children with disabilities and conflict are largely overlooked. The findings from RISE have also not yet been synthesised to make them readily usable by policymakers.

6. Impacts of COVID-19 on education in developing countries

To mitigate the effects and spread of COVID-19, the vast majority of countries imposed restrictions on in-person learning. Nine out of ten students worldwide were affected by school closures (Hossain, 2021) – almost 1.6 billion children (UNESCO, 2021a). The four main distance education formats used were online platform delivery, television broadcasts, radio broadcasts and take-home packages. Other less common formats included SMS messages, instant messaging and social media (Lennox et al., 2021).[14]

There is growing evidence showing widespread negative impacts of COVID-19 on educational reach and quality. The literature points to COVID-19 having significantly deepening effects on an already existing learning crisis. In particular, evidence from developing countries points to schooling losses caused by lack of access to distance schooling solutions. UNICEF (2020) estimates establish that 31% of the world's children could not be reached by distance schooling alternatives, 70% of which were in rural areas.

Evidence from previous emergencies shows that negative impacts can be far-reaching and long-lasting. A literature review on evidence from previous health crises (particularly Ebola) also points to other negative effects such as increases in adolescent pregnancies, and a limited evidence base on other harmful practices such as female genital mutilation and violence against children (Chavez Villegas et al., 2021). Andrabi et al. (2020) establish significant test score gaps for those affected by the Pakistan earthquake of 2005 and whose mothers were uneducated, and discuss that, despite heavy post-disaster compensation, human capital accumulation can be disrupted, with more significant effects on those that are already disadvantaged.

Modelling approaches have established long-term effects on schooling and future earnings if losses go unmitigated. World Bank simulations place the schooling loss resulting from the pandemic at between 0.3 and 0.9 years (Azevedo et al., 2020). A model developed by Kaffenberger (2021) establishes that current grade 3 students could potentially lose more than 1.5 years of learning by the time they reach grade 10. It also suggests that remedial efforts when children go back to schooling could cut this cost by half for this cohort. Analysis from five LMICs suggests an association between missing schooling and loss in foundational skills (Alban Conto et al., 2020). The assessment of Early Grade Reading Assessments in five African countries by Angrist et al. (2021) establishes between 0.5 and one year's worth of schooling loss.

[13] This commentary on the RISE programme is based on a review of all RISE outputs conducted by the authors.
[14] See UNESCO (2021b) for a comprehensive list of national responses.

There is evidence that girls are disproportionately disadvantaged by distance schooling (Hutchinson & Rafaeli, 2020). In particular, staying at home implies a disproportionate burden of domestic duties (UNESCO, 2021a). There is also evidence that the mental health impacts of school closures were more severe in girls (UNESCO, 2021a; Porter et al., 2021). A particular worry arising from school closures is girls' increased susceptibility to gender-based violence at home (Akmal et al., 2020). Evidence from the Ebola pandemic suggests disproportionate impacts on girls, including dropping out of schooling (Malala Fund, 2020), and negative child protection outcomes (Chavez Villegas et al., 2021). Data and evidence gaps make drawing stronger conclusions difficult (UN Women, 2021; Population Council and Mannion Daniels, 2021).

Research shows that COVID-19 has exacerbated existing educational inequalities. Marginalised children and adolescents are in many cases more likely to bear higher costs from school closures (Azevedo et al., 2020; Angrist et al., 2021). The proportional impact on education in the world is heavier in developing countries (Azevedo et al., 2020; Stewart, 2021). There is strong evidence that children from poor and rural households have been less able to participate in distance learning (Hossain, 2021; Stewart, 2021; Asanov, 2021; UNICEF, 2020; Carvalho and Hares, 2020), particularly due to poor access to learning technologies. Comparatively less research has been carried out on the impact of COVID-19 on children affected by conflict, but authors have argued that the relevance of schooling as a protective mechanism against conflict harms has already been established, as well as the potential for major negative impacts on education for these children (Cameron, 2021; Carvalho and Hares, 2020). Finally, different studies suggest that distance schooling alternatives are less likely to provide quality education for children with particular types of disabilities, such as sensory impairment or intellectual and developmental disabilities (Azevedo et al., 2020; Neece et al., 2020).

There is a need to continue to build a strong evidence base on: i) the impact of school closures and the pandemic overall; ii) the effectiveness of distance education alternatives (Alban Conto et al., 2020; Chavez Villegas et al., 2021). There have been calls to improve data availability to close gender data gaps and improve the ability to investigate the gendered impacts of the pandemic on education (UN Women, 2021; Population Council and Mannion Daniels, 2021). A recent UNESCO (2021a) review on the gendered impacts of the pandemic suggests utilising gender-disaggregated formative assessments to track learning outcomes and target remedial actions.

Finally, commentators have noted the compounding effects of economic shocks on education, in terms of both educational access and governmental investment in education. At a time when education will require extensive investment to recover and mitigate the effects of the pandemic (Lennox et al., 2021), education financing finds itself in a 'triple shock' – national education spending is likely to stagnate, family spending is likely to drop, and external financing could decline (Al-Samarrai, 2020).

Several recommendations have been made to address the impacts of COVID-19 on education:

- Given the evidence that school closures have had differential effects on vulnerable children, some authors call for more attention to be paid to equity-focused strategies. This includes focusing on the differential impacts of school closures on marginalised and poor students, in order to remedy these. (Alban Conto et al., 2020; Hossain, 2021; UN Women, 2021; Carvalho and Hares, 2020; Chavez Villegas et al., 2021).
- Immediate remedial efforts should be taken to mitigate learning loss (Kaffenberger, 2021). This includes re-enrolment campaigns, increased teaching, and targeted learning recovery (World Bank, 2020; RISE programme, 2021). The RISE programme[15] also calls for prioritising foundational skills (RISE programme, 2021).
- Given the increased innovation and technological advancement to adapt to COVID-19 closures, there is a potential window of opportunity to introduce reforms ('building back better') (World Bank, 2020; Lennox et al., 2021). Angrist et al. (2021) identify targeted instruction (such as *Teaching at the Right Level*) and structured pedagogy (centrally planned interventions that target classroom behaviours to "equip teachers and learners with the tools and capacities to build foundational skills" (p. 8) through the delivery of improved teaching and learning materials) as two effective reform interventions intended to improve foundational skills. Others note that the investments made into remote learning could be a "launch pad"

[15] See the RISE programme (2021) for a list of RISE resources on COVID-19.

for “a more personalized and resilient way of providing education” and call for extended use of effective remote learning technologies (Azevedo et al., 2020, p. 10).

- Finally, there is a need for increased and sustained spending to mitigate against losses and rebuild education sectors, particularly in developing countries (Al Samarrai et al., 2021). There is a need for donors to “protect education assistance and frontload their existing commitments to help finance the COVID-19 response” (Al-Samarrai, 2020, n/a; Al-Samarrai et al., 2021).

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