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August 2021

Learning loss, learning gains and wellbeing: a rapid evidence assessment



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Education Development Trust

Education Development Trust is an international, not-for-profit, organisation working to improve education outcomes and the transition from education to work, through expert research on what works, and the intelligent design and delivery of highly contextualised improvement programmes which operate at scale.

At Education Development Trust, our vision is a world in which all lives are transformed through excellent education. We combine global research and our longstanding expertise with regional knowledge to inform education policy and practice and deliver programmes around the world. Through our work and expertise – which spans from early years education right through to postschool careers – we seek to strengthen education systems, transform teaching and learning, ensure effective transitions into work, and contribute to global responses to key education challenges.

We improve national learning outcomes by informing education policy and putting our knowledge into action in our programmes and consultancy work. We work in varied contexts all over the world, in education systems as diverse as those in Brunei, Kenya, England, Rwanda and Dubai. This often includes challenging environments, hard-to-reach localities and marginalised communities where the need is greatest. In all these locations, we use evidence-based methods to raise education standards, deliver innovation in schools, help teachers to improve their teaching quality, empower educators to effect sustainable and cost-effective transformation in their schools, and reduce disparities in educational outcomes.

We are a trusted partner of governments, academics and multilateral agencies across the globe. Our work helps to drive global understanding of education solutions, and we support global dialogues among international policymakers on education system improvement.

Our expert knowledge, programme design and implementation expertise are also deployed in delivering Ofsted-rated Outstanding careers services in England, and in owning and managing a family of independent schools, in which we put our knowledge about excellent teaching and learning into practice.

To achieve all this, we draw on our programme of public domain research that highlights ‘what works’ in education reform and invest in research and development to create globally leading and innovative methodologies, helping to make government ambitions for better education systems a reality.

Please visit www.educationdevelopmenttrust.com for more information.

Education Development Trust and UNESCO: a collaborative research programme

Education Development Trust is a member of UNESCO's Global Education Coalition.

The Global Education Coalition launched by UNESCO is a platform for collaboration and exchange to protect the right to education during this unprecedented disruption and beyond. It brings together more than 175 members from the UN family, civil society, academia and the private sector to ensure that #LearningNeverStops.¹

Covid-19 has caused considerable disruption to education around the world. Disadvantaged and marginalised learners are being particularly hard hit. Naturally, throughout the pandemic, the focus of much attention has been on how to open schools safely with a preoccupation with the hygiene and social distancing considerations. A shift is noticeable and welcome. With schools in many jurisdictions reopening partially or fully there is a growing interest in the immensely important area of recovering the lost learning that has occurred while learners have been away from face-to-face education.

Teachers are already in the spotlight more than ever, and the post-Covid-19 return to face-to-face learning will see this increase. Our teachers, globally, will be charged with leading learning recovery. As school systems continue to reopen, teachers will need to respond to students' academic losses (and gains), but also to their socio-emotional wellbeing. To assist teachers to support learning recovery there is the need to:

- Understand the extent of learning loss (or instructional TIME loss) and learning gains resulting from protracted school closures
- Understand how the suddenness and uncertainty around the health crisis and school closures have impacted students' social-emotional wellbeing – and how this may be affecting learning
- Investigate the responses of schools and teachers to support learning recovery.

Education Development Trust and UNESCO are collaborating on a research initiative to explore these themes with a focus on the most marginalised students. Our work will provide information to help teachers, schools and governments:

- Tackle a range of issues from levelling learners to the transformation that education systems must undergo to make this possible
- Understand and respond to the impact of crises and interruptions in educational pathways (for example from poverty and marginalisation) that lead to learning loss
- To assist teachers to support students as they return to school.

This report documents an analysis of policy and grey literature. It is one output from the first phase of our collaboration and links are made to two other outputs:

¹ See <https://en.unesco.org/covid19/educationresponse/globalcoalition>

1. A rapid evidence assessment (REA) of the academic literature
2. An overarching summary paper drawing out key messages and introducing the next phase of the collaboration.

The work reported here has benefited from feedback and discussions with colleagues from UNESCO's Division for Policies and Lifelong Learning Systems and the UNESCO Institute for Statistics.

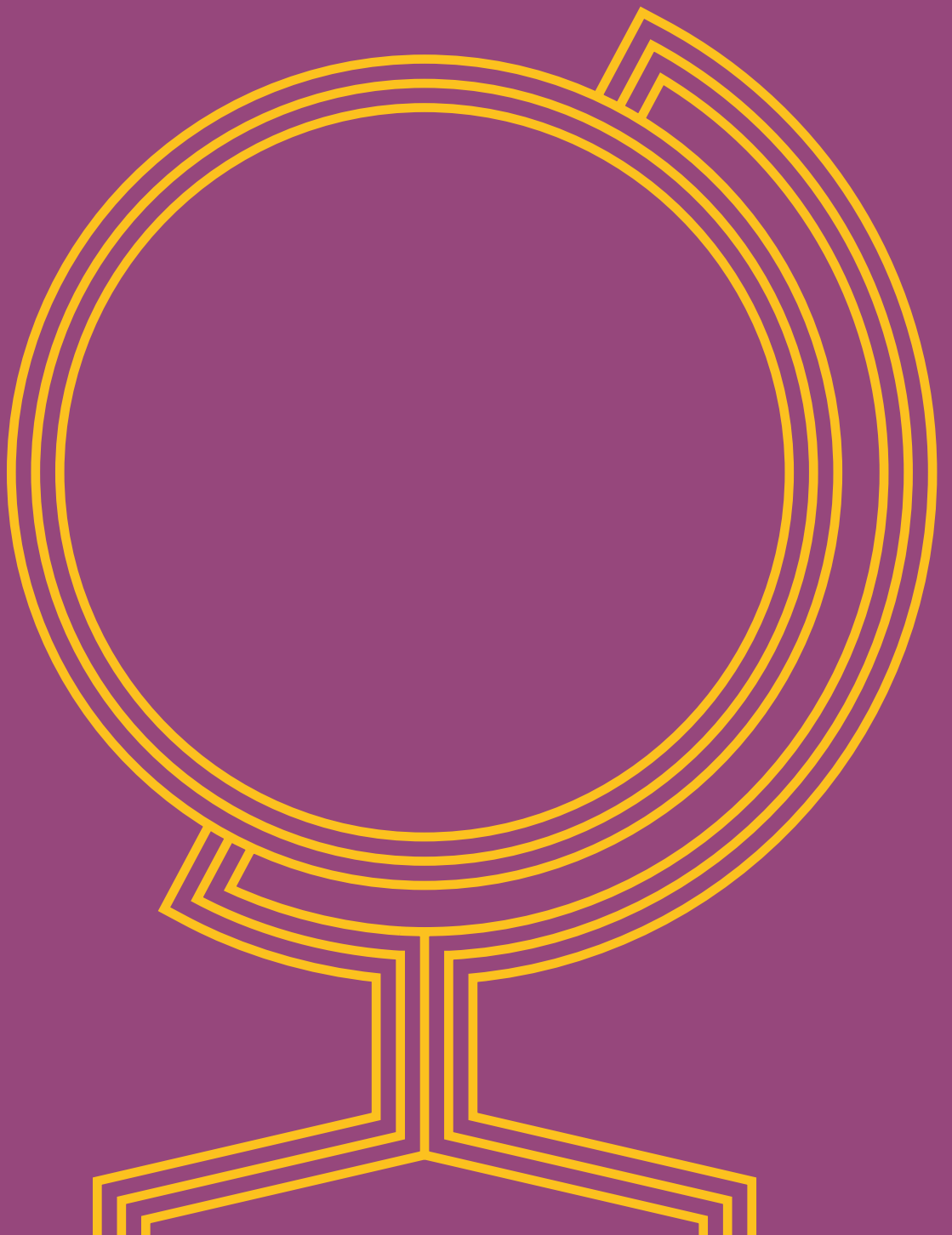
Acronyms

ALP	Accelerated Learning Programmes
EiE	Education in Emergencies
EMIS	Education Management Information System
ICT	information and communication technologies
IQ	Intelligence Quotient
LMIC	Low-to-Middle Income Country
NFER	National Foundation for Educational Research
PTSD	Post Traumatic Stress Disorder
REA	Rapid Evidence Assessment
REAL Centre	Research for Equitable Access and Learning Centre
SMS	Short Message Service
SSA	Sub Saharan Africa
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund



Chapter 1

Introduction



UNESCO Institute for Statistics estimated that, in March 2020, 165 countries closed all their schools due to Covid-19 affecting nearly 1.5 billion students and 63 million primary and secondary school teachers.

As schools begin reopening around the world, education systems are faced with the challenge of mitigating learning lost during the pandemic, designing and implementing remedial or accelerated learning programmes, remote learning and next year's curriculum.

Effective teachers are a crucial part of supporting learning recovery. School closure during Covid-19 has left many teachers uncertain about their role, worried about their working conditions and their health, safety and wellbeing, unable to use technology effectively, and unprepared for classroom challenges when schools reopen.

Teachers will need to respond to students' academic losses (and gains), but also to their socio-emotional wellbeing. United Nations Educational, Scientific and Cultural Organisation (UNESCO) and Education Development Trust have undertaken this study to provide information to help teachers, schools and governments understand how to support teachers to best support students as they return to school.

This research is designed to allow us to focus on the available existing evidence, and throughout we will maintain a focus on the most marginalised students and include research from previous crisis and disaster contexts to examine broadly what we know about actions to mitigate and recover learning loss, not just related to the current global pandemic but in broader senses.

The key research questions for this Rapid Evidence Assessment (REA) are grouped into two sections. Firstly, questions about learning loss, gain and impact on student wellbeing. The second group of questions focus on the experience of teachers and the literature around the skills and support required for teachers to recover learning and wellbeing themselves and in students as they return to school. (See page 9).

This REA is accompanied by a review of policy and grey literature which focuses more on commentary and guidance literature. These papers are the first stage in a wider research project which will look at how teachers support learning recovery post Covid-19.

United Nations Educational, Scientific and Cultural Organisation (UNESCO) and Education Development Trust have undertaken this study to provide information to help teachers, schools and governments understand how to support teachers to best support students as they return to school.

Key research questions for Rapid Evidence Assessment (REA)

Learning loss, gain and wellbeing

- What does the literature tell us about learning loss and gains, and the extent to which this is an issue for different groups of learners in low- and middle-income countries (LMICs) and sub-Saharan Africa (SSA)?
- What does the literature tell us about learning loss from previous school disruptions such as health crises, conflict, climate disasters?
- Have pupils gained any learning, socio-emotional or 21st century skills through the periods of school closure?
- What does the literature tell us about how students' social-emotional wellbeing is impacted by school closures? What is the impact of poor wellbeing on learning?
- What does the literature tell us about how to monitor learning loss and gains following protracted periods of school closure?
- What programmes and policies have been implemented in response to crises to recover learning? What does the literature tell us about their impact?

Teacher response and recovering learning

- What does the literature from previous crises tell us about what teacher competencies and skills are needed to assess learning losses, gains and wellbeing and to tackle the challenges they face supporting student wellbeing and learning recovery?
- What does the literature tell us about how teachers have engaged students in new ways of learning following school closures? What impact has this had on learning?
- What does the literature tell us about how teachers have been supported in previous crises to return to schools after emergencies?





Chapter 2

Methods



The REA was designed to gather the best available evidence while making some judgements about quality in order to respond quickly to the challenges posed by the school closures and re-opening as a result of Covid-19.

We take a broad view of learning for this review (see Annex 2). As well as academic skills, knowledge and success, the review includes broader skills and subjects. Concepts around psycho-social wellbeing, socio-emotional skills, soft skills and 21st-century skills are central to the review – these are closely linked and there is no clear 'best' way of measuring or describing the bundle of skills and attributes that these concepts cover and as such we developed search terms that attempted to encompass all these meanings.

REA study criteria

The review was limited to studies published in 2010 or later and those that met the following criteria:

Context (population and geography)

- LMICs and SSA in particular (but this is more in relevance of application rather than strictly about source)
- Previous crisis or Covid-19
- Studies with the focus on children aged 5-18, girls and boys
- Primary and secondary and non-formal education environments

Intervention

- Any kind of research or study which deals with primary, secondary or non-formal education for students under 21 years old

Comparison / Study Design

- Experimental, quasi experimental or projections
- Qualitative (comparative and descriptive)
- Observational study
- Reviews of the literature and systematic reviews
- In English
- Studies published in the last 10 years – 2010 onwards

Outcome

- Learning
 - Wellbeing
 - Life skills/21st century skills/socio-emotional skills
 - Teacher skills and support
 - Teacher wellbeing
 - Digital skills
-

Steps taken to conduct the review

We undertook the following steps to conduct the review:

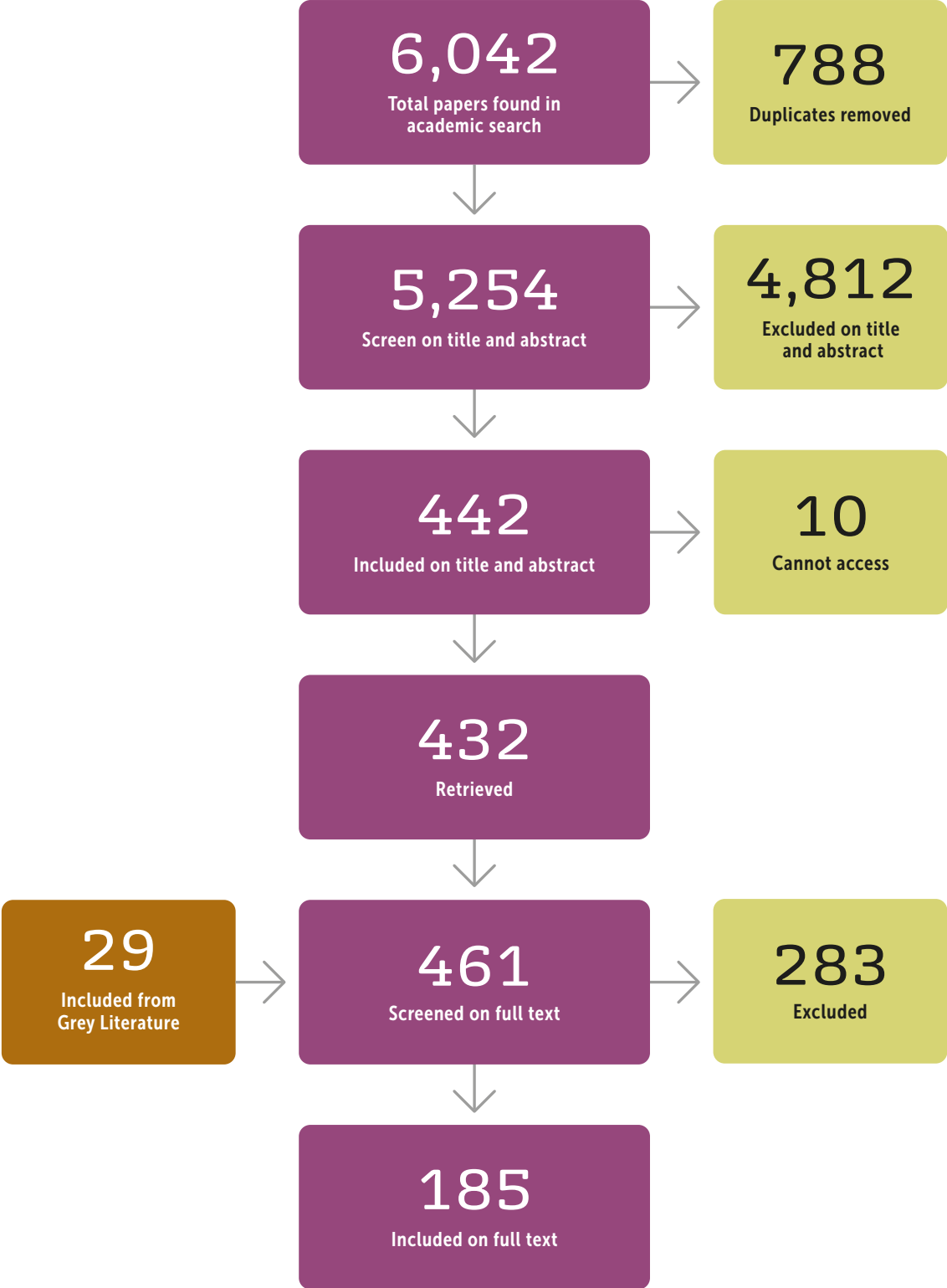
- **Searched relevant academic databases** for studies using sets of defined keywords – EconLit, ERIC, Google Scholar and the African education research database.
 - **Screened the results** based on the criteria above based on title and abstract and then on full text. Figure 1 (page 14) shows the numbers of studies generated by searches and exclusions through the screening process.
 - **Coded each study** to capture information around the methodology, location and context, outcomes, and undertook a basic quality assessment process to ensure that we included research papers and good quality literature reviews.
 - **Undertook an additional search of the grey literature.** Websites were hand searched and studies that met the inclusion criteria were added to the database and coded. The full list of sites searched is included as Annex 3. This search took place in April 2021.
 - **We grouped the studies** by research question and summarised the findings.
-

The search process

The search process is illustrated in Figure 1 (page 14). Our search located a high number of papers initially seemingly due to the inclusion of search terms around 'emergency' which often located literature in medical contexts or with medical students which was out of our scope.

FIGURE 1:

REA search process



About the papers included in the review

A total of 185 papers are included in the review. This reflects the high number of surveys conducted as Covid-19 began to impact the education sector, the breadth of the research questions and our cross-disciplinary approach. Of the included papers, 100 took place or included data from LMIC settings while 87 were focused on high-income countries. In our searches we broadly excluded papers from the United States of America due to the volume of literature but included papers from Europe and other contexts when they were located.

The following figures give an overview of all the papers that appear in the study. The majority of the included papers are new research or literature reviews conducted since the beginning of the Covid-19 pandemic. This is also reflected in the high number of observational research papers included – these include a wide range of surveys with students and educational professionals conducted and published by the time we conducted our searches.

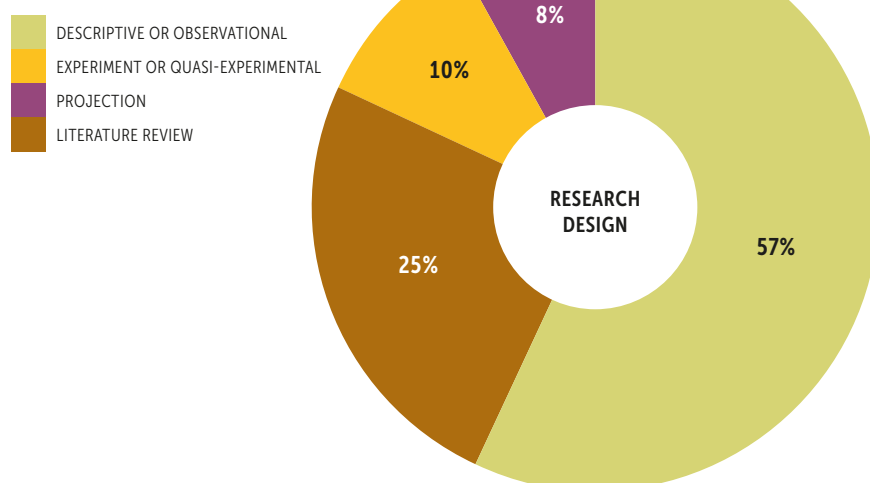
TABLE 1: WHAT CONTEXT IS THE PAPER FROM ²

Covid-19	125
Natural disaster	26
Socio-economic crisis	4
War or conflict	15
Other	20

A total of 185 papers are included in the review. This reflects the high number of surveys conducted as Covid-19 began to impact the education sector, the breadth of the research questions and our cross-disciplinary approach.

Figures 2 and 3 illustrate the research design and methods used by the papers included in the REA. The majority of the included papers are descriptive or observational research, and a high number of literature reviews are also included.

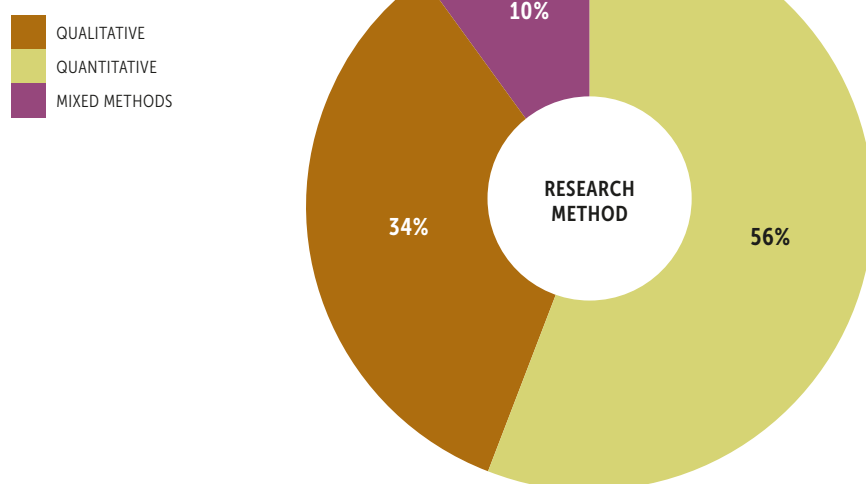
FIGURE 2:
RESEARCH DESIGN OF
INCLUDED PAPERS



² Note that papers may be coded with more than one context.

Of the original research papers included, the majority collected and analysed qualitative data. We also included a small number of mixed method papers.

**FIGURE 3:
RESEARCH METHODS
OF INCLUDED PAPERS**



Limitations

The design of this literature search is based on the principles of rapid evidence review. The search strategy is comprehensive in covering a wide range of areas. However, there is a chance that some studies did not appear in the search as this is an evolving area of research and more has been published as this REA has progressed. We have not conducted any snowball searching from the references located – this also limits the REA's ability to track and include new literature – however, by drawing extensively on literature reviews, we hope to have increased the scope of the previous research covered.

This REA also has not picked up the fairly extensive work underway in this area that may not yet have been written about in academic spheres at this point. Secondly, this REA provides an overview of the density and quality of evidence in a rigorous and systematic way, but less attention has been paid to assessment of each paper's methodological approach.

Chapter 3

Learning loss, gain and wellbeing



The research related to learning loss, gain and wellbeing spanned Covid-19 as well as literature related to previous school closures since 2010.

3.1 What does the literature tell us about learning loss and gains, and the extent to which this is an issue for different groups of learners in LMICs and SSA?

In answer to this question, we reviewed 80 papers of which 46 were based in a lower-middle income setting and 19 drew on evidence from SSA countries. The evidence draws on previous school closures and relays both short- and long-term effects on learning.

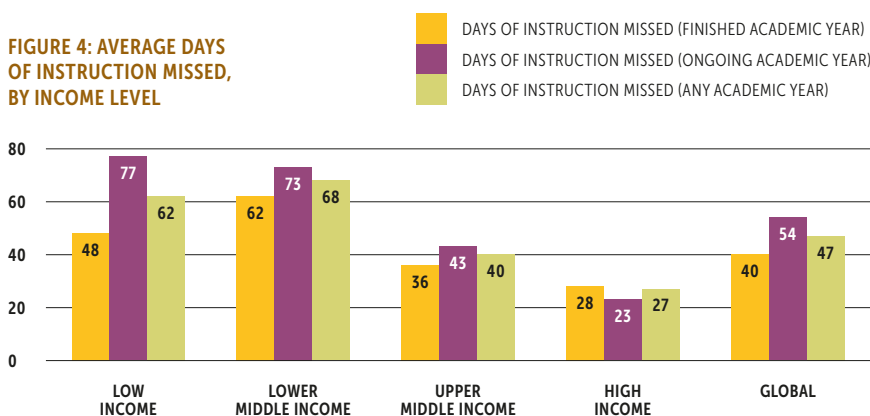
The evidence related to learning loss significantly outweighed that related to learning gains (63 related to learning loss and 30 to learning gain). Most useful studies related to this question were either:

- Simulations and projections of learning loss (15 studies – seven in an LMIC setting)
- Descriptive or observational based on surveys of teachers, students, or parents (41 studies – 27 of which in an LMIC setting)
- Literature reviews of previous crises and school closures (18 studies – 11 of which focus on an LMIC setting)

According to a joint survey of Education Ministries by UNESCO, UNICEF and World Bank, (2020), overall 108 countries reported missing an average of 47 days of in-person instruction due to school closures by the time of the survey,³ equivalent to approximately one quarter of a regular school year. Countries where the academic year was still ongoing at the time of the survey reported more days of instruction lost (54 days) on average compared to those where the academic year had finished at the time of the survey (40 days).

The evidence related to learning loss significantly outweighed that related to learning gains.

FIGURE 4: AVERAGE DAYS OF INSTRUCTION MISSED, BY INCOME LEVEL



Source: UNESCO, UNICEF and World Bank, (2020)

³ July 15, 2020 to October 15, 2020.

Azevedo et al., (2021) believe that the magnitude of learning loss varies significantly by context. Based on optimistic, intermediate and pessimistic global scenarios, they calculated that the loss of learning due to Covid-19 is likely to be between 0.3 and 0.9 school years. The pessimistic view is based on schools being closed for seven months and mitigation measures have low levels of effectiveness. Given the new variants at the start of 2021 and continued closures of many schools around the world, it can be assumed that this pessimistic view may be the most appropriate.

Kaffenberger, (2020) creates different post-Covid-19 learning scenarios using data from seven low- and middle-income countries to model long-term learning loss. Assuming a one-third reduction in learning time (i.e. about one term outside of school), this study projects that learning levels for a child in Grade 3 would be one year lower than expected by the time that child reaches Grade 10. This reflects both times out of school and additional learning regression.

In the wake of Covid-19 many countries introduced online/remote learning to mitigate mass interruption to education caused by school closures. Schools turned to a wide range of modes of learning using high and low technology to address access to education materials. Despite swift adjustments, stark differences among income groups reflect the great inequities in access to the technologies that are required for online/remote learning. Though these differences preceded Covid-19, the pandemic has further deepened the digital divide, unevenly impacting poorer communities within and across countries.⁴ An additional element to take into consideration is that schools might offer programmes to students, however, it is much harder to gauge the proportion of students who were able to access them.

This has implications for the collective understanding of the varied experiences of students across the world and the measurement of learning opportunities and learning loss.

Di Pietro, (2020) separates the ways in which physical school closures are likely to affect student learning into four categories:

1. Less time spent learning
2. Stress symptoms
3. A change in the way students interact
4. Lack of learning motivation

Several large-scale surveys calculated the time students spent on learning activities during lockdown which reported that there was significant variability in time spent by age and family socio-economic background. Less is known about the quality of the learning which was taking place. For instance, Flack and colleagues, (2020) studied the socio-economic disparities in Australian schooling during Covid-19. Many of the educators who responded to their survey were concerned that distance teaching could reinforce existing social inequality. This implies that students with the most disadvantaged backgrounds have lost more opportunities to learn. There is more evidence to add to this finding. Both Andrew et al., (2020) and Sabates et al., (2021) demonstrate the impact of socio-economic factors in learning loss.

Stark differences among income groups reflect the great inequities in access to the technologies that are required for online/remote learning.

⁴UNESCO, UNICEF, World Bank, (2020)

Andrew et al., (2020) found considerable heterogeneity in children's learning experiences – amount of time spent learning, activities undertaken during this time and availability of resources to support learning. This difference is strongly associated with family income and in some instances more so than before lockdown. Sabates, Carter and Stern, (2021) used educational transitions to estimate learning loss due to Covid-19 school closures. They estimate learning losses during grade transition for disadvantaged and previously out-of-school students in Ghana, estimating an average learning loss of around 66% of previous learning gains in foundational numeracy during this transition period. Widening gaps in learning loss are found according to availability of home learning support, as well as home learning resources.

Age appears to play a critical role in access to education materials via technology. According to UNICEF, (2020), only 36% of the countries reported using combinations of digital and non-digital modalities to reach pre-primary-aged children, and 30% did not provide any remote learning options to pre-primary learners. This is concerning due to the impact of early childhood education on a child's learning, health and overall wellbeing throughout life. Creating and delivering content for children in their early years involves input from parents/ caregivers, and is proved to be challenging especially in LMICs.⁵ Parental and family support was highlighted as a key factor in mitigating learning loss during school closures. In England it was suggested that this was linked to socio-economic status and educational background of parents. In Kenya, student respondents to a survey indicated that in addition to lost learning time from school closures, the impact of Covid-19 on parents, lost employment and subsequent need to move to the countryside has affected their ability to study.⁶

Where digital learning is not available, due to accessibility or lack of resources, alternative sources to continue learning have been used. Television, radio, physical resources and SMS are all examples highlighted in the research. However, where rural communities do not have electricity and accessibility to physical resources this creates a significant issue for learners. In particular, there is concern for students with special educational needs who can only access public resources, such as television broadcasts, which are aimed at the level of the average student.

A third set of research, which was reviewed as part of this evidence review, drew parallels with previous crises and school closures to determine potential impact on student learning. This set of research can be grouped into two categories:

1. Short-term impact of learning loss due to absence from school, and
2. Long-term impact of learning loss due to residual psychological or socio-emotional effects caused by the trauma which students were exposed to.

More can be found in section 3.2.

Parental and family support was highlighted as a key factor in mitigating learning loss during school closures.

⁵Kathula, (2020) ⁶Kathula, (2020)

Highlights

- Simulations of learning loss predict that there will be a significant loss of learning for children and young people as a result of school closures related to Covid-19.
- The rates of learning loss will be heterogeneous across different populations of students and geographical areas. It is expected that those students who are already marginalised such as girls, disabled students, those living in rural or coastal regions and refugee students will be disproportionately affected. This is particularly relevant in an SSA context.
- What sets Covid-19 apart from many of the examples of previous school closures is the protracted nature of the closures and the concerted efforts at remote learning. This adds additional dimensions of variability in student learning loss and gain during this time, namely access to learning resources, home environment and family support.
- Rates of learning poverty⁷ are set to increase in lower- and middle-income countries by 10%. This will result in an additional 72 million primary-school-aged children falling into learning poverty.

Gaps

Despite the evidence around disproportionate effects of the pandemic on children and young people, the scale of the learning loss is not yet fully known for marginalised groups and the search only resulted in high-level estimations and projections. There are general simulations and estimations regarding learning loss but contextualised or localised accounts of the scale of learning loss in LMICs and SSA is a gap identified in this evidence review.



⁷ In October 2019, the World Bank and UNESCO Institute for Statistics (UIS) launched a new synthetic indicator, learning poverty, based on the concept that every child should be in school and be able to read an age-appropriate text by age 10.

3.2 What does the literature tell us about learning loss from previous school disruptions such as health crises, conflict, and climate disasters?

For this question we identified 44 studies related to the following causes of school disruptions:

- 19 natural disasters (12 in LMICs)
- Two socio-economic crises (two in LMICs)
- 10 wars or violence (10 in LMICs)
- 10 other⁸ (nine in LMICs)

The themes related to learning loss are summarised under the following headings.

- Academic learning loss from school absence
- Prevailing psycho-social impact of the crises which affected learning recovery when back in school
- The impact on vulnerable groups

The emerging evidence suggests a drop in academic performance for the cohort immediately following the event. The UK's Chartered College of Teaching produced a comprehensive report which summarised much of the research on the impact of school closures on students. A summary of the evidence on summer learning loss concludes that it affects younger students less and those from lower socio-economic families the most. While a useful dataset, planned school closures do not represent the suddenness of school closures due to Covid-19.

In relation to the focus of the REA, natural disasters are probably the best comparison to the current global pandemic due to their sudden nature, allowing little time for preparation, them being locally contained and affecting every student.

Comparing test scores for children immediately after the Yogyakarta Earthquake (Indonesia) to those taken a year later, Sulistaningrum, (2017) shows that students in areas affected by the earthquake performed significantly worse than those in areas unaffected by the earthquake, as well as worse than those students who sat the test a year later. This shows that students in areas significantly affected by a disaster do not perform as well in the short-term but that with time, there is recovery potential for younger students. A similar pattern is reported following the 2010/11 Christchurch Earthquake (New Zealand), with lower outcomes in 2010 but the cohort sitting the national exam in 2011 actually performing higher than the United Kingdom (UK) average, and again following Hurricane Katrina (USA).

There is also literature related to the impact of disasters on mental health.⁹ Research indicates that PTSD and trauma are associated with lowered academic achievement. For example, war-induced trauma interferes with cognitive processes underlying academic achievement, such as Intelligence Quotient (IQ), concentration, memory and attention.¹⁰

Natural disasters are probably the best comparison to the current global pandemic due to their sudden nature.

⁸The other category related to previous health crises (Ebola epidemic), student bereavement, political unrest and humanitarian education. Papers may be coded in more than one category.

⁹See Basnet, (2015), Kronenberg et al., (2010) and Di Pietro, (2020) ¹⁰Diab, (2021)

Diab's, (2021) in-depth qualitative study with 12th Grade students, teachers, parents and school counsellors in the Gaza strip identified several factors that contribute to student underachievement following exposure to war. These were:

- **Society** – exposure to a trauma (in this case war and threat to life).
- **Family** – socio-economic conditions of the family, parental conditions (physical and mental health), little parental scholastic involvement.
- **School factors** – teaching style being non-participatory or offering little individualised help, curriculum too dense and challenging, poor social relations with peers.
- **Personal factors** – individual emotional characteristics (re-living the trauma), individual cognitive characteristics (difficulty paying attention), study behaviour and motivation for school.

These provide a suitable framework to apply to students returning to school after Covid-19 to potentially identify those students most at risk of underachieving. Not all pupils will have had similar experiences during the school closures, and they will have different personal factors which will affect their ability to recover learning.

While these case studies offer an interesting view on potential learning loss following school closures, there are limitations. Natural disasters, war, violence and even man-made disasters may produce high numbers of human casualties, loss of physical dwellings and forced displacement for the population. While many young people during Covid-19 may have been affected by the death of family or community members, it is less likely to be an equivalent shock. This shock and subsequent PTSD may account for some of the initial drop in academic performance for students following a crisis.

A third theme relates to vulnerable groups of students who become even more vulnerable in the immediate aftermath of a crisis. This includes girls who are at risk of dropping out of school and being trafficked. It also includes students with disabilities, from marginalised, from low-socio economic backgrounds, or rural areas who are at increased risk of dropping out of school either because access is reduced, or the ensuing socio-economic crisis increased the rates of child labour. Conto et al., (2020) references research from school closures caused by the Ebola outbreak in West Africa in 2013-2014. The limited research available showed a potential decline in learning time available to girls as more time is taken up by household chores and economic activity,¹¹ while other research has shown that children in some communities lost interest in learning while schools were closed.¹²

Not all pupils will have had similar experiences during the school closures, and they will have different personal factors which will affect their ability to recover learning.

¹¹ Bandiera et al., (2018), quoted in Conto et al., (2020) ¹² Kostelney et al., referenced in Conto et al., 2020

Highlights

- Children and young people are often extremely vulnerable in and immediately after a disaster situation.
- There are two themes related to learning loss following a crisis. The first is academic learning loss as a result of school absence. The second is the prevailing psycho-social impact of exposure to trauma which affects students' learning recovery.
- Students from marginalised groups are more at risk of dropping out of school following a crisis.
- Socio-economic crises have a negative impact on student learning, particularly for students from lower socio-economic backgrounds who are at risk of being withdrawn from school for child labour or attending school inadequately prepared due to parents' reduced resources and time.
- Learning from previous crises suggests that there will be a short-term impact of learning loss due to school absence but for some pupils there will be a longer-term impact due to the residual psychological or socio-emotional effects due to exposure to trauma.

Gaps

There was not much evidence on the scale of learning loss due to the impact of crises; this includes estimations and general statistics. The focus across the literature included in this REA was on psycho-emotional losses and less is known about academic development. No evidence appeared in the search with regard to gains, including life skills and socio-emotional skills.



3.3 Have pupils gained any learning, socio-emotional or 21st-century skills through the periods of school closure?

For this question we identified 13 relevant studies, five of which were in an LMIC setting.

An interesting research report by Bubb and Jones, (2020) explores the views of pupils, parents/carers and teachers about home-schooling in one Norwegian municipality. It finds that adaptation to this new mode of learning happened very quickly and that home schooling was well-received by pupils and parents. There was more creative learning, better progress, more useful feedback and greater student independence.

A research study from Kyoto University highlights that children showed better digital skills when comparing pre- and post-pandemic data.¹³ They assessed two digital skills that may be improved during early childhood: basic touch interaction skills to operate digital devices (referred to as touch skills) and skills to use functions of digital devices (function skills). Their analysis shows that the pandemic gave children time to use digital devices, and children used such devices on their own or with their family, which may have facilitated the development of their touch and function skills.

A pre- and post-test analysis was applied to data captured through a computer based formative feedback system in Switzerland by Tomasik, (2020). This paper concludes that learning gains for secondary-aged pupils remained largely unaffected by school closures; however, gains for primary-aged students both slowed down and showed greater variance among individual pupils.¹⁴ However, much is still not known about the effects of persistent school closures on skills gained.

While opportunity to develop digital skills is limited to those students where access to technology was a feature of school closures, a common experience to all students is increased time at home. Although there are a series of reports into how time was spent at home during school closures,¹⁵ there is little to report on the impact or gains which increased time at home resulted in for students yet.

Any gains in learning or skills from engagement with new modes of learning aren't clear yet.

Highlights

Improved digital skills and digital literacy were the most reported skillset gained during Covid-19 school closures.

Gaps

There is a significant lack of evidence in this space. The majority of studies we reviewed did not have access to pre-Covid data and so any conclusions about what has been gained during the periods of school closures are not based on comparative datasets. There is no evidence on socio-emotional skills development during school closure and as the result of remote learning.

¹³ Moriguchi, (2020) ¹⁴ Tomasik, (2020) ¹⁵ Andrew et al., (2020)

3.4 What does the literature tell us about how student wellbeing and socio-emotional wellbeing is impacted by school closures? What is the impact of poor wellbeing on learning?

This resulted in 60 relevant studies of which 31 were in an LMIC setting.

Approximately 70% of mental health services for children and adolescents are disrupted globally as a result of the health pandemic.¹⁶ Most mental health conditions develop during adolescence, so young people especially are at risk. The impact of disrupted services is compounded by young people missing out on peer support and some of the biggest moments of their lives due to school closures, cancelled events or postponed exams. Economic prospects for young people entering the workforce have also diminished.

There is a well-established body of evidence which reports on the impact of disasters on mental health, wellbeing and social inclusion, including school engagement of children and young people. Many of the studies we reviewed for this section drew on this evidence from natural disasters, war and conflict and other traumatic events. Short-term effects include distress, shock, fear, aggression and emotional pain. Long-term effects include post-traumatic stress disorder (PTSD), anxiety and depression.¹⁷

Banati et al., (2020) underline the vital attention that must be paid to psycho-social and emotional wellbeing, especially when considering the realities of the pandemic in low- and middle-income countries, where millions of young people and children are already exposed to intersecting vulnerabilities. Chronic poverty, protracted violence, conflict and displacement, coupled with weak health, education and protection systems, provide the backdrop of many children and young people's lives. In their implications for practice, Banati and colleagues argue that embedding adolescent-centred, inclusive approaches in education, community-based health and social protection responses has the potential to mitigate the social-emotional toll of the pandemic on young people and promote resilience.

In another study, Chakraborty and Samuels, (2021) investigate the impact of Covid-19 on the mental health of adolescents in Vietnam and Tanzania. School closures and online learning have contributed to feelings of isolation, loss of the stability that is typically provided by structured school environments, and stress for the examinations ahead. The rise in social media exposure and screen time has caused an increase in anxiety and depressive disorders as well as disrupted sleep patterns. According to this review, age was an important factor. Among older adolescents (i.e. those in or who have just graduated from senior secondary school), stress about examinations and uncertainty regarding their futures and job prospects were found to be drivers of mental ill-being. Exposure to abusive household conditions and online child abuse material increased for children in Vietnam and Tanzania, prompting increased provision of services dedicated to combating domestic and online violence.¹⁸

Social isolation and disrupted privacy caused by the school interruption appears to have a detrimental impact on wellbeing, especially for female students.

Baird et al., (2020) look at this issue using a mixed-method research methodology

There is a well-established body of evidence which reports on the impact of disasters on mental health, wellbeing and social inclusion, including school engagement of children and young people.

¹⁶ UNICEF, (2020) ¹⁷ Stone, (2013) ¹⁸ Chakraborty and Samuels, (2021)

in Bangladesh and Jordan and found that limited interactions with peers has a larger impact on girls, particularly those with disabilities. Digital exclusion exacerbates these gender differences. Given that privacy and peer interactions are paramount during adolescence, age-, gender-, and disability-responsive programming is essential to ensure future wellbeing.¹⁹

A study by Serafini et al., (2020) suggests that the Covid-19 pandemic brought about a high degree of psychological uncertainty for parents and their children and compromised the mental health of the population. This was borne out in a survey of parents in Bangladesh who reported on their child's mental health during the lockdown in April–May 2020. 57% of young people were reported as having mild, moderate or severe disturbances.²⁰

The degree to which student socio-emotional wellbeing is affected by school closures will almost certainly depend on their home situation. Marginalised learners, including those without access to digital learning, are likely to be more isolated than their peers. In one study reporting on the experience of young people in Turkey through the pandemic, a child is quoted as saying:

*"My friends at school can participate in online lessons and continue their education but I cannot. I have been left behind education wise. I ask for help to continue my education."*²¹

Marginalised learners, including those without access to digital learning, are likely to be more isolated than their peers.

Highlights

- Children and young people may suffer from PTSD or experience depressive symptoms in the aftermath of a crisis.
- Girls, those with siblings and older students are more at risk of developing these symptoms.
- Extent of exposure to the disaster or trauma is an important predictor of who will develop these symptoms. Other factors include levels of physical destruction, injuries, loss or dislocation and pre-existing risks, such as previous traumatic experiences or mental illness.
- Much of the research on student socio-emotional wellbeing linked to school closures does not isolate the school closure itself as being the factor affecting wellbeing. The extent to which the young person is exposed to the trauma is a greater factor.
- Students who experience PTSD following a crisis are likely to have reduced cognitive capacities which may manifest as making it difficult to pay attention, persevere when work is challenging or self-regulate their learning.
- Many students may display symptoms immediately when returning to school but will recover within a year or two.

Gaps

The research related to student socio-emotional wellbeing in the aftermath of school closures, while interesting, does not isolate the cause of the student PTSD or on-going depressive symptoms. Whilst schools were closed as a result of a crisis (such as earthquake, violence or other), school closures cannot be the only determinant of socio-emotional challenges experienced by the young people; a fuller account of the causes was not discussed throughout the literature. In addition, the focus of the research is mainly on more mature students and not much was found on early ages such as pre-primary and primary school children.



¹⁹ Baird et al., (2020) ²⁰ Yeasmin, (2020) ²¹ Akbulut, (2020)

3.5 What does the literature tell us about how to monitor learning loss and gains following protracted periods of school closure?

We included eight studies, four of which were in LMICs – only two research papers were included that address this issue in pre-Covid times and we included two literature reviews.

Existing studies have measured how much children are engaging with educational content but how much are they actually learning is as important. Students commonly fall behind during school closures and that can also increase dropout rates.²² As access to different channels of remote learning vary, so too do their uptake and effectiveness when implemented. As education systems prepare for further school closures during the Covid-19 crisis and beyond, understanding who has access and how effective remote learning programmes are will be critical to creating resilient systems.

The findings from monitoring and evaluation of learning outside school has been used for different purposes, according to Conto et al., (2020):

- **To understand gaps and strengthen access for marginalised populations.**
For example, Egypt, Ethiopia, Tanzania and Mongolia have used phone surveys and SMS to monitor TV- and radio-based remote learning usage.
- **To improve the effectiveness of remote learning.**
In Indonesia, the United Nations High Commissioner for Refugees (UNHCR) learning centres are using WhatsApp groups to track refugee learners' and volunteer teachers' experiences and to provide targeted support when needed. In Mongolia, UNICEF-produced TV lessons for pre-primary and primary learning in Tuvan and Kazakh languages are being assessed for effectiveness.
- **To include monitoring as part of school re-opening processes, so that learning losses and increases in school dropouts can be understood and addressed.**
Venezuela has reported plans to monitor attendance and re-enrolment after schools reopen. The aim is to develop alternative educational opportunities such as catch-up programmes or accelerated education for children who may have fallen behind.

Among the countries offering online learning, 79% are monitoring user access, and 50% are measuring learning.²³ Since online learning often entails two-way interaction between the user and the technology, monitoring can be built into the delivery platform. For instance, Wyse et al., (2020) showcase the Renaissance platform which offers an integrated system of instruction, practice, and assessment solutions, and is currently used by approximately 16.7 million students in approximately 45,000 schools worldwide. Schools might have to use Multi-tiered Systems of Support (MTSS) frameworks,²⁴ more than ever to identify needs and target instruction where it matters most when school reopen.²⁵

Likewise, the paper-based take-home materials, which involve the physical delivery of materials, interaction with learners/parents through exercise books and

Understanding who has access and how effective remote learning programmes are will be critical to creating resilient systems.

²²Azevedo et al., (2021) ²³UNESCO, UNICEF, World Bank, (2020) ²⁴A Multi-Tiered System of Support (MTSS) is a data-driven, problem-solving framework to improve outcomes for all students. MTSS relies on a continuum of evidence-based practices matched to student needs. PBIS is an example of MTSS centered on social behaviour (Center on PBIS | Tiered Framework). ²⁵Wyse et al., (2020)

paper-based assessments, can facilitate monitoring. For TV and radio modalities, however, the one-way delivery process makes monitoring more challenging. This may explain why a smaller percentage (67%) are monitoring user access and only 31% are assessing learning.²⁶

In low-income countries, only 33% monitor access, while a slightly higher 38% assess learning outcomes for online learning. This is potentially due to lower levels of system capacity in monitoring and assessment in those countries.²⁷

There is an emerging number of studies with suggested techniques to assess learning outside classrooms. One method includes the use of phone-based approaches to monitor learning outcomes and engagement. Angrist et al., (2020) report on their pilot testing of phone-based assessments in Botswana. Their preliminary evidence shows that phone-based assessments can accurately capture basic numeracy skills when carried out with the right principles. An evaluation of the effectiveness of two Covid-19 interventions targeting primary school students in Botswana provides two concrete examples of this type of assessment. The first, a weekly SMS containing numeracy problems addressed to parents and caregivers, resulted in an average learning gain of 0.16 standard deviations after four weeks. The second, an additional weekly 20-minute support phone call with both parents and children, led to an average increase of 0.29 standard deviations.²⁸

Kulgmén and Ho, (2020) suggest that interim assessments could be developed by using state-released test items, which could form a validated assessment vehicle. Hung So, (2020), in his study of the impact of Covid-19 on Chinese students, also recognises the challenges of assessment while learning online and considers techniques such as web-based item banks, adaptive tests, automatic scoring and online result reporting as ways to respond to this issue. Validated test items could be used accurately to estimate learning outcomes from online learning.

The result of the search has also shed light on alternative pathways to learning, such as non-formal and informal learning, which are acknowledged by Singh et al., (2018) as life-changing pathways for refugees from Syria. Non-formal and informal learning could include state-led second-chance and remedial education, out-of-school programmes, often run by non-governmental organisations (NGOs) and civil society organisations, self-directed, family-directed and socially-directed learning in the workplace, family and local community, and learning that takes place as a result of the interests and activities of individuals.²⁹ To recognise the human capital and competencies developed through these opportunities, Singh et al. suggest development of competency assessments in partnership with the labour market so that youth can match their existing skills to those required by employers. This could have implications for remedial education recovery programmes post-Covid. Competency assessments using existing frameworks can be used to evaluate baseline and post-programme skills levels. Singh and colleagues also underline the role of formative assessments in evaluating learning deficiencies; formative assessments could inform schools about targeted support for those left furthest behind.

Phone-based assessments can accurately capture basic numeracy skills when carried out with the right principles.

²⁶ UNESCO, UNICEF, World Bank, (2020) ²⁷ UNESCO, UNICEF, World Bank, (2020) ²⁸ Angrist et al., (2020b) ²⁹ Informal learning does not lead to awards/qualification.

Highlights

- Phone-based approaches to monitor learning outcomes and engagement can accurately capture basic numeracy skills when carried out with the right principles.
- Existing validated test items can be used to monitor and evaluate learning outcomes.
- Recognition of formative assessment and its use for decision making is encouraged especially for alternative learning experiences such as non-formal and informal learning.
- Integrating competency assessments into remedial programmes could support the measurement of pre-programme levels.

Gaps

The literature included in this REA appears to mostly offer quite theoretical perspectives – compelling arguments and ideas but little testing in practice. There is a significant gap in the literature on best practice within the context of SSA. This area might further develop as schools reopen and assessment strategies are implemented to build back the education systems. Additionally, innovative approaches in monitoring learning and the effectiveness of online/remote modes of learning cannot be fully evaluated until schools are fully open. No evidence on monitoring learning gains and the acquisition of digital and life skills has been found.



3.6 What programmes and policies have been implemented in response to crises to recover learning? What does the literature tell us about their impact?

For this question we included 40 studies, 24 of which were in LMIC settings. A total 15 of the included papers are concerned directly with Covid-19, 12 from natural disaster contexts and six from contexts of war, violence or other fragility.

Since the start of the pandemic in 2020, immediate policy responses were aimed at ensuring continued curriculum-based learning through a range of remote learning modalities. UNESCO, UNICEF, and the World Bank, (2020) implemented a joint survey on national education responses to Covid-19 school closures. Countries that responded to the survey (89%) have offered at least one measure to increase access to devices and connectivity needed for online learning. This included making access available from mobile devices or offering internet access at minimal or no cost. Measures to support populations at risk of exclusion have also been taken. However, over 30% of low-income countries were not introducing any measure to support access or inclusion.

At a micro level, innovative interventions were introduced to tackle uneven access to technology and internet connectivity. For instance, Mundy and Hares, (2020) present remote learning opportunities for children without connectivity which involves simplified curricula and modified learning goals. In their equity-focused approach to building back better, delivering learning materials through radio, television and SMS is shown to amplify learning and reach communities with limited access.

Despite the efforts for learning continuation, school closures represent lost opportunities for learning especially for early grades and among already struggling students. Intense recovery plans are needed to tackle learning loss and the negative social-emotional effects of isolation and school closure. Several strategies are suggested by the literature to compensate for the impact of disrupted education including:

1. High dosage tutoring

As evidenced by Allensworth and Schwartz, (2020) tutoring programmes accelerate learning in both mathematics and reading for students who struggle the most. Sonneman and Goss, (2020) also show that tuition programmes could support students in catching up academically. The suggested approach is that students from disadvantaged backgrounds would receive regular short sessions in reading and maths. They evidence that tuitions can increase student learning by an additional five months over one or two terms of schooling. The World Bank evaluation of Mobile Tutors in Mexico is another compelling example. In this intervention, recent university graduates work in schools in the country's most rural and marginalised communities. The findings show that the intervention improved test scores and transitions rates from primary to secondary school. The evaluation also showed that children's social-emotional skills improved.

2. Remediation activities

Keffenberger, (2021) finds that remediation activities can reduce the long-term learning loss by half. Keffenberger argues that solely focusing on remediation

Delivering learning materials through radio, television and SMS is shown to amplify learning and reach communities with limited access.

still leaves children more than half a year behind unless combined with long-term reorientation of the curriculum to align with children's learning levels. This multi-faceted approach fully mitigates the long-term learning loss (for example, the Tusome programme in Kenya improved English and Kiswahili learning outcomes after one year through a multifaceted intervention that reoriented literacy instruction to ensure all children were learning). Pan and Sass, (2020) have also recommended three potential remediation strategies based on a review of the literature: increasing instructional time (though extending the school day, lengthening the school year, or adding instructional time during the summer), various forms of small group instruction or tutoring, and 'looping' strategies whereby students are paired with the same teacher for multiple years.

3. Extended school days

Defeyter and colleagues, (2021) provide a range of recommendations to the UK government for school reopening and building young people's future post-Covid-19. They suggested that in the mid- to longer-term, extended school days including before and after school provision as well as holiday clubs or camp provision are effective in improving outcomes. As illustrated in their research, such programmes promote children's engagement in physical activities, educational and cultural activities, and promote wellbeing in children and parents. Such provision, if carefully managed, will allow pupils to catch up with their learning, both formal and informal, while providing affordable childcare to support parents in their return to work.

4. Catch-up schemes

Pre-pandemic countries including the UK have also utilised 'Catch-Up' Schemes to tackle the literacy attainment gap caused by disadvantage which has implications for post-Covid-19 recovery. Programmes such as Switch-on Reading (Reading Recovery³⁰) is a proven example, according to Gorard et al., (2017). The evaluation shows a positive impact on literacy.

5. Alternative pathways such as Accelerated Learning Programmes (ALP)

Other example interventions in times of crisis, including ALP, could be utilised in supporting learning recovery. ALP is fast-track second-chance programme that provides opportunities to complete formal education, enabling out-of-school children and youth to catch up with other students. Kaushik, (2020) provides an account of such a programme in Iraq. In 2005, after a preliminary pilot phase, the Government of Iraq, in partnership with UNICEF, implemented an ALP with the intention of providing an estimated 50,000 out-of-school students aged 12-18 who had been exposed to trauma and displaced to complete the six-year primary cycle in three years. The analysis shows that this ALP did more than create educational opportunities for young persons; it also helped young people obtain a confident perspective for their future. ALP also can serve vulnerable groups such as girls. An example can be found in the work of Randall et al., (2020) in the Democratic Republic of Congo. The *Valorisation de la Scholarisation de la Fille* is an initiative through the Girl's Education Challenge.³¹ Considering data from all girls who were present for at least one year, results indicate a steady increase in reading performance from baseline assessment through midline and a pronounced increase from midline to endline assessment.

Before and after school provision as well as holiday clubs or camp provision is effective in delivering outcomes.

³⁰ Reading recovery; one-to-one intervention for the lowest performing children is a short-term individual reading programme for pupils who have not achieved a benchmarked standard attainment in English at years 3-6 in the UK. The intervention is delivered over 10 weeks and consists of regular 20-minute one-to-one reading sessions with Switch-on trained staff members. The intervention can be conducted by staff including Special Educational Needs Coordinators, librarians, teachers, and mostly by teaching assistants. ³¹ Targeted 100,768 marginalised girls in primary and lower secondary schools in the Democratic Republic of Congo with no cost to out-of-school and unschooled young girls and boys ages 9-15.

6. Social-social support and mental wellbeing

Promotion of positive school climate, in-school counselling and mental health services, online therapeutic courses and use of creative writing, activities with the focus on expressing and sharing experiences and feelings and other preventative measures such as disaster education are suggested by the literature in response to other disasters and crises with implications for post Covid recovery.³²

It is worth noting that one way to make these strategies targeted and effective is to put in place strong systems that track attendance, assignment completion, and grades to strengthen schools' ability to individualise services and match specific interventions to the needs of different students so students do not fall behind in their courses.³³

During the Covid-19 school closures, parents also played a huge role in assuring learning continued. Emerging evidence shows that engaging parents using a range of approaches was a support schools relied on to reach students. This can be found in the paper by Conto and colleagues for UNICEF, (2020). They touch on Maranhão's, a state in north-eastern Brazil, approach in family engagement with educational contents to encourage child learning using media and other state channels.

A global survey of Ministries of Education³⁴ shows that 62% of countries reported providing materials to guide parents in home-based learning. This was a common form of support across income levels, with 71% of high-income, 66% of upper-middle-income, 53% of lower-middle-income and 44% of low-income countries providing these materials to at least a proportion of parents.³⁵

Finally, an opportunity for change is seized by some leaders; to build back equitably and equally. In a guide provided by UNICEF for Global Education Monitoring (2021) to build back equal, the authors recognise approaches through which learning for vulnerable and marginalised learners including girls can be viewed as a new norm, integrated into practice. For instance, suggested activities to support these learners include:

- **Prior to school reopening:** collect and use sex-disaggregated data on participation in distance learning programmes, and support provided for learning during school closures.
- **Part of the reopening process:** prioritise meeting the educational needs of girls, particularly the most marginalised, who have had reduced access to distance learning in the context a phased return to school.
- **With schools reopening:** establish more robust gender-responsive risk analysis, standard operating procedures and contingency plans for future shocks, drawing on feedback and lessons learned.

Engaging parents using a range of approaches was a support schools relied on to reach students.

³² Examples including Defeyter et al., (2021); Alvarez, (2010); Hatzichristou et al., (2017); Powell and Bui, (2016); Boon and Pagliano, (2015) ³³ Allensworth and Schwartz, (2020)
³⁴ UNESCO, UNICEF and the World Bank ³⁵ UNESCO, UNICEF and World Bank, (2020)

Highlights

- Much is published on innovations around online/ remote education in the wake of Covid-19 to assure learning continuation and to mitigate the risk of lost learning.
- A range of interventions tackle learning loss and the extent to which lost learning could be recovered by investing in these interventions. These include accelerated learning programmes, catch-up schemes and high dosage tutoring, extended school days and the use of holiday camps and clubs.
- Innovative ideas regarding parental and community engagement to mitigate and recover learning loss is presented.
- Recommendations on other aspects of recovery such as socio-emotional wellbeing is offered.
- The literature also offers solutions in building back more equal and opportunities to reform education systems.

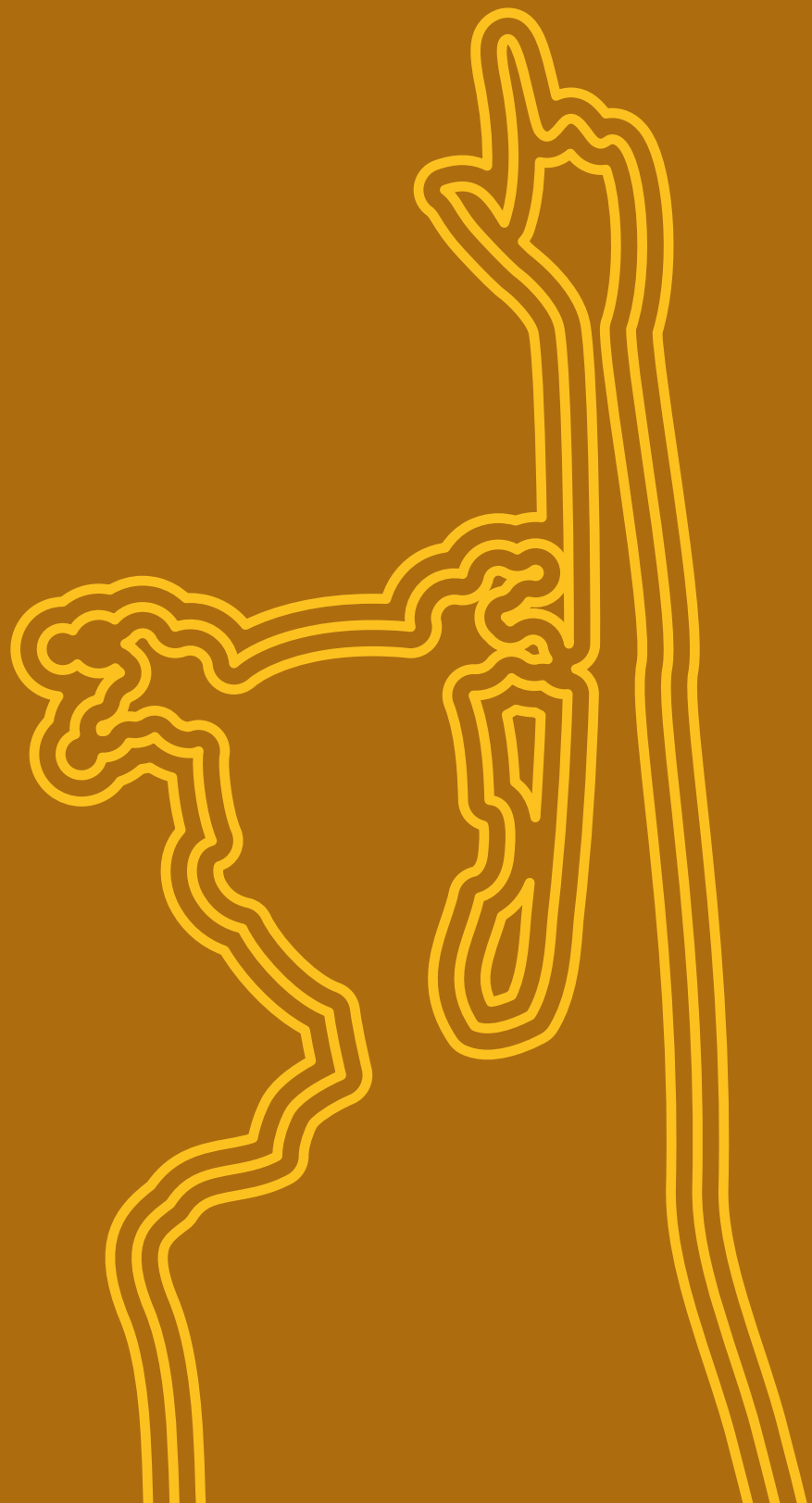
Gaps

The evidence base is, to a certain extent, comprehensive in providing example innovations and practices to recover learning loss. More evaluative studies on new interventions could shed light on practical but cost-effective and accessible recommendations for programme design in the context of LMICs. There is also a noticeable gap in the literature regarding gains in academic or life skills and how they contributed to learning continuation and resilience. The search also did not reveal much on alternative pathways.



Chapter 4

Teacher responses to learning recovery



Research showed the need for additional support to teachers to develop digital competencies, new methods and engagement and how to support students wellbeing.

4.1 What does the literature from previous crises tell us about teacher competencies needed to assess learning losses, gains and wellbeing. How far are teachers/schools equipped and skilled to tackle the challenges they face supporting student wellbeing and recovery?

A total of 37 papers are included in this section, 19 of which are in LMICs. 21 of the included papers directly address Covid-19, nine deal with contexts following a natural disaster and two papers are included from contexts of war, violence or fragility. A total of 29 of the included studies are observational research papers and three use experimental or quasi-experimental designs. These papers showed a fairly even split in the type of methods used; 15 draw on qualitative data, 15 on quantitative data and two used a mixed methods approach.

It is generally accepted in the research that the teacher plays a pivotal role in the immediate and subsequent aftermath of a crisis. Where a crisis strikes during the school day, they are often the first responders.³⁶ When schools re-open they may be dealing with their own losses while simultaneously creating a safe environment for students to reengage with their education.

Schools and systems have been forced to attempt to support learning remotely – supported using technology where possible. This sudden focus on technology where it has been a feature of the school response has created challenges for teachers. According to Phan & Dang, (2017), factors such as training, attitude, technical competence, time constraints, pedagogy and methodology were among the major distance learning education elements. These elements may have not been evenly distributed among teachers. However, Ventayin, (2018) shows that despite some limited experience in distance education such as technical skills, time management, knowledge and attitude in online education, teachers were able to cope with the requirements of distance learning.

In a survey of teachers in the Philippines, conducted by Alea et al., (2020), respondents showed relatively high levels of awareness of the impact of Covid-19. However, gender, length of teaching experience and specialisation is very strongly correlated to readiness to distance learning education, and geographic location is strongly correlated to readiness to adapt to distance learning education.³⁷ In Hassan and colleagues', (2020) study of Indian teachers the findings show that:

It is generally accepted in the research that teachers play a pivotal role in the immediate and subsequent aftermath of a crisis.

³⁶ Basnet, (2020) ³⁷ See also Research for Equitable Access and Learning (REAL) Centre, (2021)

- 73.5% of the teachers reported that they are facing technical difficulties while delivering online or while creating content.
- Almost 91.7% of the total teachers participating in the study were facing internet connectivity issues while delivering online lectures.
- 55% agreed that they lack sufficient computer skills and knowledge to conduct online lectures or create e-content, only 44.9% of teachers considered they are competent to deliver online teaching or create e-content. 42.5% rated online teaching and content creation as very difficult for them.
- 63.5% of teachers felt the need for training or guidelines for the preparation of online lecture material or using online teaching platforms.
- 90% teachers agreed to the fact that creating e-content requires more time and effort than face-to-face classroom teaching.

As seen above, online teaching also results in an increase and change in workload for the teacher, according to Kaden, (2020). Underestimating the complexity of successful online teaching, the time needed for preparation, the amount of content that could be taught, and how difficult it was to engage students and assess learning are perhaps factors that not every teacher has been prepared for. Not being able to have all students participate in online classes due to social and home environmental issues was difficult to accept among teachers, especially that students' wellbeing and equity has to be at the centre of successful remote learning plans, with increased guidance needed for special education populations.³⁸

These findings have implications for teacher education and development pre- and post-pandemic. In a study by König et al., (2020) the result of a survey of early career teachers shows that information and communication technologies (ICT) tools, particularly digital teacher competence and teacher education opportunities to learn digital competence, are instrumental in adapting to online teaching during Covid-19 school closures. Teachers' development opportunities need to focus on learning digital competence as it is closely related to the design and quality of learning opportunities.

There are also interesting implications from the literature related to other disasters and crises for challenges post Covid-19. Several challenges are highlighted by the studies in the REA about:

- Lack of trained and experienced teachers – see Hawrylenko, (2010) and the example of post-conflict Liberia;
- Teacher confidence in working with children exposed to disaster and crisis – see Alisic, (2012) study of elementary school teachers working with refugees in the Netherlands.

The literature, however, provides potential solutions to tackle lack of preparedness and competency in times of crisis. An interesting example is using mobile networks in Kenya refugees camp.³⁹ Using mobile networks in Kenya, the Teachers for Teachers intervention provides competency based, continuous teacher professional development for educators working in refugee and other crisis settings.

³⁸ Kaden, (2020) also see Korkmaz and Toraman, (2020) ³⁹ Mendenhall et al., (2018)

Last but not least, teachers reported issues around safeguarding and duty of care during school closures. A recent survey of primary teachers in England, by Moss and colleagues, (2020), shows that headteachers were taking a disproportionate amount of the responsibility for safeguarding and welfare during lockdown. They were more involved in conversations about welfare, as well as more likely to be carrying out the practical jobs of delivering hardcopy resources, checking student welfare on the doorstep and running food banks or lunch distribution. In addition, they shouldered most of the responsibility for liaison with the local authority and social services, as well as the administration of the free school meals voucher schemes. The duty of care also fell unevenly across schools. To some extent, every school has 'caring' duties to fulfil for families, but for the schools in the most disadvantaged areas, monitoring and responding to the effects of poverty and hardship was more of a priority. Indeed, teachers in these schools were more likely to be spending time on activities not traditionally thought of as 'teaching'.

Highlights

- Despite suddenness of school closures and limited prior digital exposures in some schools, teachers managed to pick up the pace in responding to the needs of online/remote learning. Years of experience and age has positive impact on preparedness.
- Teachers experienced different challenges in the face of digital delivery, especially in low-income countries where ICT skills were lacking.
- Teachers also felt an increased workload as a result of migration to remote delivery.
- Skills for design and delivery of education content in a digital environment were also highlighted as a problem among early career teachers.
- Coping strategies and teaching social and emotional skills to students using online sessions proved to be challenging and not much attention has been paid previously to this area.
- Safeguarding and duty of care were also among issues that required more resources and planning before and during the school closure.

Gaps

There is a wide gap in the literature regarding innovative programmes to reskill/upskill teachers at a fast pace. Additionally, general statistics on the levels of teachers' skills in specific areas such as digital curriculum design, effective digital delivery and engagement would be helpful in assessing the global need. Evaluative studies on what worked and what did not in preparing teachers to respond to the rising challenges of school closure and remote learning have not appeared in the search.



4.2 What does the literature tell us about how teachers have engaged students in new ways of learning following school closures? What impact has this had on learning?

In response to this question we located 37 studies of which 25 were in an LMIC setting – all of the papers in this section report research produced in the context of Covid-19.

Findings from the first wave of the UNESCO, UNICEF and World Bank, (2020) survey show that teachers were required to continue teaching during school closures in three-quarters of responding countries. There were however significant differences by income group with 90% of high- and upper-middle-income countries reporting that teachers were required to continue working compared to 60% of lower-middle-income countries and 39% of low-income respondents. As mentioned in previous sections, the school closure and remote learning modes have led to new challenges for teachers especially when it comes to reach and engagement.

One impact study separated out the importance of teacher engagement with students – through phone calls – on learning. Noam et al., (2020a, 2022b) report an intervention to deliver learning in Botswana which involve delivering SMS messages containing numeracy problems as well as guided phone calls to students and their parents from instructors. The reported results focus on learning outcomes rather than the detail of the interactions – they find that the combined SMS and calls showed statistically positive differences in learning between treatment and control groups. Combined phone and SMS intervention increased learning by 0.29 standard deviations compared to 0.16 standard deviations for SMS alone, meaning that the phone and SMS combined was nearly twice as effective.

The OECD highlights the potential of remote learning and technology to enable access to specialised material, provide more differentiated and tailored learning experiences as well as the potential to ‘elevate’ teachers to work more as ‘coaches, mentors, and evaluators’.⁴⁰ However, it is yet unknown how prepared and ready education systems were to make the shift to online learning so quickly and at such scale.

Once schools closed, reaching to every student and maintaining their engagement proved to be more challenging than it sounds. Challenges with internet connectivity, students’ access to hardware and problems with electricity supply meant that it was difficult to reach students and engage them with home learning.⁴¹ The implication of these problems for everyday teaching is that teachers had to really focus on the key learning points of each lesson and get innovative in their instructional method and student assessment.⁴²

A key feature of effective remote learning is regular communication with students.⁴³ For instance, teachers in India used a variety of platforms such as WhatsApp and Zoom to stay connected with their students.⁴⁴ Hebebcı, (2020) also finds that teachers needed to use multiple methods and make sure that there is space for Q&A with pupils in order to increase interaction.

Combined phone and SMS intervention increased learning by 0.29 standard deviations compared to 0.16 standard deviations for SMS alone meaning that the phone and SMS combined was nearly twice as effective.

⁴⁰Schliecher, (2020) ⁴¹National Foundation for Educational Research, (2020) ⁴²Roudai, (2020); Rasmıtadıla et al., (2020) ⁴³Roudai, (2020) ⁴⁴Hasan, (2020)

Online classes have the potential to be as effective as face-to-face learning at school but they need planning and support. Providing reliable technology and connectivity and teaching digital and IT skills are among factors to consider.⁴⁵ If not supported sufficiently, it will be challenging to keep students engaged and reassure quality learning continuation.

As discussed in section 4.1, development of teachers' digital skills also plays a critical role. Insights from the 2018 TALIS study show that in OECD countries only 60% of teachers had received professional development in ICT in the year preceding the survey – with 18% reporting a high need for development in this area.⁴⁶ The pandemic has put the spotlight on this issue more than ever before and the recognition of digital and IT skills are highlighted throughout the academic and grey literature. These skills are particularly relevant in curriculum design and delivery, student engagement and assessment.⁴⁷

Engagement between schools/teachers/principals and students during school closures emerged as a challenge and the literature shows that these contacts may have been particularly limited in SSA during the period of school closures. In their study of 10 African countries, Conto et al., (2020) find that one quarter (26%) of school leaders reported not keeping in touch with their learners every week – and that 40% of teachers reported that communicating with families during school closures was very challenging. Around three-quarters of countries in Conto et al.'s study have measures in place to support parents/caregivers, although more than a third of low-income countries had not introduced learning-related measures. The most frequently used measures are the provision of guidance, tips or materials for continued learning at home. More than a third of high- or middle-income countries were supporting parents/caregivers through regular telephone follow-up by schools, but this was reported by only 22% of low-income countries.

Engagement between schools/teachers/principals and students during school closures emerged as a challenge and the literature shows that these contacts may have been particularly limited in SSA during the period of school closures.

⁴⁵ Bhaumik, (2020) ⁴⁶ Schleicher, (2020) ⁴⁷ Alea, (2020); Gudmundsdottir, (2020); Lie, (2020); Hasan, (2020); Koçoglu, (2020); Burke, (2020)

Highlights

- Establishing good communication between students and teachers is important for effective learning – this requires good digital skills on both sides and the effective use of a variety of platforms.
- Lack of engagement from students is raised as a concern in many of the teacher surveys.
- Keeping the connection between students and the school or learning is likely to be vital to return to school, yet contact between school leadership and students or parents appears to be very limited especially in low-income contexts.
- Internet connectivity, access to appropriate hardware and lack of study space are barriers to engagement with learning for students in all contexts – and particularly the most vulnerable and marginalised students.
- Teachers' digital skills development is suggested to be one of the solutions in reassuring quality remote learning opportunities.

Gaps

The literature search did not find any papers that look at strategies that teachers were using to increase engagement with their students or what methods were most effective. We didn't find any literature that documented training and its impact on increasing teachers' digital skills and/or the impact that improved digital skills had on student engagement and learning. Also, schools are likely to reopen and close over time – at the point of this REA there was limited evidence available on most effective and practical methods for delivering learning or the impact of remote engagement methods on learning. There was a very limited literature available which considered differential impacts and challenges for vulnerable or marginalised students.



4.3 What does the literature tell us about how teachers have been supported during Covid-19 and previous crises to return to schools after emergencies?

For this question we located 21 studies, of which 12 were in an LMIC setting. The majority of papers included in this section deal with a natural disaster context (11) and just one is research conducted in the context of Covid-19. We include 13 research papers and eight literature reviews in this section – the majority of the included research papers are qualitative research that use observational design – often looking in-depth at the experience of a particular school or community after a disaster.

In an interesting article on community resilience, Mutch, (2014) argues that community connectedness and understanding of the dynamics, existing infrastructure for finding needs and solutions and shared decision-making could help post-disaster resilience. In her paper, she also refers to the power of 'bonding social capital' in disaster survival, response, recovery and rebuilding experiences. Bonding social capital are types of networks and relationships in which individuals have a lot in common. An example of this is found in a study by Mendenhall and colleagues, (2018) which looks at the impact of mobile mentoring for teachers in Kakuma refugee camp in Kenya – the peer-to-peer connection enabled teachers to share experiences, access new ideas and share success and challenges.

Sultan et al.'s, (2013) work in the context of education programmes in fragile or conflict-affected states emphasises the importance of the development of capacity in the broader education system to support the profession. Investment in education leadership and management, teacher development and effective monitoring of learning outcomes, alongside the development of an effective EMIS system which can improve planning and management are highlighted as key concerns. These concerns are likely to be echoed as schools reopen after Covid-19 and education systems require information and effective investment to effectively address learning loss.

The literature search in this REA resulted in few studies that deal with how to support teachers either during periods of school closure or once back in school after a crisis. One study described targeted training to support teachers with the skills to deal with trauma amongst students as they return to the classroom. Basnet, (2020) describes the development of a credited five-hour teacher professional development counselling programme to help deal with trauma experienced after the 2015 earthquake in Nepal.

Highlights

- Teachers are also part of communities that have experienced trauma – the focus has been on learner experience.
- Teachers are considered best placed to support children psychologically – there is a need to develop teachers' psycho-social skills and develop linkages with other sectors in planning and response to emergencies.
- In post conflict or fragile contexts, there has been an opportunity to reimagine education systems in ways that better support teachers and learning – developing professional development systems, school leadership and data systems can all support teachers as they return to the classroom.

Gaps

- We did not locate any studies which looked at training in specific classroom or instructional techniques to assist teachers to help children in their classrooms as they return to school. Very little literature was also found around how to develop skills in dealing with trauma. There was very limited literature about the ways teachers were being supported (or trained) during school closures. We also did not locate any literature that discussed how teachers' views were being taken into account in planning for school reopening.
- The literature search did not result in studies that cover how schools/local or national governments can support teachers back to work and prevent attrition in the workforce, teacher anxiety or trauma caused by Covid-19 and working conditions.



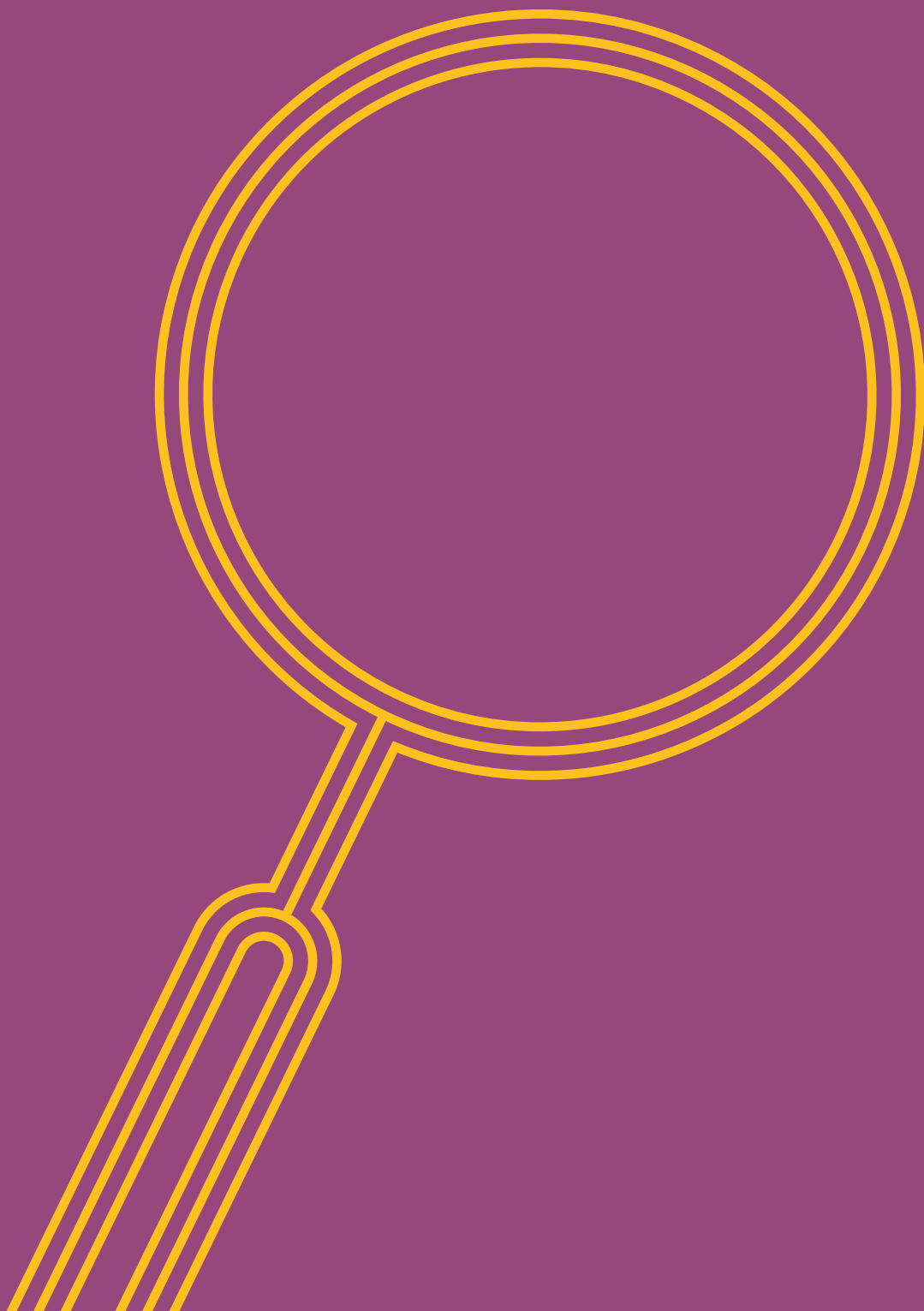


English
Teacher's Guide

2

Chapter 5

Conclusion



A year after the Covid-19 pandemic began, the impact of the school closures on the world's children and young people is becoming clearer – and increasingly alarming.

The sudden changes in government policies in response to the pandemic has meant different things for different groups of young people around the world. Schools and teachers took a wide range of measures to attempt to assure learning continuation. However, the impact of the pandemic has been unequal, leaving vulnerable communities more prone to its effects. Technology-based solutions (high- or low-tech) and school closures exacerbated an already existing digital divide and led to learning loss across the world, but especially in low-income countries. On the other hand, school closures during Covid-19 have left many teachers uncertain about their role, worried about their working conditions and their health, safety, and wellbeing, in some cases unable to use technology effectively, and unprepared for classroom challenges when schools reopen.

Teachers will need to respond to students' academic losses (and gains), but also to their socio-emotional wellbeing during the pandemic and after schools reopen. They play such a crucial role in building back strongly and in the process of supporting learning recovery.

In this review, Education Development Trust and UNESCO have undertaken a rapid assessment of evidence to set the scene for a bigger piece of research focused on exploring how to support teachers to lead learning recovery as school systems reopen. To complement this, research from previous crises and disaster contexts were included to examine what we know about actions to mitigate and recover learning loss, not just related to the current global pandemic but in a broader sense.

Despite shortcomings in the literature, some clear learnings are gained based on the views of stakeholders and from previous disruptions caused by crises and natural disasters. Something that is truly undeniable is the effective role teachers played in maintaining students' engagement with education and mitigating the risk of complete disengagement with education. Throughout the review, the challenges of switching to remote learning is acknowledged; digital literacy and curriculum design, learning assessments, workload, student safety and duty of care and responding to the psycho-social demand of students were among the main problems for teachers to cope with. A few approaches were highlighted by the literature to respond to these needs, including tailored training programmes, peer-to-peer learning, crash courses on digital upskilling and counselling, but the evidence is pretty limited.

Technology-based solutions (high- or low-tech) and school closures exacerbated an already existing digital divide and led to learning loss across the world, but especially in low-income countries.

Throughout this REA, the gap in evidence across all key questions was also investigated. The identified gaps are potentially due to a number of reasons:

- Publications that haven't made it to the academic literature and are in the pipeline;
- This area is evolving really fast and much could have been reported between the time the search was conducted and the time of publication; and
- The keyword search did not result in the most comprehensive list of papers because of the nature of the rapid assessment taken here.

Table 2 on page 48 summarises our evaluation of the gaps in the literature.

This REA along with a separate policy review paper will inform the next phase of the joint study with UNESCO.

TABLE 2:

Evaluation of the gaps in literature

Learning loss, gain and student wellbeing	Identified gaps in this REA
Learning loss and gains, and the extent to which this is an issue for different groups of learners in LMICs and SSA	<ul style="list-style-type: none"> No evidence on the scale of the learning loss for marginalised groups; only high-level estimations and projections No contextualised or localised accounts of the scale of learning loss in LMICs and SSA
Learning loss from previous school disruptions such as health crises, wars or conflict, or climate disasters	<ul style="list-style-type: none"> Not much evidence on the scale of learning loss due to the impact of crises More focus on social and emotional losses than academic development No evidence on gains including life skills and social and emotional skills
Learning gained including socio-emotional or 21st-century skills through the periods of school closure	<ul style="list-style-type: none"> No comparison data available for pre-Covid status No evidence on social and emotional skills development during school closure and as the result of remote learning
Student wellbeing and socio-emotional health and the impact of poor wellbeing on learning	<ul style="list-style-type: none"> No root cause analysis of the PTSD or on-going depressive symptoms caused by school closure. A fuller account of the causes was not discussed throughout the literature
Monitoring learning loss and gains following protracted periods of school closure	<ul style="list-style-type: none"> More theoretical papers – compelling arguments and ideas, but little testing in practice Significant gap on best practice within the context of LMICs and SSA No evidence on monitoring learning gains and the acquisition of digital and life skills
Programmes and policies in response to crises to recover learning and their impact	<ul style="list-style-type: none"> Limited evaluative studies on new interventions Limited evidence in the content of LMICs and SSA A noticeable gap in the literature regarding programmes to develop academic and social and emotional skills and how they contributed to learning continuation and resilience Limited evidence on alternative pathways
Teacher responses to learning recovery	Identified gaps in this REA
Learnings from previous crises regarding teacher competencies and skills to assess learning losses, gains and wellbeing to tackle the challenges they face	<ul style="list-style-type: none"> A wide gap in the literature regarding innovative programmes to reskill/upskill teachers at a fast pace Lack of general statistics on the levels of teachers' competencies in specific areas such as digital curriculum design, effective digital delivery and engagement Lack of evaluative studies on what worked and what did not in preparing teachers to respond to the rising challenges of school closure and remote learning
Innovation and techniques in engaging students in new ways of learning following school closures and their impact	<ul style="list-style-type: none"> No evidence on strategies used by teachers to increase engagement or what methods were most effective No literature that documented training and its impact on increasing teachers' digital skills and/or the impact that improved digital skills had on student engagement Limited evidence available on most effective and practical methods for delivering learning or the impact of remote engagement on learning Very limited literature available which considered differential impacts and challenges for vulnerable or marginalised students
Learning from previous crises in supporting teachers' return to school	<ul style="list-style-type: none"> No study looking at training in specific classroom or instructional techniques to assist teachers to help children in their classrooms Very limited literature about the ways teachers were being supported (or trained) during school closures No study that covers how schools/local or national governments can support teachers back to work and prevent attrition in the workforce, teacher anxiety or trauma caused by Covid-19 and working conditions

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Annex 1: Definitions

Academic learning	In addition to foundational skills of literacy and numeracy we will consider learning across the curriculum as assessed in national exams and in educational settings.	21st-century skills/learning	<p>Similar but slightly conceptually different from socio-emotional skills 21st-century skills can be defined as the knowledge, skills and attitudes necessary to be competitive in the 21st Century workforce and cope with rapidly changing workplaces. Or more broadly as the “abilities and attributes that can be taught or learned in order to enhance ways of thinking, learning, working and living in the world.”⁵³ ICT is at the core of 21st-century skills.</p> <p>These skills can be divided into four categories:</p> <ul style="list-style-type: none"> • personal skills (such as collaboration and communication) • social and cultural skills and competencies • information and knowledge • digital/ICT literacy⁵⁴ <p>Most frameworks also mention critical thinking and creativity and problem solving in some way.</p>
Psycho-social wellbeing	INEE considers this to be a holistic understanding of health – bringing together the psychological aspects of our experiences (our thoughts, emotions etc) with our wider social experience (our relationships, traditions and culture). Wellbeing can refer to the full range of what is good for a person. ⁴⁸ Descriptions of psycho-social wellbeing include emotional resilience, support networks, peer networks, community interactions and access to quality services. ⁴⁹	Digital skills/learning	<p>Digital skills and digital literacy can be seen as a subset of 21st-century skills. They include individual confidence and proficiency in the use of media and ICT to access and manage information. Critical use of digital tools and an understanding of ethics and protection around the use of technology and online communication.</p> <p>We will focus on the skills that young people need to use and access online and remote learning and use ICT for communication rather than job-market based skills such as coding or programming.</p> <p>We will base the outcomes include on the UNESCO digital skills framework – using the first five groups of skills they have developed:⁵⁵</p> <ul style="list-style-type: none"> • Devices and software operations • Information and data literacy • Communication and collaboration • Digital content creation • Safety • Problem solving
Socio-emotional skills/learning	<p>Sometimes called soft or non-cognitive skills these skills can be thought of the skills and abilities that are needed to regulate one’s thoughts, emotions, manage behaviour and engage with others. Some of the frameworks that have been developed to describe and conceptualise these skills are below: We draw from across these frameworks in the REA.</p> <p>The OECD has developed five skill categories for this kind of skill:</p> <ul style="list-style-type: none"> • Openness to experience • Conscientiousness • Emotional stability • Extraversion • Agreeableness⁵⁰ <p>The CASEL Framework: Conceptualised as the “CASEL Wheel” the framework of skills to support equitable learning environments and optimal development outcomes for diverse children, adolescents and adults:</p> <ul style="list-style-type: none"> • Self-awareness • Self-management • Responsible decision making • Relationship skills • Social awareness⁵¹ <p>The UNESCO framework for global citizenship education is also relevant – it presents skills in three domains; cognitive, socio-emotional and behavioural. Socio-emotional outcomes include:</p> <ul style="list-style-type: none"> • Learners experience a sense of belonging to a common humanity, sharing values and responsibilities, based on human rights • Learners develop attitudes of empathy, solidarity and respect for differences and diversity <p>UNESCO’s MGIEP’s EMC2 Framework includes:</p> <ul style="list-style-type: none"> • Critical inquiry • Mindfulness • Compassion • Empathy <p>These skills are considered in three tiers – the self, the other and society, agency, behavioural change and action.⁵²</p>	Teacher wellbeing	<p>The Education Equity Initiatives recent literature review defines teacher wellbeing as: how teachers feel and function in their jobs – including teachers affections, attitudes and evaluations of their work. Constructs within teacher wellbeing include self-efficacy, stress and burnout, job satisfaction and socio-emotional competence.</p> <p>Their framework considers factors at individual, school, community, national, regional and global level which impact on wellbeing.⁵⁶</p>
		Teacher skills and capabilities	<p>For the review we are interested in a range of skills, competencies and capacity:</p> <ul style="list-style-type: none"> • how to deal with disengaged/disengaging learners • teaching remotely or with blended learning models • contextualising learning in new settings • identifying learning and support needs

⁴⁸ INEE, (2010) ⁴⁹ GAGE, (2020) ⁵⁰ OECD, (2017) ⁵¹ CASEL-SEL-Framework-11.2020.pdf ⁵² UNESCO, (2020) ⁵³ Binkey et al. ⁵⁴ Joynes et al., (2019) ⁵⁵ UNESCO, (2018)

⁵⁶ TWB Landscape Review_June 2019.pdf (edu-links.org)

Annex 2: Search terms

Search terms were developed to correspond with the themes of these review. Combinations of these terms were applied as appropriate for the search location.

Theme	Context	Outcomes	Impact	Marginalised groups
<ul style="list-style-type: none"> • Learning loss • Learning/gain • System adjustment 	<ul style="list-style-type: none"> • Crisis • Emergency • Humanitarian • Post-conflict • Disaster • Covid-19 pandemic • Coronavirus • School closure • School Reopening • Ebola 	<ul style="list-style-type: none"> • Learn • School • Education • Literacy • Numeracy • Test • Exam • Attainment • Language Competence • Learning Loss • Learning pathways • Alternative trajectories • System reform 	<ul style="list-style-type: none"> • Impact • Trial • Review • Evaluation • Evidence • Experiment • Assessment • Quantitative • Qualitative 	<ul style="list-style-type: none"> • Youth • Adolescent • Girl • Gender • Disabled • Poverty • Inclusion • Language
<ul style="list-style-type: none"> • Life Skills • Socio-emotional skills • 21st-century skills • Psycho/wellbeing 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • Life Skill • Soft skill • Non-cognitive skills • Transferable skills • Whole child development • 21st-century skill • Psycho-social interpersonal • Wellbeing • Relationship • Self-awareness • Collaboration • Socio-Emotional • Critical thinking • Citizenship • Collaboration • Creativity 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • As above
<ul style="list-style-type: none"> • Digital skills 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • ICT Literacy • Digital skills • Digital literacy • Technology use • Digital Safety • Online safety • Media Literacy 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • As above
<ul style="list-style-type: none"> • Recovering Learning 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • "Learning Recovery Assessment" • "Formative assessment" • "Catch Up" • "accelerated learning" • "remote learning" • "blended learning" • "Ed-Tech" • "School reopening" • pedagogy • curriculum • System reform • Alternative pathway/trajectory 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • As above
<ul style="list-style-type: none"> • Support to teachers 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • Teacher skill • Teacher support • Professional development • CPD • Teacher Training • Pedagogies • Support to teachers • Teacher Self Efficacy • Job satisfaction • Stress • Socio-emotional Competence • Resilience • Motivation 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • As above

Annex 3: Grey literature search locations

Grey literature search locations

- RISE
- ODI
- Young Lives
- UNICEF
- UNESCO
- UNGEI
- INNOCENTI
- INEE
- USAID
- IIEP
- World Bank
- Brookings Institute
- JPAL
- OECD
- 3ie
- IRC
- GAGE
- CGD

