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A policy monitoring framework to prepare for, respond to, and recover from education in emergencies

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ABSTRACT

The COVID-19 pandemic has highlighted how widespread emergencies can disrupt national education systems and schooling. To assist policy decision-making and monitoring, a rapid review of over 200 documents relating to education in emergencies (EiE) was conducted, with a specific focus on the COVID-19 pandemic. The purpose of the review is to support policymakers, largely in developing countries, to develop policies that promote education system resiliency with a focus on monitoring those policies. From the analysis and synthesis of evidence a new framework has been produced, which assists policymakers by organising the complexity of relevant concerns. This Policy Monitoring Framework (PMF) identifies three key factors – System, Teaching and learning, and Agents – and corresponding sub-factors, which collectively can be used to inform policy decisions. These factors are superimposed upon an emergency in education Preparedness-Response-Recovery cycle. The Policy Monitoring Framework provides a basis for a Policy Monitoring Tool, which in turn supports the planning of educational reforms and monitoring the status of the education system to build resilience.

Introduction

The COVID-19 pandemic disrupted national education systems worldwide, with over 1.6 billion students affected resulting from of over 90% of countries closing schools (UIS, 2021). This pandemic revealed vulnerabilities in education systems globally and exacerbated existing inequalities within national populations. Some education systems, recovered faster from this emergency due to greater access to technology, resources, infrastructure, and the decisions and actions of agents, including policymakers at an education system level (OECD 2019). This article describes research that led to the development of a policy framework and tool that supports policymakers in the development of policies, enactment of policy decisions during education in emergencies (EiE), and building resilience to disruptions to education. The framework and tool can be used to identify key policy factors and sub-factors that are prioritised for responding to during an EiE – including pandemics – and for monitoring over the course of recovery and preparation phases.

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While the COVID-19 pandemic has caused a global emergency in education, it is not the first communicable disease to impact learning and schooling.

For example, an effect of the mid-1990s HIV epidemics in South Africa shifted the role of teachers from focusing on learning, to providing greater care, as many children lost parents (van Wyk & Lemmer, 2007). A similar consequence eventuated from the 2013–16 Ebola outbreak in West Africa, when children were orphaned and were more likely to cease schooling due to pressures to undertake paid labour (Bakrania & Subrahmanian, 2020).

While organisations like the Inter-agency Network for Education in Emergencies (INEE) have supported various stakeholders (e.g. humanitarian, government, private organisations, and volunteer groups) to respond to, recover from, and prepare for disruptions, there has historically been less articulation on how systems and schools can be supported through education policy. For example, the current description of Domain 5. Education Policy within the INEE's (2022) *Minimum Standards for Education: Preparedness, Response, Recovery* references two board standards – "Law and Policy Formation", and "Planning and Implementation" – that are reliant on the same three indicators:

- 5.1 Degree of engagement in evidence-based policy advocacy
- 5.2 Degree of adherence to national and international policies and laws
- 5.3 Level of planning for future and current emergencies (INEE, 2022).

Although it is acknowledged that these policy standards refer also to aspirational Key Actions and Guidance Notes that reflect a range of contexts,[1] it is maintained that supporting the needs of education policymakers during EiE is likely to involve a wider range of indicators. In this regard, there is a gap in EiE policy and practice for supporting the pivotal role that policymakers can have. Accordingly, the proposed framework and tool developed in this study, while consistent with the INEE Minimum Standards, provides a more in-depth focus on education policy development and how policymakers might be assisted to develop and monitor policies aimed at building resilient education systems.

Present study

This study was commissioned by the Department of Foreign Affairs and Trade (DFAT) and completed by the Global Education and Monitoring (GEM) Centre in the Australian Council for Educational Research (ACER). Policies related to EiE, with an emphasis on the COVID-19 pandemic were the focus, Learnings over the course of the pandemic were synthesised to inform policymakers about how to build resilient education systems.[2] Whilst much of the data and analysis relates to the COVID-19 pandemic, the discussion and findings relate to EiE more broadly. An essential part of building a more resilient education system, is the ability to monitor the performance of each component of the system, for continual reform. Accordingly, two outcomes of this study were the development of an evidence-based Framework and Tool – referred to as the Policy Monitoring Framework and Policy Monitoring Tool, respectively – that can be used by policymakers for
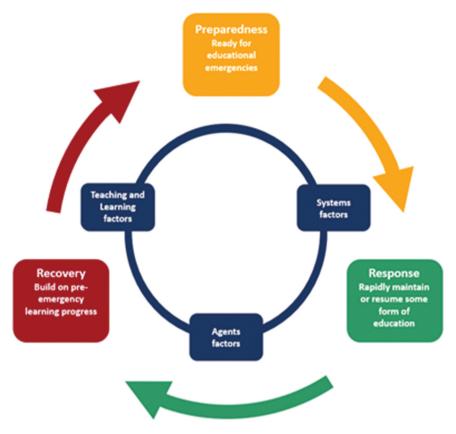
Figure 1. EiE policy Monitoring Framework for building a resilient education system

developing and monitoring policies that build more resilient education systems. The Framework (see Figure 1 below) provides a high-level view to organise key policy factors (i.e. System, Teaching and Learning, and Agents) against emergency management phases (i.e. preparedness, response, and recovery). The Tool provides a more granular approach to policy development and monitoring, enabling policy-makers to identify the factors and considerations relevant to each phase of emergency management, and work towards building a resilient education system. The Framework, and Tool in particular, will be explicated in the Discussion.

A rapid review methodology was used to collect and analyse policy documents to contribute evidence for enhancing the resiliency of education systems during emergencies. To advance knowledge and practice in this field and guide this larger study, the following research questions were posed:

(1) In what ways can policymakers promote equitable[3] and quality outcomes when K-12 education systems are disrupted by emergencies?
(2) How can K-12 education systems be engaged in preparedness activities and build further resilience in enduring emergencies?

Question 1 will be addressed over the course of the Rapid Review Analysis section, while Question 2 will be addressed in the Discussion section within the context of the Framework and Tool.

Methodology

Despite lacking a universal definition (Hamel et al., 2021; Khangura, Konnyu, Cushman, Grimshaw, & Moher, 2012), rapid reviews typically involve targeting key research questions or issues, conducting a broad but not exhaustive search of the literature to determine the scope of the review, and applying streamlined but transparent research processes. While the key benefit of the rapid review approach is the condensed timeline for analysis and reporting (e.g. weeks to 12 months) (Garritty, Norris, & Moher, 2017), shortcomings include the possibility of reviewing fewer resources, less academic rigour, inconsistent use of terminology, and the potential for increased bias. In contrast, traditional systematic reviews seek to analyse all available evidence to address specific research questions, and employ explicit methods to reduce bias and increase validity and reliability (Garritty, Norris, & Moher, 2017; Khangura, Konnyu, Cushman, Grimshaw, & Moher, 2012). A clear limitation of this approach is the significant amount of time needed to complete a systematic review and corresponding delays with dissemination, which in the context of a global pandemic may prove counterproductive. A rapid review approach was conducted to address these temporal demands, and deemed appropriate in light of meta-analyses noting that the findings and conclusions derived from rapid and systematic reviews were often similar, and that the former could be improved via transparent procedures and greater research scrutiny (Ganann, Ciliska, & Thomas, 2010; Khangura, Konnyu, Cushman, Grimshaw, & Moher, 2012; Rocco & Plakhotnik, 2009).

Data collection and inclusion-exclusion criteria

The primary period for data collection occurred from March-November 2020. Education sector plans and COVID-19 response plans derived from Global Partnership for Education (GPE) funding submissions provided important policy data to determine how policymakers responded and aimed to recover from the COVID-19 pandemic. Using GPE documents enabled distinctions between country policies to be identified as they were presented in the same format and met the same criteria. However, in inferring dominant themes from the literature, the researchers were conscious to ensure that themes from non-GPE documents were not overshadowed. It should also be noted that the policies reviewed were current at the time of analysis and were not tracked as time progressed. Such a task would be best achieved via in-depth case-study approaches, in contrast to the present high-level approach taken to review a broad range of policies. Additionally, documents gathered were published in English and sourced from the public domain. This resulted in a focus on countries from the African and Asia-Pacific regions, and less so from other regions like the Middle East and Latin America. This was due largely to the availability of English language publications at the time that the rapid review was undertaken. As acknowledged in the Methodology, a rapid review approach can be critiqued on the basis that a broader,

Table 1. Search terms and results.

Data base	Search terms applied from March to November 2020	Results
ERIC (EBSCO)	(Education* OR Learning OR Teaching) AND (Emergency ORDisaster) NOT "Emergency Service*" NOT medicine Disaster) NOT "Emergency Service*" NOT medicine	886
JSTOR	(Education* OR Learning OR Teaching) AND (Emergency ORDisaster) NOT "Emergency Service*" NOT medicine Disaster) NOT "Emergency Service*" NOT medicine	793
A+ Education (Informit)	(Education*) OR (learning) OR (teaching) AND (emergency) OR(disaster) NOT (medicine) NOT (emergency service*) (disaster) NOT (medicine) NOT (emergency service*)	320
Google Scholar	Education Emergency* -"Emergency Service" -"higher education" – medicine	688

more systematic approach to reviewing the literature would provide greater coverage; including the use of non-English publications (e.g. French and Spanish) from the private and public domains, as well as documentation from outside of the targeted regions, for the present analysis. Accordingly, the targeted approach taken to gather a subset of EiE-related documentation during the initial stages of the pandemic, presents limits on what might be generalised from this study. However, it is maintained that these limits have been offset by the shorter time taken to analyse and report findings from over 200 in-scope documents from a range of publications. These have included peer-reviewed publications (including meta-analysis and systematic reviews); government, inter- and non-governmental organisations discussion papers, and policy and evaluation reports; and education systems policy and planning documents (including education sector plans and COVID-19 response plans). A secondary period of data collection occurred from January-June 2021 to update content.

The following procedures were used to collect and analyse these data. The academic databases used were A+ Education (Informit), ERIC (EBSCO), JSTOR and Google Scholar. A precursory search of other databases suggested considerable repetition in the results, mitigating the need to extend the search to these databases. An iterative search strategy was used to refine valid and reliable search terms relative to EiE topics and the quality and breadth of documents. For example, search terms were refined if they yielded over 1000 results across various topics. Refining terms involved discarding redundant or unreliable terms if results related to problems endogenous to the education system, rather than emergencies caused by external shocks (e.g. "crisis"), or if results produced voluminous "hits" that were tangential to emergencies (e.g. "adverse", "hardship", and "distance learning"). Importantly, the paired search terms "education" and "emergency" were reliable across all academic databases, and narrowed results when used in conjunction with the aforementioned, and other relevant, search terms. Searches were also refined using subject (e.g. teachers or students) and discipline (e.g. literacy or numeracy) delimiters. These search procedures were used when accessing government (e.g. Department of Foreign Affairs and Trade – Australia), inter-government (e.g. OECD, UNESCO, and World Bank) and non-government organisations (e.g. GPE and INEE) websites and databases. Table 1 outlines an example of the search terms that produced optimum results from academic databases.

Documents were subsequently screened using the PICO model – Population, Interventions, Contexts and Outcomes – inclusion-exclusion criteria (Tufanaru, Zachary, Aromataris, Jared, & Lisa, 2020). These criteria targeted:

- populations such as students, teachers and other relevant K-12 stakeholders;
- interventions that addressed how education was supported during the COVID-19 pandemic or during EiE situations; e.g. how education was maintained during emergencies, how such systems might rebuild after emergencies, and how education systems be better prepared for emergencies;
- contexts that emphasised efforts to support the building of a resilient education system, policy transfer from developed to developing countries, natural disaster or conflict prone regions, and countries affected by COVID-19; and
- outcomes that were considered critical for informing policymakers and school leaders about how to design and develop a resilient education system.

Only documents that fulfilled all four PICO criteria were analysed (by at least two researchers) using a coding Framework derived from the research questions. Following Best et al. (2013) analytical approach, coding levels and codes were generated from these questions to categorise data for analysis and were iteratively refined as familiarity with the literature increased and research themes emerged. Coding and corresponding qualitative data were then inputted into NVivo12 to sort and analyse reoccurring research themes, and derive data for responding to the research questions. Once analysis revealed that saturation was reached with respect to emergent themes, and research timeframes met, further document searches and analysis were halted. This coding framework provided the foundation for the PMF and PMT that would later follow.

Based on this PICO and double peer screening process, the final number of documents eligible for inclusion in this study was 221. From this total, 33 documents were drawn from country submissions to the GPE requesting COVID-19-related short and medium term EiE funding, while another 68 documents comprised of national policy papers, organisation reports (e.g. from UNESCO, the OECD, and Save the Children), and peer-reviewed articles that addressed COVID-19 challenges and possible solutions. Of the remaining 120 references, 110 addressed EiE situations that were not COVID-19-related, while the remaining ten addressed methodological issues relating to rapid reviews. Thus, approximately 46% of the references reviewed in this report focused on COVID-19 and education.

For the present publication, a sample of these 221 articles were sourced to report major findings in the sections that follow. These sub-articles focus on governmental, inter-governmental, and NGO publications during the COVID-19 pandemic, or pandemics in general. Non-pandemic focused documents (e.g. addressing natural disasters) are minimally referenced and, where they have been used, address issues/lessons learned that are directly linked to the COVID-19 pandemic or pandemics more generally.

Review of existing EiE frameworks and guidelines

This section will present an overview of various high-level frameworks and guidelines that have been developed for EiE. Each seeks to capture the complexities that are inherent in education emergencies to provide policymakers and other agents with guidance to adapt to, and negotiate immediate and impending challenges.

Importantly, the development of this study's proposed Framework and Tool drew inspiration from the following frameworks and guidelines, and seeks to fill a gap in education policy support and development that has traditionally been less emphasised.

In the first instance, and more broadly, a three phase model is widely found in the emergency management literature, incorporating: *Preparedness*, *Response* and *Recovery* (Bates, 2013; INEE, 2010a; UNISDR, 2009). *Preparedness* involves being ready for EiE; it includes documentation detailing actions that should be taken regarding education emergencies. Planning documents include institutional continuity plans, operational plans, implementation plans and disaster response plans. The *Response* phase involves activities that manage and address priority areas. Appropriate responses will differ across national and local contexts. For example, it might be appropriate in some instances to narrow the curriculum, (such as focusing on literacy), whilst in others, to focus on maintaining engagement with schools (Kanwischer & Quennet, 2012; Nazarov, 2011). The *Recovery* phase focuses on returning students to their pre-emergency learning trajectories, or using the emergency as an opportunity to reform education and improve on previous learning outcomes by "building back better" (Mannakkara, Suzanne, Sankaran, & Gerhard Chroust, 2014). Both our proposed Framework and Tool incorporate this three-phase model for monitoring policy and policy development.

Other frameworks have augmented this tripartite *Preparedness-Response-Recovery* model. For example, the Organisation for Economic Co-operation and Development (OECD) adds an *Evaluation* and *Planning* phase (OECD, 2020c). Evaluation has not been included in our Framework, as it is assumed that policies related to EiE – as with public policies generally – require evaluation to assess their efficacy and inform refinements. It is more useful for the focus of the Framework to be on what is particular to EiE, rather than attempt to include all significant components of policy making. Nonetheless, "monitoring", which is an aspect of evaluation, is built-in as a subfactor within the System factors, due to its special relevance to education, as explicated below. Likewise, "planning" is essential to effective policy, and is necessary across preparedness, response and recovery initiatives and phases; for example, COVID-19 Response Plans were developed after the pandemic. "planning" is therefore best considered as a crucial activity that cuts across the three management phases, rather than as a distinct phase of its own.

Other frameworks include *Prevention* as a distinct phase in an attempt to stop emergencies from occurring (ERCMTAC, 2006). This phase is premised on reducing the likelihood and severity of emergencies so that it will make the other phases redundant. Although preventative measures are important, the Framework developed in this article builds on the three-phase approach of the INEE, operating on the assumption that prevention can be subsumed by the plans, activities, and qualities seen in the Preparation phase.

The GPE (2018) has also developed *Guidelines for Education Sector Plan Preparation and Appraisal*, which emphasise that education sector plans must be sensitive to context, include preparedness, prevention, and risk mitigation, and that education sector analysis should include data on marginalised groups. Such factors have been identified in our analysis of education sector plans and incorporated in the specific types of factors and sub-factors of our Framework and Tool. In comparison to the GPE's guidelines, our Framework has also been positioned to be a broader,

higher-level resource to assist policymakers with identifying which types of factors/ sub-factors they need to consider, rather than telling them what to do. However, as explained later, the Policy Monitoring Tool, which integrates with our Framework, provides more specific guidance and bears greater similarity to the GPE's guidelines to the extent that it specifies sub-factors that should be considered for policy monitoring.

The OECD has developed an *Education Policy Outlook* framework that focuses on policy responses and addresses three main areas of policy action: nurturing the mindset of learnings, developing the capacities of educators, and addressing learning gaps (OECD, 2020b). Our analysis also found that these were important areas, and thus they are encompassed within specific factors of our Framework and in more detail in our Tool. However, our approach has not been to select the three most important areas for policymakers to action, but to present a broad Framework that organises the myriad of EiE factors that policymakers need to consider. Policymakers can then use our Framework in combination with the Tool to identify the actions most relevant to their context.

As mentioned briefly, the INEE (2010b) has previously identified minimum standards (19 in total) for supporting stakeholder work in EiE. Each Standard is accompanied by key actions and organised according to five domains:

(1) Foundational standards: coordination and community participation and analysis.
(2) Access and learning environment: access to safe and relevant learning opportunities.
(3) Teaching and learning: critical elements that promote effective teaching and learning.
(4) Teachers and other education personnel: administration and management of human resources.
(5) Education policy: policy formulation and enactment, planning and implementation.

While it is acknowledged that the INEE has previously identified the importance of education policy for EiE, it is maintained that greater emphasis is needed to support policymakers working in such contexts. Thus, the Framework developed in this study is consistent with the INEE Minimum Standards, but has a different emphasis. Whilst the INEE Minimum Standards are focused on a broad range of humanitarian responses to EiE, with an audience that includes practitioners, the Framework is designed specifically to assist policymakers develop and monitor policies aimed at building resilient education systems.[4]

The United Nations Educational, Scientific and Cultural Organization's (UNESCO) EiE framework focuses on four strategic goals, which broadly involve children accessing quality and inclusiveness education, learners being empowered, educators having sufficient capacity, and education systems being responsive and resilient (UNESCO 2020). The components of UNESCO's framework and goals are accounted for in the Framework and Tool developed in this study, but the means and ends are distinguished in a way to support policymakers build a resilient education system. In our Framework, therefore, the UNESCO goal of educators having sufficient capacity is framed as one

policy consideration for achieving a resilient education system, rather than as an articulation of individual but related goals that should be aspired to.

Finally, an influential framework that focuses on fleshing out the recovery phase of emergency management is known as *Build Back Better (BBB)*. The history of this concept and framework stretches back at least to the aftermath of the 2006 Indian Ocean Tsunami, having been proposed by the United Nation Special Envoy, and later articulated by Mannakkara, Suzanne, Sankaran, and Gerhard Chroust (2014). In the BBB framework, they distinguished between four categories: risk reduction, community recovery, implementation and monitoring, and evaluation. Although the BBB Framework is focused on "recovery", its lack of emphasis on "response" and "preparation" phases presents policymakers with potential limitations if they are seeking a more holistic EiE policy development and monitoring framework or tool.

The above frameworks share many components with the proposed Policy Monitoring Framework and Tool. While no single component is revelatory, the utility of each framework is based on how it organises and relates to a range of components to serve a distinct purpose. Accordingly, this study's Policy Monitoring Framework provides high level guidance to policymakers seeking to identify a range of issues for developing resilient education systems, as well as more detailed policy considerations and issues when using the Policy Monitoring Tool.

Rapid review analysis

This section outlines the main findings that emerged from this study and that informed the development of the proposed Framework and Tool. Specifically, the analysis revealed emergent EiE-related policy themes – adapted into factors and sub-factors within the Framework and Tool – that were repeatedly emphasised across countries, regardless of their geopolitical, cultural, or economic context. This suggests, then, that the common policy foci emphasised by policymakers over the course of the pandemic can be used to inform responses towards, recovery from, and preparedness for, future disruptions to education and building education system resilience. What follows is a description of three main factors comprising the Framework and Tool, and corresponding sub-factors.

At a high-level, policy data indicated that policymakers' responses focused on three broad factors – *Systems, Teaching and learning*, and *Agents* factors – as well as corresponding sub-factors. In this study, the *Systems* factor refers to central processes and practices that policymakers engaged with and within across formal and informal contexts. The *Teaching and learning* factor involves all activities and resources that might directly influence how teachers teach, and how students learn and are assessed. The *Agents* factor involves entities that make decisions and act over the course of emergency management phases. These factors are pertinent to all three emergency management phases – preparedness, response and recovery. Table 2 provides an outline of all three factors and high-level corresponding sub-factors identified during this study. This list is not comprehensive of everything that matters in education, but is based on collected policy evidence for supporting policymakers and their activities.

The sections that follow address each factor and sub-factor to describe how policymakers responded to the pandemic. These sections also address the challenges that

Table 2. Factors and sub-factors relevant to building a resilient education system.

Systems factor	Teaching and Learning factor	Agents factor
Planning for education in emergencies	Curriculum	National and local governments
Collaboration and coordination	TV, radio and print materials	Intergovernmental organisations and NGOs
Communication	Digital technology	Schools and school leaders
Information, communication and technology infrastructure	Blended learning	Teachers
School buildings and protocols	Assessment and learning progress	Communities
Monitoring		Parents
		Children

impact upon equitable and quality K-12 education during emergencies, and during the COVID-19 pandemic specifically (Question 1).

Systems factor

Policy planning is central for mitigating the impact of pandemics – in general – and is the first step towards achieving broader, longer term education goals (Brocque et al., 2017; Kirkland & Maybery, 2000). This activity is inherent in all the sub-factors across all *Systems*, *Teaching and learning*, and *Agents* factors, and is best positioned as a *Systems* sub-factor that policymakers and key stakeholders must proactively address across response, recovery, and preparedness emergency management phases.

A second common policy theme involved *Collaboration and coordination* to mitigate learning losses. For example, policymakers from Djibouti created dedicated teams to manage the needs of regional centres by collaborating and coordinating how students' learning needs might be met and building the long-term resilience of the education system for future emergencies (GPE, 2020d). Ethiopian policymakers enhanced coordination between officials at the local-regional-central levels by improving ICT infrastructure and providing low-cost devices. Coordination can also be enhanced by matching agents' responsibilities with their capacity. This approach entails managing agents so that they understand their responsibilities, have opportunities to cooperate, and are engaged in tasks that minimise overlap and maximise coverage (Federal Democratic Republic of Ethiopia, 2020b; Prime Minister of Japan and His Cabinet, 2020).

Challenges relating to *Communication* were also frequently identified during the analysis. Effective communication enables education continuity and organisations (e.g. governments, schools, and educational agencies) to coordinate their strategies and activities to ensure that teachers, parents, and children are appropriately informed during emergencies. Communication may address information about pandemic impacts, effects on children, alternative arrangements for education, and the responsibilities of teachers, parents, and children. Across the sources reviewed, useful communication channels included contexts or platforms involving in-person communication, such as via teachers or health workers to families; telephone conversations and text messages; school online portals, government websites, official social media profiles, and emails; newsletters, newspapers, and posters; and television and radio (Federal Democratic Republic of Ethiopia, 2020b; Reimers & Schleicher, 2020).

Policymakers often cited the need to support and implement *Information, communication and technology (ICT) infrastructure* and *School buildings and protocols*. *ICT infrastructure* addresses the degree that an education system and its school districts are reliant on a single-point connection to support distance learning. This sub-factor is relevant for remote communities (e.g. in remote and mountainous regions) where infrastructure and access may be lacking, and the need to provide multiple networks (e.g. cables, satellite, radio and television) and form successful partnerships with telecom/internet providers would help to ensure that alternative communication channels are available during emergencies (GPE, 2020h, 2020k). The *School buildings and protocols* sub-factor focuses on physically protecting school staff and students by ensuring a safe environment. Protocols supporting this sub-factor include UNICEF's (2020) water, sanitation and hygiene (WASH) standards, and the goals that multiple GPE funding applicants had to provide safety equipment (e.g. masks and sanitiser), institute hygiene practices (e.g. school disinfections and handwashing), and refurbish schools to improve health and safety (GPE, 2020e, 2020m, 2020q). Additionally, the INEE (2010a) has devised safety and wellbeing protocols by setting standards for bounded learning spaces, implementing sanitation and hygiene facilities that consider gender, age and special needs, and, where possible, participating in outdoor teaching.

Finally, the analysis also showed that education systems seeking to develop resiliency often aspired to improve their *Monitoring* processes within their response plans (GPE, 2020c; National Department of Education, PNG, 2020; Republic of Kenya, Ministry of Education, 2020). For example, data that might be prioritised for system-level monitoring, and which is not pitched at monitoring individual student learning in the classroom, included available resources (e.g. a school's digital resources), child-to-teacher ratios, and student demographics. The latter can be useful for supporting education in vulnerable groups (e.g. girls and children from minority linguistic backgrounds), while teacher data can be used to inform teacher training, professional learning, and identifying how they are coping with the pandemic. Large-scale assessments were also used to monitor children's learning progress. One approach involved tailoring large-scale, standardised assessments according to national contexts to identify learning gaps (The Federal Ministry of Education Sudan, 2020; Ministry of Education, Ghana, 2020; Save the Children, 2020). A second approach involved education systems participating in regional assessment programmes (e.g. PILNA and SEAPLM), where participating countries often share similar contexts (e.g. remoteness) and vulnerabilities (e.g. being prone to natural disasters). A third approach might involve participating in international assessments (e.g. PISA, TIMSS, or PIRLS) to broaden the policy perspective, and enable education systems to identify and learn from best practice (IEA, 2020). Collectively, the analysis indicated that *Monitoring* could also be used to justify investment in delivery modalities, measure learning and engagement in distance learning, and develop return-to-school strategies.

The System factors explicated above show how countries have and can strengthen the resilience of their education systems.

Teaching and learning factor

The need to adapt the *Curriculum* during pandemics is a challenge for policymakers. Considerations include developing and integrating social and emotional learning

programmes, as well as content involving the causes and outcomes of emergencies, into relevant school curricula to improve student learning, resiliency, and their preparedness for future emergencies.

Delivering the curriculum to a wide student population was a key challenge during COVID-19 school lockdowns. *TV, radio and print materials* were often used to deliver teaching and learning by numerous countries to children living in remote regions or from lower socioeconomic status backgrounds. The challenges associated with these platforms, however, included the time taken to convert curricula for TV and/or radio platforms (Federal Democratic Republic of Ethiopia, 2020b); accommodating linguistic minorities; managing complex schedules to incorporate all grades, subjects, and exam review lessons (The Federal Ministry of Education Sudan, 2020; The Republic of The Gambia, 2020); and the cost-prohibitive difference between TV and radio programming (Republic of Rwanda, Ministry of Education, 2020).

Children with disability may also be excluded if TV programming does not include subtitling, sign language, and captioned learning content (e.g. Ghana and Tanzania) (GPE, 2020q; Ministry of Education, Ghana, 2020). Understanding that booklets/print materials may fail to meet the needs of vision impaired learners, the Ethiopian Government delivered them Braille booklets (Federal Democratic Republic of Ethiopia, 2020b).

Policymakers also frequently embraced the opportunities afforded by *Digital technologies* to respond and recover from the pandemic. While these technologies have the potential to transform 21st century education (IIEP-UNESCO, 2020), achieving this goal across countries is unlikely to be uniform. For example, while Pacific Island countries requested funds to establish frameworks, digital platforms, and instructional content (GPE, 2020p), others opted for rapid and low-cost enhancements to existing learning platforms (Ministry of Education, Maldives, 2020). Many countries also linked online learning platforms with social media to maximise coverage, while others endeavoured to provide digital learning devices and ready-to-use ICT equipment to children, including vulnerable populations (e.g. Dominica, Grenada, Nigeria, Saint Lucia, and Saint Vincent and the Grenadines) (GPE, 2020e, 2020f, 2020l, 2020m, 2020n).

Governments likewise used *Blended learning* approaches to distribute information and enable engagement across more than one platform. In Afghanistan, blended learning was delivered across three pathways in the amended school curriculum to students in remote areas where television programming, internet and electricity are not readily available, or where parents were less able to support their children's learning. This involved learners from different primary and secondary grades engaging with different combinations of digital technology (e.g. TV and internet/mobile applications) and in-person learning sessions (e.g. teachers, literate parents, Mullahs of Mosques, and select upper-secondary students) across different core and non-core subjects (Ministry of Education, Afghanistan, 2020). Altogether, a key theme emerging from this analysis was the need to consider a broad range of communication options to support digital technologies and blended learning approaches, including telephone trees,[5] mailed lessons, and instruction via local radio or television stations.

Assessment and learning refers to identifying learning progress soon after an emergency, and to guide education *Response* and *Recovery* (Reimers & Schleicher, 2020). In contrast to the *Monitoring* sub-factor (under *Systems* factor) that focused on large scale

assessments and gathering assessment data (e.g. student attendance and demographics), the importance of *Assessment* lies in its ability to provide a diagnosis of student *Learning* with respect to progress/loss, establishing a baseline, identifying learner needs, and informing strategies for targeted support.

Assessments used prior to COVID-19 May require adjustment post-emergency to be a useful diagnostic tool. Policymakers should therefore consider the utility of using a single contextually relevant tool. They should then determine what adjustments are needed with respect to age groups/grades, assessment methods used (i.e. oral, written, or both), the use of competency-based or content-based assessment; and demands associated with assessing different (GPE, 2020h; Republic of Kenya, Ministry of Education, 2020). Deciding between assessments may also require considerations to be made regarding the pedagogies used. This includes the feedback provided to children from teachers during distance learning, tutoring and refresher courses; accelerated or second-chance opportunity programmes; support programmes students transitioning from primary to secondary school; and remedial pro-grammes for children with disability (GPE, 2020a, 2020c, 2020d, 2020i, 2020j).

Finally, the pandemic hastened the trend towards more frequently adopting digital assessments to support distance learning. While the advantages of digital assessment include greater personalisation of assessments and automated marking and feedback, many education systems are not yet ready because they lack the digital infrastructure and user base to make full use of this opportunity. They may also lack access to well-developed assessment platforms that can be utilised across different grades and student needs. For example, younger students may require one-on-one assessments with tea-chers for literacy and numeracy than older students who may have greater confidence to engage with digital assessments (Beatty, Pradhan, Suryadarma, Ayu Tresnatri, & Fariz Dharmawan, 2020; Kaushik, 2021).

It is teaching and learning factors that have most clearly been impacted by the Pandemic. The learnings from changes to teaching and learning can be used to build education system resilience for future emergencies.

Agents factors

There are a range of challenges for different *Agents* who were required to make decisions and take actions over the course of the pandemic. *National, state and local governments* were typically seen to reference existing legislation, frameworks, and guidelines to trigger *Response* (e.g. redesigning the curriculum) and *Recovery* (e.g. rebuilding schools) protocols. Specifically, national and state strategies for educational *Recovery* included the development of tailored instructional content, infrastructure, and communication channels for distance learning, and managing various risks (e.g. safety and wellbeing, protection from abuse and sexual exploitation, and girls' education) during the pandemic (GPE, 2020b, 2020f, 2020j, 2020r). Local governments were also seen to be instrumental during the *Response* phase by implementing emergency mea-sures, including managing school closures and re-openings, providing personal protec-tive equipment, and undertaking regular disinfection exercises.

The decisions and actions taken by *Intergovernmental organisations and NGOs*, however, was more often focused on providing high-level support for emergency *Preparedness*, *Response*, and *Recovery*. Intergovernmental organisations like the Southeast Asian

Ministers of Education Organization (SEAMEO), the Pacific Islands Forum, and Pacific Community aimed to coordinate regional efforts to combat the pandemic. For example, following a meeting of the 11 education ministers in June 2020 to discuss continuity-of-learning, SEAMEO released a joint statement on regional agreements and actions. These included enhancing teachers' capacities to use technology and alternative modalities, and enhancing responses to education disruptions and enable continuity of learning. This meeting also resulted in SEAMEO developing a webinar series to disseminate information for policymakers, SEAMEO centres, and other development bodies, and have addressed topics like emotional and psychosocial health, quality learning and assessment, and developing flexible and technology mediated learning programmes during the pandemic (SEAMEO, 2020). Additionally, NGOs (including philanthropic foundations) and the private sector have supported partner countries with education planning, financing and implementation. For example, the GPE raises funds from the private sector, philanthropic foundations and governments to support countries develop education sector plans and COVID-10 response plans (Andersen and GPE, 2018 , 2020r). In the past, the ability of NGOs to successfully partner and support governments may be due, in part, to their decision-making flexibility, technical expertise, focus on humanitarian goals, and working with local actors (Burde, Lahmann, & Thompson, 2019; Education Cannot Wait, 2019).

Ideally, developing strong *Schools and school leaders* requires the provision of plans, pro forma documentation, guidance notes, and access to expert advisors prior to an emergency so that support can be provided to teachers, parents and children once an emergency occurs. During the pandemic, it was clear that many school leaders required further supports to address the psychosocial wellbeing of children and the broader school community traumatised by COVID-19 outbreaks; especially if social services were underdeveloped or if school leaders were best placed to meet these needs (GPE, 2020c, 2020g, 2020o). Likewise, similar supports will be needed when reopening schools so that school leaders can engage with vulnerable children and students (e.g. pregnant girls, victims of violence, children with disability) and provide additional learning opportunities. The latter might include remedial, learning diagnostic, and accelerated learning programmes, scholarships, and erecting temporary structures to increase school capacity and enhance social-distancing measures (e.g. Democratic Republic of Congo and the United Kingdom) (Cullinane & Montacute, 2020; GPE, 2020b).

Teachers play a crucial role when *Responding* to and *Recovering* from pandemics. For example, during COVID-19, policymakers repeatedly emphasised improving teacher competencies towards early warning and surveillance systems to ensure the safety and wellbeing of individuals at school (Federal Democratic Republic of Ethiopia, 2020a; Ministry of Education, Liberia, 2020). Teachers may require further training to accommodate differentiated teaching practices once schools reopen. For example, education systems characterised by minimal demands (i.e. a lower need for teacher training, technology, or community participation) may require fewer resources to support teacher training and school tracking, while those characterised by higher demands may require teachers to be trained in blended learning, e-Learning, and tablet-based learning for foundational literacy and numeracy, or interactive radio instruction (Beatty, Pradhan, Suryadarma, Ayu Tresnatri, & Fariz Dharmawan, 2020). High demand systems might also require teachers to disseminate and communicate information across platforms to support and engage children and parents (Brocque et al., 2017), and upskill on online pedagogies and content preparation (Hall et al., 2020; OECD, 2020a; Trust &

Whalen, 2020). Teacher training during the pandemic often involved online self-directed learning and opportunities to interact with professional learning communities. The latter might involve sharing information, problem-solving, discussions, and self-reflections on learning and instructional practices with other teachers (Save the Children, 2020). Finally, in several countries recovering from the pandemic was expected to involve teachers in a range of additional tasks. These included counselling children, communicating with parents from linguistic minority groups, teaching across multi-level classes, developing accelerated lesson plans, adapting curricula, and reaching out to disengaged children (Federal Democratic Republic of Ethiopia, 2020b; Ministry of Education, Afghanistan, 2020; Ministry of Education, Ghana, 2020).

Communities have long played an important role in children's education by implementing government initiatives or leading their own. During the pandemic, certain communities enacted initiatives that complemented formal education or enhance safety. For example, in Ethiopia, this involved preparing and distributing learning packets in markets, while in Liberia, key community members were trained to deliver health and safety protocols (Federal Democratic Republic of Ethiopia, 2020b; Ministry of Education, Liberia, 2020). *Families* can increase education systems resilience if they are engaged as part of the broader school community (Codreanu, 2019; Reimers & Schleicher, 2020). This may involve teaching parents how to reaffirm the importance of schooling to their child and advising them about parental support and learner initiatives (Cullinane & Montacute, 2020). Parents should also be consulted on initiatives that aim to address children at risk of educational disengagement; e.g. girls and children with disability (Beatty, Pradhan, Suryadarma, Ayu Tresnatri, & Fariz Dharmawan, 2020; Pietro et al., 2020). For parents from poorer backgrounds, additional supports might be required in the form of lowering education costs (i.e. lowering school fees and costs for uniforms and books); the provision of cash transfers, vouchers, and food programmes; and enhancing parents' ability to support the psychological wellbeing of their children (Burde, Guven, Kelcey, Lahmann, & Al-Abbadi, 2015). During COVID-19, family initiatives typically emphasised the basic health and wellbeing of individuals; e.g. the provision of personal protective equipment, and hygiene kits to girls, and promoting safety guidelines. Other initiatives included providing resources like stationery and books, guides for families to develop structured and emotionally warm learning environments, and guides for incorporating learning activities into children's daily chores.

The health and wellbeing of *Children* were primary concerns for policymakers during the pandemic. Failure to address these concerns have the potential to undermine the policy goals of an education system during emergencies, worsen their health and wellbeing, and diminish their sense of agency. Engaging children to become resilient during the pandemic will involve tailoring initiatives that address context specific needs, such as culture, girls' education, children with disability, and the linguistic needs of minority groups. Additionally, building resiliency in children might involve adapting education programmes so that they embed relevant issues and the consequences of the pandemic into the school curriculum. Referred to as "emergency education", the implementation of these formal and informal programmes by policymakers, school leaders and teachers, have the potential to reduce child anxiety and fear, while also enhancing their situation preparedness (Boon & Pagliano, 2014; INEE, 2010a; Ministry of Education, Maldives, 2020; National Department of Education, PNG, 2020; OECD, 2020a).

The Pandemic revealed the different roles that agents tend to play regarding emergencies in education; importantly, it was shown that the role of agents differs over the course of the preparedness, response and recovery cycle.

Discussion

The findings that emerged from this study provided the basis for conceptualising and developing a high-level Policy Monitoring Framework and a more granular Policy Monitoring Tool.

As a high-level conceptualisation of EiE factors and emergency management phases, the Framework functions similar to how Rocco and Plakhotnik (2009) describe the characteristics of conceptual frameworks generally, in that concepts are related to each other to systematise knowledge. Whilst this Framework shares components with those frameworks described earlier, it is distinctive in that it provides systems level policymakers with a means to organise a multitude of policy factors coherently across three emergency management phases to guide policy development.

The outer layer of the Framework refers to the emergency management phases that policy development is focused on: *Preparedness*, *Response*, and *Recovery*. These three phases provide the foundation for the Policy Monitoring Framework to be used to manage policy development by operationalising plans and activities, and identifying measures to inform decision making and monitor outcomes. It should be noted that the Framework represents an ideal form, where preparedness, response and recovery activities are separated out, but are likely to overlap in practice, with backsliding between phases and the skipping of phases occurring. Cutting across these three phases are three types of factors for policymakers to consider managing education systems and school-level planning: *Systems*, *Teaching and Learning*, and *Agents*. Similar to the phases, there is interaction between different factors. For example, teachers are *agents*, who obviously engage in *teaching and learning*, and operate in *systems*. Distinguishing the factors is not to deny their inter-dependence. Rather, the relationships the factors have with each other and the effect they have on the policymaking cannot be quantified, as education occurs within a complex system, where those relationships and effects are context specific and will differ between education system. Our framework is flexible so that it can be applied to broad range of education systems. These phases and factors are integrated into the Policy Monitoring Framework depicted previously in Figure 1.

Drawing from the Policy Monitoring Framework, a Policy Monitoring Tool[6] was developed. The Tool systematically presents factors and policy considerations that have been mapped to all three emergency management phases. *Policy considerations* were derived from the identification and analysis of specific policy factors. Specifically, the policy factors, as described above, are transformed into policy activities. For example the factors of: "coordination and collaboration" becomes "instituting coordination and collaboration"; "assessment and learning" becomes "embedding assessment into emergency contexts"; and "communities" becomes "engaging communities". *Policy considerations* are high level activities that policymakers need to consider when building resilient education systems.[7] These *Policy considerations* do not encompass all relevant matters related to building a resilient education system. They instead represent the most salient factors arising from this study, due to their representation in literature.

Table 3. Policy factors and policy considerations for education in emergencies.

Policy factors		Policy considerations
1. Systems	1.1.	Planning for emergencies in education.
	1.2.	Instituting strong coordination and collaboration.
	1.3.	Communicating between and with education stakeholders.
	1.4.	Constructing robust ICT infrastructure.
	1.5.	Building sound school facilities.
	1.6.	Bolstering monitoring systems.
2. Teaching and Learning	2.1.	Embedding assessment into the education system.
	2.2.	Implementing digital teaching and learning.
	2.3.	Applying multiple teaching modalities.
3. Agent	3.1.	Clarifying responsibilities amongst government agents.
	3.2.	Engaging the community.
	3.3.	Strengthening schools and supporting school leaders.
	3.4.	Developing teacher capacity.
	3.5.	Helping parents and resourcing the home learning environment.
	3.6.	Fostering children's resilience.

Policymakers can adapt the findings of this report for their purposes, context, and unique situation. Table 3 provides a summary of *Policy considerations*, organised according to each policy factor.

The Tool[8] assists policymakers with prioritising their activities to build a resilient education system, by identifying the factors and considerations relevant to each phase of emergency management. Policymakers use the Tool by examining to what extent each policy consideration is accounted for in their education system during each phase, and allocating each consideration a rating of "Low" to "Very high", or "Not Applicable". Policymakers can adapt the Framework and *Policy considerations* for their purposes and context to develop their own planning and monitoring tools (see Table A1).

Conclusion

This study provides a Policy Monitoring Framework, with broad considerations identified for policy development and to support policy monitoring. It also outlines a Policy Monitoring Tool to support policymakers to identify, prioritise and monitor activities for building resilient education systems, and advance learning during the current and future pandemics. This is achieved by identifying relevant policy-related factors and considerations that impact education system resilience.

By appropriately considering the key factors – *Systems*, *Teaching and Learning*, and *Agents* – during the *Preparedness* phase, education policymakers can enact effective *Response* and *Recovery* measures during pandemics. Whilst governments have most responsibility, whereby the responsibilities of different parts of government need clarifying, all *Agents* have influence, including school leaders, teachers, parents and children.

Teaching and learning are also central to education. A resilient education system uses digital technologies and deploys multiple modalities, including TV, radio and print. Regardless of the modality employed, classroom and school assessments support educational reforms by enabling the monitoring of learning progress.

Finally, it is likely that *Systems* which need attention will require collaboration, communication, ICT infrastructure, school buildings, and monitoring. In these areas, various reforms were identified in this study, exemplifying what might be achieved.

Notes

1. Standard 1 maintains seven Key actions and eight Guidance notes, while Standard 2 identifies five Key actions and five Guidance notes.
2. Resilient education systems are those that can continue to support all children's learning even when confronted with disruptions, shocks and emergencies, such as pandemics (INEE 2018).
3. Equitable education is where all children are supported to progress in their learning, regardless of background factors such as regardless of disadvantage (for example, such as gender, socioeconomic status, linguistic, or disability factors) (UNESCO, 2007).
4. To ensure coherence and coverage across all three factors outlined in this report and the INEE domain standards, the definitions applied to the domain standards have elsewhere been mapped onto the definitions applied to Systems, Teaching and Learning, and Agents factors (Tarricone, Mestan, & Teo,2021).
5. A telephone tree is a group notification system. A network of people is organised so that information can be quickly shared with each other and the group.
6. This tool can be seen in Appendix A of (Tarricone, Mestan, & Teo, 2021).
7. Greater detail of each policy considerations can be found in (Tarricone, Mestan, & Teo, 2021).
8. This tool can be seen in Appendix A of (Tarricone, Mestan, & Teo, 2021).

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Appendix

Table A1. Policy Monitoring Tool template.

Low	Medium	High	Very high	NA

Policy factors	Policy considerations	Policy issues	Phase of emergency management		
			Preparedness	Response	Recovery
(1) Systems	1.1 Planning for education in emergencies	1.1.1 At an education system level, risks are mapped to identify which institutions and processes are vulnerable to various external shocks.			
		1.1.2 Emergency planning procedures are documented, communicated to relevant agents and implemented at an education systems and school level.			
		1.1.3 Education authorities produce macro planning documents and guides to support schools to develop individualised subsidiary plans.			
		1.1.4 Emergency Response and Recovery plans detail the resources, actions, tasks, and data required in the Response and Recovery phases of an emergency.			
		1.1.5 Institutional continuity plans specify adjustments and accommodations necessary to sustain core education system and school functions. These include alternative teaching procedures and supports for vulnerable children.			
	1.2 Instituting strong coordination and collaboration	1.2.1 Governments demonstrate leadership, and collaborate vertically and horizontally with all relevant agents to plan and implement key policies and practices.			
		1.2.2 Relevant agents have the appropriate responsibilities for their capacity, know and understand their responsibilities, and divide tasks to minimise overlap to maximise coverage.			

(Continued)

Table A1. (Continued).

Policy factors	Policy considerations	Policy issues	Phase of emergency management		
			Preparedness	Response	Recovery
		1.2.3 Intergovernmental organisations and non-government organisations (NGOs) closely cooperate with host countries and each other to identify how their services can benefit host countries, and integrate with other processes, including with other intergovernmental organisations and NGOs. Intergovernmental organisations generally provide high level support, such as financing and developing education sector plans. NGOs are likely to offer services and programmes that the government is unable or unwilling to provide, such as helping parents support their children's education.			
	1.3 Communicating between and with education stakeholders	1.3.1 Leading agents (e.g. government agencies), communicate policies and practices with education agents (e.g. education systems, schools), thereby reinforcing effective coordination.			
		1.3.2 Communication is timely, accessible, targeted to the audience and specifies pertinent details. Multiple communication channels are enabled, allowing for dialogue. Through these communication channels, education systems, schools, students, parents, and the community are well informed about an emergency and its implications (e.g. schools will be closed), and the responses (e.g. distance learning provisions).			
	1.4 Constructing robust ICT infrastructure	1.4.1 Access to digital technology is broadened. Vulnerable points of ICT infrastructure are minimised, and are reinforced with multiple lines of connection, making use of cables, satellites, radio waves, and television waves.			
	1.5 Building sound school facilities	1.5.1 School buildings are built to withstand the risks associated with the location (e.g. schools located in seismic zones are earthquake-resistant). Even when scarce resources limit the structural integrity, protocols are instituted to reduce danger, such as evacuation procedures, and in the case of communicable disease, WASH standards.			
	1.6 Bolstering monitoring systems	16.1 Data management systems collect, store, and manage data about schools, staff, and students.			

(Continued)

Table A1. (Continued).

Policy factors	Policy considerations	Policy issues	Phase of emergency management		
			Preparedness	Response	Recovery
		1.6.2 Data collected include inputs, such as the level of student engagement with different elements of the education system; qualitative data about how students and teachers use learning platforms; and outputs, such as learning outcomes. Demographic data are also collected, enabling policies to be tailored for disadvantaged populations.			
		1.6.3 Large-scale assessments are implemented and/or maintained so that student learning progress and outcomes can be measured and monitored, informing the targeting of special learning support to relatively low-performing schools and regions.			
2. Teaching and Learning	2.1 Embedding assessment into emergency contexts	2.1.1 Classroom and school assessment of student learning progress is conducted during and shortly after an emergency. The assessment data are used to track student learning progress in academic domains to establish baselines, learning loss, and learning recovery, and to inform teaching and address learning needs with respect to priority subjects (e.g. literacy and numeracy). In addition to academic domains, mental health and wellbeing is assessed, so that psychosocial support can be provided to those in need.			
		2.1.2 Classroom and school assessments that were used prior to an emergency are adjusted for the Recovery phase of an emergency.			
		2.1.3 Classroom and school assessment programmes, including digital assessment, are designed to complement and inform teaching and learning practices. Digital assessment can be used to provide targeted feedback on student progress.			
		2.1.4 Research is conducted to identify and develop appropriate assessments.			
	2.2 Implementing digital teaching and learning	2.2.1 Digital technology devices are provided to students in need.			

(Continued)

Table A1. (Continued).

Policy factors	Policy considerations	Policy issues	Phase of emergency management		
			Preparedness	Response	Recovery
		2.2.2 Existing platforms already used by students, such as popular social media, are adapted for educational purposes, when specialist digital platforms are not established.			
		2.2.3 Mobile learning is used to reach greater numbers of students, adapting curriculum and pedagogy as needed.			
		2.2.4 Learning materials accommodate the context of learning in emergencies.			
		2.2.5 Digital literacy is advanced by providing training and technical support to students and teachers to use digital tools.			
		2.2.6 Students engaging in digital platforms receive personalised supervision and feedback.			
	2.3 Applying multiple teaching modalities	2.3.1 Digital technology is integrated into current pedagogical practices, making an emergency transition to distance learning practical and smoother.			
		2.3.2 Low-cost and low-technology approaches, such as mailing printed materials, television, and radio, are employed, when appropriate, based on cultural, economic, regional, and technological factors.			
		2.3.1 Digital teaching and learning modalities are blended with other modalities, which may involve downloading material from the internet, and using the internet to communicate instructions, submit assignments, and receive feedback relating to offline activities.			
		2.3.4 The design of all teaching modalities accommodates children with diverse needs, such as children with disability.			
3. Agents	3.1 Clarifying responsibilities among government agents	3.1.1 Governments prepare for emergencies by establishing procedures for distributing responsibilities among the relevant levels of government, agencies, and institutions. Preparation ensures that all necessary activities are accounted for and resources are well managed.			

(Continued)

Table A1. (Continued).

Policy factors		Policy issues	Phase of emergency management		
			Preparedness	Response	Recovery
3.2 Engaging the community	3.2.1	Communities are empowered to take part in decision-making processes and contribute to Response and Recovery efforts, such as home schooling, and out-of-school educational activities.			
	3.2.2	Authorities listen to and act on community feedback to monitor Response and Recovery initiatives.			
3.3 Strengthening schools and supporting school leaders	3.3.1	Schools are well managed; school leaders are given appropriate emergency-related information, training, and resources. Government administration provides documentation, guidance notes, advice, and feedback to support school leaders in developing emergency plans.			
	3.3.2	Schools offer psychosocial support to children, and when necessary, social services to the broader community.			
	3.3.3	Schools offer initiatives to recover "lost learning", such as remedial and accelerated learning programmes, especially targeted at disadvantaged children who may have fallen further behind in their schooling.			
3.4 Developing teacher capacity	3.4.1	Teachers are familiar with emergency management, and trained in the required protocols to assist students to safety when an emergency strikes.			
	3.4.2	Teachers are provided with professional learning opportunities related to distance learning, including using digital technology.			
	3.4.3	Teachers are provided with training and resources to enable them to provide psychosocial support to students, as well as coping with their own hardship. This can take various forms, including self-directed learning modules and communities of practice accessed via digital technology.			
3.5 Helping parents and resourcing the home learning environment	3.5.1	The education system and schools guide parents/guardians to support their child's education by reinforcing the value of education, advising how to provide a structured learning environment, and providing regular information about learning progress.			

(Continued)

Table A1. (Continued).

Policy factors	Policy considerations	Policy issues	Phase of emergency management		
			Preparedness	Response	Recovery
		3.5.2 Households are provided with resources to support their child's education. This includes learning resources, such as the internet, devices, stationery, and textbooks, and fundamental resources such as food, energy, and safety equipment.			
3.6 Fostering children's resilience		3.6.1 Children are treated as agents, who are informed about how they can protect themselves, reduce the risks to others, and seek help, including counselling.			
		3.6.2 Emergency education is included in the curriculum and focuses on risk reduction. Emergency education is tailored to the students' environment and develops their skills in responding to emergencies.			
		3.6.3 Social and emotional learning is integrated into the curriculum, enhancing abilities such as emotional awareness and regulation.			
		3.6.4 Children with disability receive the necessary support to ensure their resilience is equally fostered.			