

COVID-19: Trends, Promising Practices and Gaps in Remote Learning for Pre-Primary Education

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SUMMARY

This paper examines the remote learning options that countries around the world have made available for pre-primary students and their families while schools are closed during the COVID-19 pandemic. It highlights trends, gaps and emerging good practices that are supported by existing evidence.

KEY RECOMMENDATIONS AND RELATED FINDINGS

- 1. Ensure that pre-primary learners are meaningfully included in COVID-19 remote learning responses.** The early years are a critical window for children's development, but while almost all countries introduced remote learning supports during COVID-19 school closures, only 60 per cent did so for pre-primary education.
- 2. Combine multiple remote modalities to increase reach and impact.** While the work to expand access to education technologies continues, in the immediate term, the selection of modality – or mix of modalities – should be based on the technologies available and commonly used by the intended population. As access to different technologies varies widely, most countries are using more than one method to offer remote learning to pre-primary children. While broadcast and online modalities can reach more children more cost effectively, paper-based supplements can be used to reach those without access to technology.
- 3. Leverage and contextualize existing evidence-based remote early learning resources.** Some existing resources and approaches across different delivery modalities (online learning, television programming, radio instruction, paper and mobile-phone-based supports) are associated with improving children's learning and development outcomes. Some countries were able to respond quickly by using these resources as a starting point for their pre-primary, remote-learning answer to COVID-19.
- 4. Ensure that pre-primary remote learning is pedagogically sound.** Pre-primary remote-learning solutions that work are those which are designed based on pedagogical considerations, comparable to face-to-face learning. This includes clear learning goals, logical sequencing and coverage of all key development domains. Content should also be engaging for young learners and caregivers, relate to their daily life and maximise opportunities for interactivity. These principles can be applied in all remote learning modalities, even when using one-way mediums.
- 5. Engage and support parents and caregivers of pre-primary children at home.** The role of parents and caregivers in supporting learning at home is particularly important for the youngest learners. The promising practices highlighted here recognise caregivers' crucial role, that they are not trained teachers and that some have low levels of literacy. Solutions that include support and guidance for caregivers (for example, to reflect on children's learning, and including opportunities to provide feedback or seek further support) are most likely to be effective.
- 6. Support pre-primary teachers and educators in their new role.** In the practices showcased here, teachers and educators use phones or other mediums to provide outreach and individual support, particularly to vulnerable children. However, most countries have not provided training and instructions for pre-primary teachers on implementing remote learning, despite their important new role.
- 7. Monitor how remote learning offerings are being used by children and their caregivers.** While the evidence base is growing, much is still unknown about the best ways to remotely encourage and sustain learning engagement with young children and their caregivers. There are examples of providers monitoring access to and use of their offerings, including using data and feedback to improve them, but these instances are still too rare to be used as a guide as to whether learning objectives were achieved.

1. CONTEXT

The first years of a child's life are critical to building the foundations of learning that help them succeed in school and beyond (UNICEF, 2017). Investment in early childhood education results in positive returns not only for individual children, but also for building more efficient and effective education systems (UNICEF, 2019). Recent analysis, for example, estimated that every US dollar spent on pre-primary education results in US\$9 of benefits to society (Muroga et al, 2020).

The global learning crisis has its roots in children's earliest years. Failure to invest in quality pre-primary education¹ results in children starting school already behind in a range of vital skills they need to succeed in primary school and beyond (UNICEF, 2019). As well as being an explicit target in the Sustainable Development Goals, investment in the early years is also crucial to achieving the goals relating to poverty, inequality, social inclusion, health and well-being (Woodhead, 2016). Research has shown that quality pre-primary programmes can reduce inequality by closing the achievement gaps caused by poverty and helping the most vulnerable children keep up with their more advantaged peers (UNICEF, 2019; Waldfogel, 2019).

Despite the proven benefits of early learning, more than 175 million children – nearly half of all pre-primary-age children globally – are not enrolled in pre-primary education. In low-income countries, 8 out of 10 children are missing out on early childhood education (ECE) opportunities, and less than 2 per cent of the overall education budget is allocated to the pre-primary subsector (*ibid*).

The COVID-19 pandemic has exacerbated the learning crisis and brought drastic changes for children and their families as they grapple with the new realities of physical distancing and home confinement. It threatens to halt and even reverse the slow gains that have been made in early learning over the past few years. The lack of early-learning opportunities during COVID-19 has affected the most vulnerable families and most marginalized children the hardest, even though they stand to benefit the most.

At the height of national closures in early April 2020, more than 180 million children had their pre-primary schooling disrupted due to COVID-19 (UNESCO 2020a; UNESCO Institute of Statistics, 2020). A six-month closure of pre-primary institutions is estimated to result in lost lifetime earnings of around 3 per cent of GDP among high- and middle-income countries (estimates were lower among low-income countries due to lower initial enrolment rates) (Lopez-Boo et al, 2020). The closure of early education facilities and limited interactions with extended families are depriving children of both social and cognitive stimulation beyond their homes (Yoshikawa et al, 2020).

Furthermore, the pandemic has placed parents and caregivers even more directly as first-line responders for children's care and learning as well as the family's well-being. With school closures and social-distancing rules, parents and caregivers are spending more time with younger children at home. They may be experiencing additional stressors while having limited access to their existing support systems (UNICEF, 2020b). The environment for learning and development is therefore less than ideal. These challenges are particularly profound among the most vulnerable families and may cause widening inequalities.

Despite some countries making concrete efforts to reach pre-schoolers and their families, pre-primary education was largely absent from initial education responses to the pandemic. In countries where

¹ This report focuses on early childhood education or pre-primary education programmes intentionally designed to include educational content for children aged three years up to the start of primary education, often around age six. At times, however, some of the examples used also include support for younger children and their caregivers.

remote learning is available, the challenges associated with it – such as inequitable access to digital connectivity and difficulties in replicating the teacher/student interactions from an in-person learning setting – are even more pronounced in pre-primary education. Guidelines on remote learning or use of remote technologies for pre-primary children often included suggested time limitations that were shorter than the typical in-person, pre-primary class times (Reich et al, 2020; Ministry of Human Resource Development, 2020; American Academy of Paediatrics, 2016). While these were often based on concerns around the risks of sedentary time, experts have also noted that the quality of activities on devices is more relevant than the amount of time spent.

As of October 2020, more than half a billion learners were still affected by country-wide school closures (UNESCO, 2020a; World Bank, 2020a). In many countries, school closures are expected to continue, at least intermittently or locally. Furthermore, more than half of countries globally were combining distance and in-person teaching and learning as they reopened schools (UNESCO, UNICEF and the World Bank, 2020). There is, therefore, an urgent need to ensure that the youngest learners are not neglected and receive the stimulation they need to set the foundation for learning in their future. In addition to this, the availability of remote-learning resources and platforms for pre-primary children will also better prepare countries for future crises.

High-quality, alternate modes of early-learning support can complement the continued efforts to expand pre-primary education. Some of the practices highlighted in this report have been able to engage not only families whose children were already enrolled in pre-primary education but also those who were not. These efforts can create new opportunities for families to observe the impact of high-quality learning stimulations on their children. As countries recover from the pandemic, this should be leveraged to introduce more families to the potential of pre-primary education. An early start sets the foundation for an engagement that can continue throughout their children's schooling.

To build on this work, however, governments need to make pre-primary education a priority, and financing for the pre-primary education sub-sector should be protected or, in many cases, increased. Otherwise, the steady gains made by past investments to increase enrolment in quality pre-primary programming are at risk of being halted or even reversed. Due to the current crisis, one in five countries has reported cuts to the education-sector budget and more than half of countries reported that additional funds to cover COVID-19-related costs were funded through education-budget reallocations (UNESCO, UNICEF and the World Bank, 2020). Many countries have de-prioritised responses to pre-primary level over other education levels. The risk to pre-primary education budgets, therefore, is very real.

UNICEF (2017b) has previously supported the recommendation for countries to allocate 10 per cent of all national education budgets to pre-primary education. Recent estimates also found that the median marginal cost to increase pre-primary enrolment by 10 percentage points in low- and middle-income countries is on average less than 1 per cent of public-education spending (Muroga et al, 2020).

This report summarizes the remote-learning modalities available to pre-primary children from a joint UNESCO/UNICEF/World Bank survey of 122 ministries of education on their responses to COVID-19. It also highlights promising practices through 10 case studies that align with the research on how young children learn. These case studies were identified through information provided by ministry officials in the joint survey as well as additional examples through the authors' networks. Descriptions of these case studies were obtained from publicly available documents and resources, as well as through interviews with programme stakeholders.

2. OVERVIEW: TRENDS IN PRE-PRIMARY REMOTE LEARNING DURING COVID-19 CLOSURES

As part of national government responses to the COVID-19 pandemic, children in pre-primary schools were at least as likely to face school closures as their older peers. In September 2020, schools in more than 30 countries were closed with no date set for reopening at pre-primary level.²

Pre-primary students, however, were less likely to have options for learning remotely while their schools were closed. Only 60 per cent of countries had implemented digital and broadcast learning policies for pre-primary schools, while almost all countries (more than 95 per cent) had these options available for primary and secondary levels (UNICEF, 2020a). Furthermore, the combination of limited policy offering and limited access to devices meant almost 70 per cent of pre-primary students did not have access to digital or broadcast learning opportunities (*ibid*).

Globally, 73 countries reported that some form of distance-education system was deployed as part of the national or sub-national education-response strategy for pre-primary students across the following four modalities:

- Online-learning platform
- Television
- Radio
- Paper-based, take-home materials.

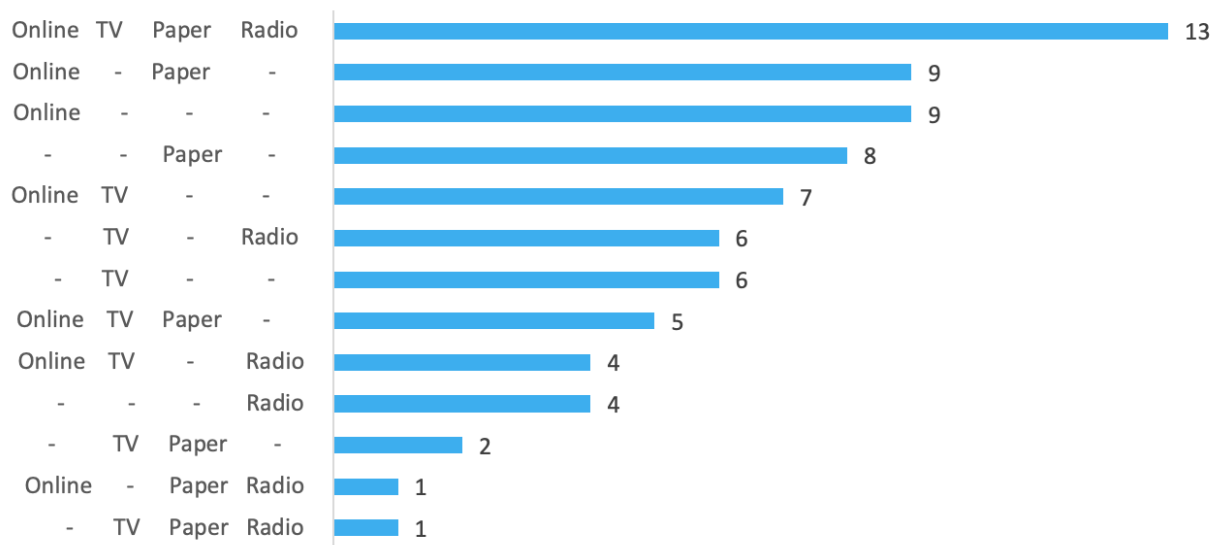
The survey did not ask specifically about the provision of telephone-based learning supports at the pre-primary level. But, based on free text response by countries, this report also considers it as a key remote-learning provision:

- Mobile phone (social messaging applications, calls and SMS)

Most countries offered remote learning to pre-primary learners through a combination of modalities (*see Figure 1*). Online learning was the modality most frequently used. It was often supplemented with paper-based materials. This was followed by television, which was usually combined with either online or radio offerings. Radio was the least frequently used standalone offering. Meanwhile, in 13 countries, all four modalities asked in the survey were made available to at least a proportion of children: online learning; paper-based, take-home materials; television; and radio.

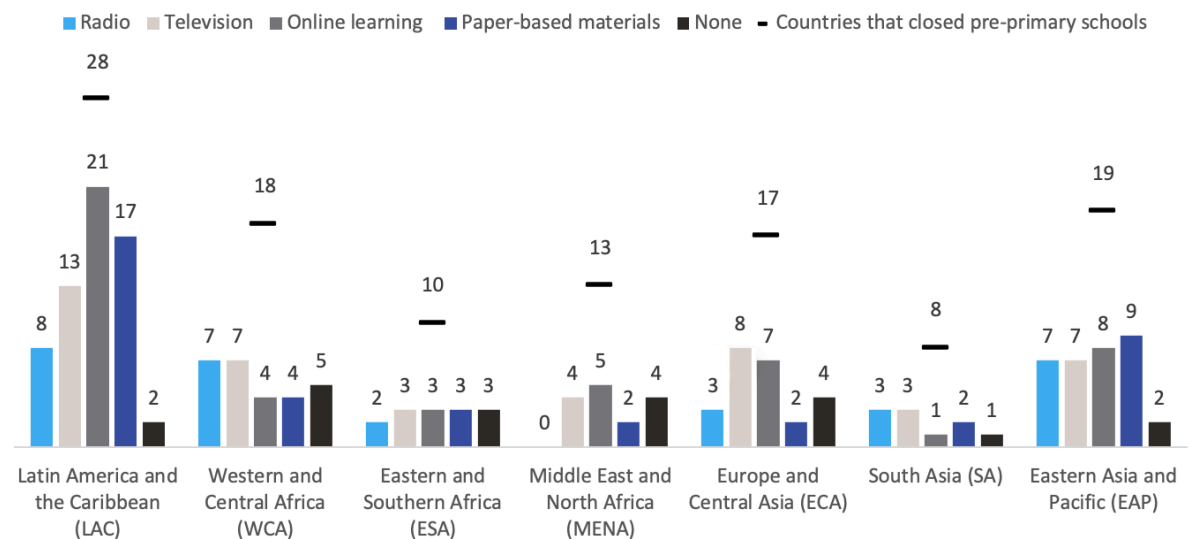
The use of different remote-learning modalities at the pre-primary level varied by region (*see Figure 2*). In Latin America and the Caribbean, for example, most countries had online learning platforms available for pre-primary students. The use of this modality, however, was much more limited in other regions, particularly in Africa and in South Asia. Only radio was more frequently used elsewhere, being more prominent in South Asia and in East Asia and the Pacific. Overall, however, most countries outside of Latin America and the Caribbean had no remote-learning modality available for pre-primary students.

² This figure combines information from the UNESCO global monitoring of school closures to identify countries where schools are closed, and ministry-of-education reports on the dates set for pre-primary school reopening across two waves of the joint UNESCO-UNICEF-World Bank survey of national education responses to COVID-19 closures. For the remainder of the report, data from the first wave of the joint survey were used, due to the availability of information by school level, including pre-primary.

Figure 1: Countries' use of remote-learning modalities at the pre-primary level, by combination


Source: Joint UNESCO/UNICEF/World Bank Survey on National Education Responses to COVID-19 (June 2020)

Note: Out of the 122 respondent countries, 73 responded offering at least one pre-primary remote learning modalities and were included in this figure. Another 33 countries noted that they did not have any remote learning modality at the pre-primary level, 4 countries provided no/missing information and 10 reported that schools were not closed.

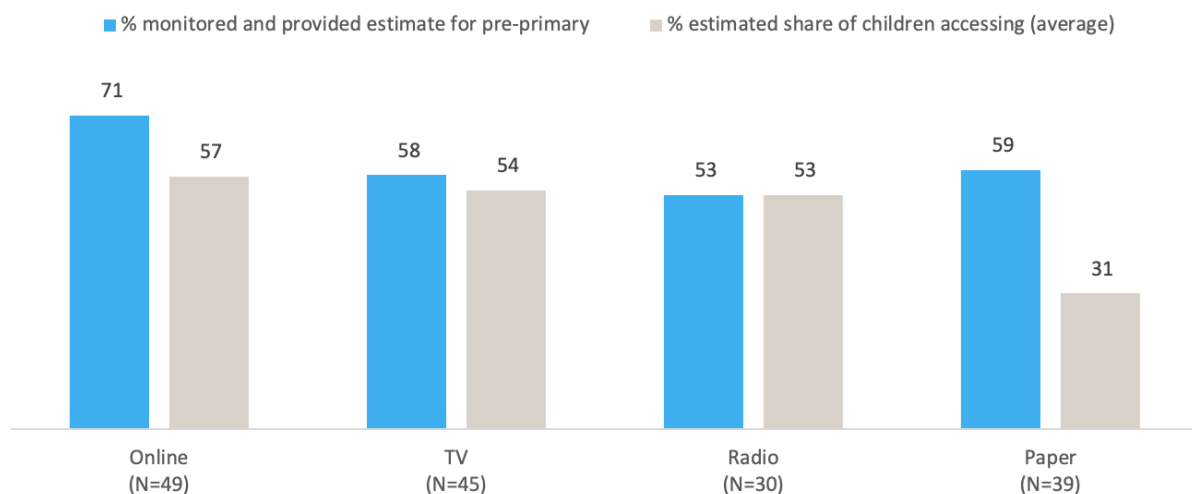
Figure 2: Countries' use of remote-learning modalities for pre-primary schools, by region


Source: Joint UNESCO/UNICEF/World Bank Survey on National Education Responses to COVID-19 (June 2020)

Note: For each modality, the total number of countries using it are depicted. Many countries use more than one modality. Countries reporting that schools were not closed were excluded. Overall, among respondent countries, there were 31 from LAC, 17 from WCA, 11 from ESA, 12 from MENA, 17 from ECA, 9 from SA and 25 from EAP.

Most countries said they were monitoring whether remote learning was being used, but the rates varied by modality (see Figure 3). More than 70 per cent of countries offering online learning to pre-primary children were able to provide an estimate of the share of children actually accessing the platform, a higher proportion than for other modalities. Among countries that provided estimates from their monitoring, the average share of children accessing paper-based, take-home materials (31 per cent) was notably lower than for other modalities. The promising practices in this paper illustrate how monitoring can start to go beyond looking at access alone and focus on how children use remote learning.

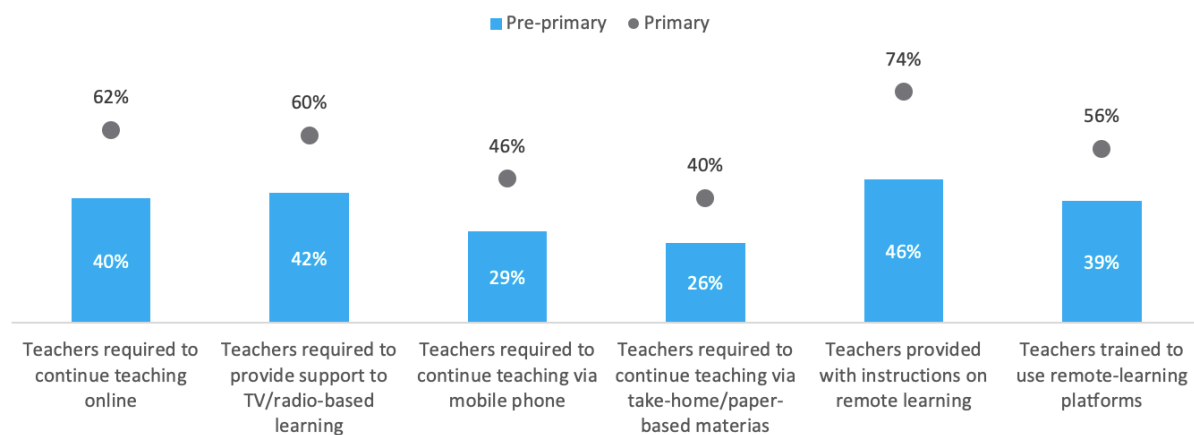
Figure 3: Countries' monitoring of the use of remote learning and estimated share of children accessing



Source: Joint UNESCO/UNICEF/World Bank Survey on National Education Responses to COVID-19 (June 2020)

Note: The number of observations (N) refer to the number of countries reporting that they had closed schools and were offering the particular remote learning modality for pre-primary children. The estimated shares of children accessing were not independently verified nor were countries asked to report how they arrived at their estimates. Also, the estimates include only countries who reported monitoring and who provided an estimate. This constitutes a selection bias that leads to global estimates of shares of children accessing the different modalities that may be over-estimated. Section 3 of this report uses estimates calculated for UNICEF (2020a), which combined joint survey data with household-level survey data and arrived at (lower and more realistic) estimates of reach.

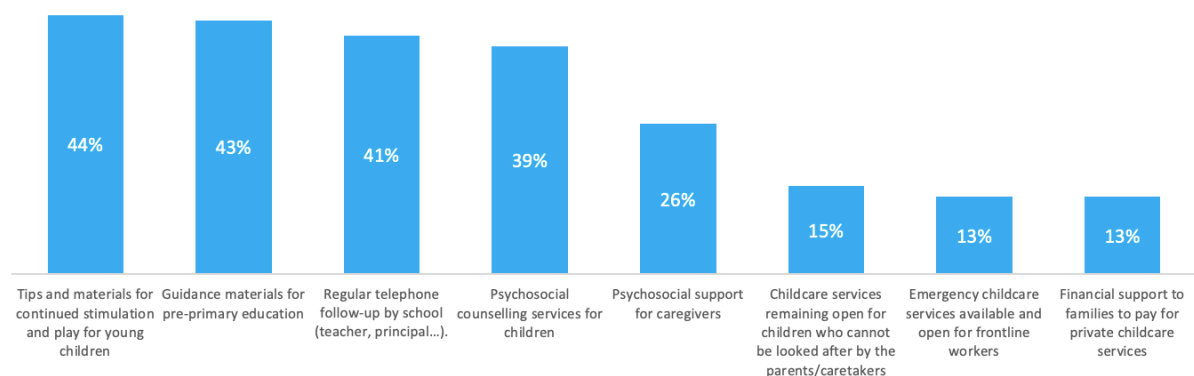
According to the survey, most reporting countries were not requiring pre-primary teachers to continue teaching remotely, either online or by providing supports to TV/radio-based learning, by mobile phone or delivery of paper-based materials to households (see Figure 4). In comparison, most countries required primary teachers to continue teaching by one of those means. Furthermore, most reporting countries did not provide pre-primary teachers with instructions on remote learning, or training on the use of remote-learning platforms. This contrasted with most countries providing such support to primary teachers.

Figure 4: Countries' supports for pre-primary teachers, compared with primary teachers

Source: Joint UNESCO/UNICEF/World Bank Survey on National Education Responses to COVID-19 (June 2020)

Note: The total number of countries varied for each data point and ranged from 105 to 108. The 18 countries that reported school were not closed and those that did not offer the relevant modality at a particular level were excluded from the calculations.

Some countries introduced additional supports for caregivers during school closures, recognising their role in children's learning and development. For some countries, this took the form of guidance materials for pre-primary education or for continued stimulation and play for young children, or regular telephone follow-up by school staff (*see Figure 5*). Some parents and caregivers also play a frontline role outside of the home and face the added challenge of balancing the care of their children and their work responsibilities. However, only a minority of countries were providing psychosocial support for caregivers or support in the form of ensuring continued access to childcare services.

Figure 5: Countries' support for families and caregivers during COVID-19

Source: Joint UNESCO/UNICEF/World Bank Survey on National Education Responses to COVID-19 (June 2020).

Note: The total number of observations for pre-primary was 113 countries, excluding countries that reported schools were not closed.

Amid the global challenges in responding to the COVID-19 crisis, however, some countries were able to implement promising practices to support pre-primary learners. The rest of this report will explore these practices in more detail.

3. MODALITIES OF PRE-PRIMARY REMOTE-LEARNING SUPPORTS: EVIDENCE BASE AND PROMISING PRACTICES IN THE ERA OF COVID-19

Each of the four key remote-learning modalities – online platforms, broadcast media, print materials and mobile phones – will be discussed further here. The discussion focuses on key trends in their use during COVID-19 school closures, the existing evidence base for their likely impact and any issues in access or use. More details on the case studies of promising practices are presented in the Annex.

A. Online learning

Key takeaways from promising practices in pre-primary online learning

- Around one third of national online platforms for pre-primary students are learning management systems or platforms to facilitate delivery of virtual/live online classes.
- Most ministry platforms, however, serve as a repository of resources to be accessed by caregivers.
- Good examples of open online learning go beyond a simple repository to incorporate structure, scaffolding and opportunities for reflection and feedback.
- Building on existing remote-learning systems has allowed some countries to rapidly offer online learning for pre-primary children.
- Existing research on online preschools stresses the importance of embedding personal contact between teachers/caregivers and children.
- Understanding the different barriers to accessing online learning platforms – devices, data and knowledgeable user – can inform strategies to address them.

Refer to Case study 1: Bahamas Virtual Learning for Preschool, Case study 2: El Salvador Online Learning for Initial and Preschool Education, or Case study 3: Digital Early Childhood Development Platform in Kosovo.

Most education ministries' online learning platforms serve as a repository of resources to be accessed by caregivers

As part of the joint survey, ministries of education (MOEs)³ were asked to provide the website addresses for the three most relevant online platforms used for delivering remote learning during COVID-19 closures. A review of this information revealed a diversity of approaches. About a third of those listed were learning management systems (such as Google Classroom and Moodle) or interactive video-conferencing tools (such as Zoom or WebEx), illustrating platforms educators and services are using as virtual or live online classrooms. Consistent with this, a third of countries reported that their pre-primary online learning platform was offered synchronously, or where the instructor and learners were online at the same time. This is smaller than the proportion of synchronous online offering reported for primary education (46 per cent).

³ The joint UNESCO-UNICEF-World Bank survey were completed by ministry of education officials responsible for education planning at the central or decentralized levels. In some countries, however (including some of those included as case studies in this report), support for the youngest learners is also the responsibility of other ministries, such as those for social development.

Data on the extent that live classes were available or accessible for pre-primary students within countries was not collected. However, even in high-income countries, families with higher incomes were more likely to be receiving online support from their education providers (Pascal et al, 2020, Andrew et al, 2020). Meanwhile, as reported in the joint survey, in addition to being less likely to be required to continue teaching by providing remote supports (*see Figure 3*), pre-primary teachers were also less likely, compared to their primary and secondary education peers, to receive training on remote learning.

Instead, most MOEs presented materials they developed for families and/or educators to access when supporting the learning of young children. The ways that these repositories were presented also varied.⁴ Most countries' MOEs reported that they were using open educational resources in their pre-primary education online-learning offering. Some had developed their own resources, while others combined both in-house and external resources. The content made available in countries' online repositories included videos and printable activities for children.

Videos were usually around 20-25 minutes in length, taking into consideration young children's attention spans. Their content and the audience they address differ. Videos from the Syrian MOE, for example, were of pre-primary teachers leading small groups of children on activities that could be replicated at home. In Cuba, videos were hosted by MOE staff or pre-primary teachers to address parents or caregivers with slide presentations of ideas for at-home learning activities. Meanwhile, in other countries the video hosts addressed children directly.

Good examples of open online learning go beyond a simple repository model to incorporate structure, scaffolding and opportunities for reflection and feedback

The case studies from the Bahamas, El Salvador and Kosovo⁵ had slightly different approaches in their delivery of content. Videos from the MOE of the Bahamas are hosted by preschool teachers directly addressing children (*see Case study 1*). In El Salvador, the MOE materials combine printable guides for parents, with links to in-house-produced activity ideas as well as existing external content accompanied by activity or discussion prompts (*see Case study 2*). The digital platform for families of children aged six years and under in Kosovo contains daily activity ideas using materials found at home for different age groups, following a monthly theme (*see Case study 3*).

These seemingly different programs, however, have several common features. The platforms are structured with a clear schedule, the content is explicit about the learning goals of the activities, and they invite the adult caregivers to reflect and provide feedback. In Kosovo, for example, parents were invited to submit pictures and videos of their children undertaking the activities. Educators in public pre-primary schools were required to submit reports of how they were supporting their students at home to use the resources. In the Bahamas' online platform, each week's page includes a form for caregivers to report on how their children are using the resources. The parent guides in El Salvador include a table of expected learning outcomes and indicators for caregivers to reflect on whether they have been met.

The resources in these case study countries also address a breadth of learning domains, including encouraging physical activity and socio-emotional development. In the Bahamas, MOE videos on its online platform include physical-education sessions that guide children through a series of movement-based activities (*see Case study 1*). The online platform from the Kosovo MOE includes activities that

⁴ Seventeen countries' platforms that were included in the joint survey could be accessed publicly without requiring a login and were found to have content specific to pre-primary education. Several others that had indicated offerings for the early years were found to have content addressing Grade 1 and above only.

⁵ All references to Kosovo should be understood in the context of Security Council resolution 1244 (1999).

invite children to explore their emotions and sense of self through, for example, likes and dislikes (*see Case study 3*). However, fewer than half of the countries offering online learning reported in the joint survey that all subjects and developmental domains were being covered through their pre-primary online offering.

Building on existing remote-learning systems has allowed some countries to rapidly offer online learning for pre-primary children

Several countries have noted that their online-learning response to COVID-19 school closures were built on existing elements in the education system. In the Bahamas, for example, the online learning platform had been used by some children during school closures due to a hurricane the year before (*see Case study 1*). In Uruguay, the online-learning offerings from the ministry built on content and platforms already developed for the country's Plan Ceibal, an ICT in education initiative, which has existed since 2007, including connecting preschools with ICT materials (Reich et al, 2020).

Existing research on online preschools stresses the importance of embedding personal contact between teachers/caregivers and children

In several countries, online learning is an option that existed for some pre-primary children prior to COVID-19. In the US, research on full-time K-12 virtual schools found that much of the offerings relied on asynchronous support, with the role of teachers being focused on curating the curriculum and providing regular feedback, coaching and support, including reaching out to connect with struggling or disengaged students (Reich et al, 2020). The research also highlighted the need to assume that the youngest students would require direct supervision by adult caregivers and would not be able to participate in activities for an equivalent length to a typical, in-person school day. Lessons from establishing virtual kindergartens in Russia stressed the importance of using content based on real-world experiences of young children and personal contact between teachers and children (Ivanova, 2017).

Among countries that reported making online learning available for at least a proportion of their pre-primary children, two-thirds (65 per cent) were also requiring their pre-primary teachers to continue teaching online. While this is a promising start, more countries have required the same of their primary teachers. Individualised contact between educators and children or caregivers around online, pre-primary offerings can take different forms. One model is the use of online platforms for virtual or live lessons, which, as discussed earlier in this section, was being used in a minority of countries. One approach is to encourage offline contact around online content. In Kosovo, for example, educators in public early childhood institutions undertake outreach with children and families over the phone or other means (*see Case study 3*). Monitoring forms provided in the Government's ECD online platform help prompt and structure how educators are to do this, as well as report how many children they are engaging with and how they are using the online content.

Understanding the different barriers to accessing online learning platforms – devices, data and knowledgeable user – can inform strategies to address them

Analysis of the data used for UNICEF (2020a) estimated only 12 per cent of pre-primary students were potentially reached by online learning, due to the limited availability of devices and policy responses.⁶ In the joint survey, three-quarters of the countries that reported providing online learning for pre-primary students also reported that they were monitoring access to the platform. Where specified,

⁶ This estimate is based on the existence of a policy response and on the availability of necessary assets in households (computers/devices and internet). Hence, it does not reflect an actual use of a digital learning platform by children and should be interpreted as a maximal estimate of the proportion of children reached.

much of this country monitoring relied on statistics on the number of visitors to relevant websites. In the example of Kosovo, a system for digital reporting by educators was embedded into the platform. In the Bahamas, each week's page included a feedback form for caregivers. These create means to monitor both the use and usefulness of the platforms.

The availability of online learning platforms does not necessarily mean they are being accessed and used by pre-primary students and/or their caregivers. Use requires access to a relevant device as well as the necessary infrastructure of electricity and reliable internet connection. In the context of the youngest learners, it also requires a caregiver with a sufficient level of digital literacy as well as the language of the medium to access the platform on behalf of the child and provide necessary support throughout its use.

Another issue that has been identified is the additional cost of data, which has been found to be a barrier to accessing learning content in several countries. In Argentina, the Government responded to this by making its online remote-learning resources free to access through partnerships with telecommunication providers. In South Africa, UNICEF has made early-learning materials available through the Internet of Good Things, a free platform that will not deduct users' data credit (Michels, 2018). Meanwhile, the organization behind Sesame Street is trialling offline devices that can broadcast their content over free hyper-local networks⁷ in migrant communities in Latin America where devices are readily available, but connectivity is expensive and unreliable (Campos, 2020).

B. Broadcast media: Television and radio

Key takeaways from promising practices in pre-primary broadcast learning

- TV and radio have the potential to reach children, with the potential reach of TV being greater than radio in all regions but Eastern and Southern Africa.
- Many countries are relying on existing evidence-based, high-quality educational television programming, such as Sesame Street and Akili and Me.
- Interactive radio instruction also has a robust evidence base in supporting pre-primary children's learning through the support of an adult facilitator.
- Broadcast media can be used to engage children and support their development across multiple domains.
- Monitoring how children and caregivers are using broadcast media is crucial in ensuring their intended learning impact is achieved.

Refer to Case study 4: Interactive Radio Instruction for Pre-Primary Children in Malawi, Case study 5: Expanding Access to Sesame Street in the Americas, Case study 6: Educational TV with Ubongo's Akili and Me in Sub-Saharan Africa, or Case study 7: Educational TV and teacher supports in Indonesia

⁷ These devices establish a local Wi-Fi network, which other users can use to connect to and access the materials they have stored without the need of any internet connection.

TV and, to a lesser extent, radio have the potential to reach many children

Out of 106 respondents that had closed pre-primary schools), 45 countries reported offering pre-primary remote learning through television. In all but six countries, this was offered in combination with another modality, most frequently combined with online learning. Meanwhile, radio was reported to be used as a remote learning modality for pre-primary education only by 25 per cent of respondent countries. It is almost always used in combination with other modalities. Analysis of the data used for UNICEF (2020a) shows that, globally, television potentially reached 27 per cent of pre-primary children versus only 11 per cent for radio (similar to online learning). With the exception of Eastern and Southern Africa, the potential reach of radio is lower than television in all regions. The gap in radio ownership between urban and rural households is smaller than the urban-rural gap in television ownership (Dreesen et al, 2020).

During COVID-19, many countries are relying on existing high-quality educational television programming backed with evidence of their impact on pre-primary children's learning

Several countries, including Mexico, Brazil, China, Ethiopia, India and Ghana, have a long history of educational television programming (World Bank, 2020). These were largely aimed at older students, to expand secondary education in rural or hard-to-reach areas; or to supplement preparation for school-completion exams. The example of Mexico's Telesecundarias in particular is supported by rigorous evaluations showing positive impact on enrolment, learning and labour-market outcomes (Navarro-Sola, 2019).

At the pre-primary level, there is rich evidence for educational television existing largely around Sesame Street (*see Case study 5*) and the Tanzanian-produced Akili and Me programmes (*see Case study 6*), which have been found to support children's learning as well as socio-emotional development around the world (Watson & McIntyre, 2020). The pre-primary television programming in the era of COVID-19 school closures frequently relied on these existing Sesame Street or Ubongo resources. In some instances, including El Salvador, Indonesia (*see Case study 7*) and India, they are combined with locally developed content. In examples such as the Bahamas (*see Case study 1*) and Kosovo (*see Case study 3*), video content developed by the MOEs was made available online as well as being broadcast on television.

Interactive radio instruction has also been implemented and found to support pre-primary children's learning in different settings

Some countries have a history of implementing Interactive Radio Instruction (IRI), which "combines broadcast radio or another audio medium with an emphasis on active learning" (Anzalone & Bosch, 2005). In some instances, rather than being transmitted via live broadcasts, pre-recorded lessons are distributed (for example, on CDs or USBs) along with accompanying audio players, sometimes referred to as Interactive Audio Instruction (IAI) (Ho & Thukral, 2009). Countries such as Malawi (*see Case study 4*) have developed IAI programming to support learning from home for pre-primary children during COVID-19 school closures.

Studies on the impact of IRI on student learning outcomes in pre-primary children in Bolivia, Honduras, El Salvador and Indonesia saw children aged four to six years old achieve progress on cognitive, language and physical domains, surpassing children not exposed to IRI where such comparisons were made (Ho & Thukral, 2009). These programmes addressed the young children themselves as well as their caregivers, with audio programming, posters and illustrated guidebooks purposely used to make the programme accessible to caregivers with limited literacy skills. A typical lesson follows a three-

part structure that explains a concept to listeners, asks voice actors to practically apply new ideas and suggests tasks for students to complete at home (McBurnie, 2020).

In Zanzibar, an IRI project developed and distributed IAI materials focused on children in preschool up to grade 2. Content was delivered through CD, MP3, mobile phones, or radio, with the assistance of a classroom teacher or group facilitator, who is coached by the recorded “teacher facilitator”. Children that participated in the project outperformed students from the “control” group, with the impact being found to last six years after their participation. The programme’s success was attributed to the approach being well suited to meet the objective of reaching vulnerable children in remote areas, extensive community sensitization, and capacity building and institutionalisation within the MOE (World Bank, 2017).

To support countries that are seeking to adapt or implement IRI in response to COVID-19, Save the Children (2020) has developed an implementation guidance document, and the Education Development Center (2020) has made their catalogue of IRI materials available for repurposing, with accompanying guidance on repurposing existing radio/audio series to address learning during COVID-19 closures (Richmond, 2020). These documents highlight the importance of engaging parents or other adult caregivers in facilitating the learning process during broadcasts, as well as the benefit of providing complementary print materials.

Broadcast media can be used to engage children and support their development across multiple domains

Not all broadcast-media resources are created equal. Where MOEs are developing new content for children, the principles of child-friendly content and delivery need to be applied. The broadcast-media-based offerings must match the level of development of the target cohort and reflect how children learn. Broadcast television and radio are inherently one-way mediums. But interactivity can be introduced by having the host ask questions or instruct activities during the lessons followed by pauses to allow learners to respond or undertake in real time. The examples in this chapter – Sesame Street, Akilli and Me, and high-quality IRI content – include content that was developed to invite children to respond verbally and physically. Active engagement, supported by a caregiver, is also important for these mediums to be effective. For example, interactive co-viewing with an adult has been found to enhance the effects of educational television on child learning outcomes (Watson & McIntyre, 2020).

Monitoring of how children and caregivers are using broadcast media is crucial in ensuring that their intended learning impact is achieved

Compared to other modalities, a smaller proportion of countries reported monitoring access to their TV-based option in pre-primary (58 per cent) and even fewer for radio (53 per cent). As with online learning, access to devices (in this instance a TV or radio) is not enough to ensure that children use and benefit from broadcast learning resources. In Kenya, a survey on remote learning found that although more households own a radio than a TV and that a higher proportion of school heads report using radio to reach learners during COVID-19 school closures than using TV, considerably fewer learners were accessing radio lessons compared to TV lessons (Uwezo, 2020). This could be due to an issue of awareness, of preference for TV over radio when both mediums are available, or of the difficulty in reaching households that use radio as their main form of media.

Continued monitoring of how children and caregivers are using the broadcast-media offerings should therefore be undertaken to inform how the offering can be improved (Chuang et al, 2020). For example, in Peru, monitoring of the MOE’s remote-learning responses for pre-primary learners found that

while viewership of TV broadcasts was high, awareness of and satisfaction with their radio offering was low (Hernández-Agramonte et al, 2020). And while interaction between families and schools was high, nearly two-thirds of caregivers said they still needed additional support with distance education (Innovations for Poverty Action, 2020). In response to this, Innovations for Poverty Action is trialling a programme using IRI methodology focused on pre-mathematics skills,⁸ adapted from previous experiences in Paraguay and Panama, with some households also receiving coaching through phone and SMS.

C. Paper-based materials

Key takeaways from providing print materials for pre-primary learners

- Many countries are providing print learning materials to pre-primary students, mostly as a supplement to other modalities, aimed at children who cannot access them.
- Printed learning materials can be linked to children's daily lives and be used to inspire learning and discovery beyond the material itself.
- Some countries are distributing reading materials to pre-primary children, an approach supported by emerging evidence as contributing to literacy development.

Refer to Case study 8: Provision of printed booklets by the Ministry of Education in Argentina as well as studies on providing books and literacy materials cited in this section.

A third of countries are providing print learning materials to pre-primary students, mostly as a supplement to other modalities, aimed at children who cannot access them

Based on government remote-learning solutions and the availability of devices in homes, at least 69 per cent of pre-primary students globally are not reachable by online or broadcast learning, compared to 29 per cent of primary students and 18 per cent of upper-secondary students (UNICEF, 2020a). This is a lower-limit estimate, as the availability of devices does not mean that young children are able to access them. For example, households could be prioritising the use of devices for parents' work or older children's schooling. This sizeable gap underlines the importance of lower-tech alternatives, such as paper-based or take-home materials, for supporting pre-primary students and their parents.

Just under a third of countries in the joint survey reported that they were providing – to at least a proportion of children – paper-based, take-home learning materials for pre-primary education. Paper-based materials were usually offered in combination with other modalities, most frequently alongside online learning platforms.

On average, MOEs who reported using paper-based materials estimated they were reaching less than a third of pre-primary children in these countries. This was a smaller proportion than the averages reported for other modalities, which aligns with countries frequently reporting that the distribution of printed materials was directed at households with no access to other modalities. In Kosovo, printed versions of the activities from the early-childhood platform were also distributed as part of 5,000 ECD

⁸ Early mathematics skills, such as counting and sequencing, have been found to predict numeracy skills later in school (Naslund-Hadley, Parker & Hernandez-Agramonte, 2014)

kits to poor and vulnerable families alongside play materials that were aligned with the activities and additional health materials (*see Case study 3*). In Argentina, the MOE is producing two early-learning resource booklets each month for families who are not able to connect to other learning platforms, distributed free of charge through local supermarkets and provincial governments (*see Case study 8*).

Printed and other take-home learning materials can be linked to children's daily lives and be used to inspire learning and discovery beyond the material itself

As with all the modalities discussed in this report, the content of printed learning materials matters. A good practice in providing printed materials is, importantly, not to limit it to worksheets posing questions with right and wrong answers or that can only be used in one way. This distinction arose in Indonesia. After reports that some teachers' interactions with students were limited to assigning homework in order to progress along the curriculum, the MOE published an emergency simplified curriculum (*see Case study 7*). At the pre-primary level, it specified that teachers were not to give homework but provide children and families with support to link play and other everyday activities to the printed learning materials.

Instead, the printed materials distributed in Argentina (*see Case study 8*) and Kosovo (*see Case study 3*) supported caregivers to engage children in a variety of different ways. Included were pages to be cut out or used to create art or play games, pictures or stories as prompts for children's drawing or discussion, as well as prompts for physical movements (for example, asking children to make shapes with their shadow) and socio-emotional skills (for example, stories and visual art followed by discussion prompts about characters' emotions). The focus of the materials in these two examples was on utilising materials that could be easily found or accessed around the home, such as making musical instruments with cans, rubber bands and balloons.

The packages distributed in the Kosovo example also included other didactic materials that relate to the activities in printed materials. An example from Montenegro included the distribution of sports equipment and educational materials to parents of young children with disabilities to their homes. The packages also contain videos with instructions on activities and exercises (UNICEF, 2020c).

Some countries are distributing reading materials to pre-primary children and their families, an approach supported by emerging evidence as contributing to literacy development

Countries such as Congo, Guyana and Tuvalu reported in the joint survey that they were distributing story or picture books for pre-primary children. Children's home literacy environment – usually defined to include the availability of materials as well as caregivers' literacy and support – is a well-established predictor of literacy development (Van Bergen et al, 2016; Puglisi et al, 2017; Zhang et al, 2020). Multiple-Indicator Cluster Survey (MICS) data from 35 countries, for example, found that the likelihood of three-to-five-year-old children being on track in literacy and numeracy almost doubled if at least one book was available at home compared to when there was none (Manu et al, 2019), with the same pattern also found when based on actual learning assessment for seven-to-14-year-old children (Brossard et al, 2020).

More recently, evidence has also emerged that initiatives providing reading materials to families with young children can impact their literacy outcomes. A meta-analysis of 44 studies in the US found that book giveaways led to higher literacy skills for children prior to and during their years in school (de Bondt et al 2020). In Kenya, an experimental study found that the provision of storybooks increased children's storybook comprehension and the likelihood that they were read to at home (Knaurea et al, 2020). In both instances, the addition of support services, such as training or home visits, increased the

impact, but the provision of the reading materials alone was found to make a difference. Importantly, when combined with additional training or visits, the impact in the Kenya example was greater for children whose caregivers were illiterate. This is significant because existing data suggests that parental support can vary. Children of more educated or wealthier parents are more likely to receive learning support at home (Brossard et al, 2020), so reliance on parental and caregiver support can have the unintended impact of widening existing gaps. Therefore, it is likely there are potential benefits of targeted additional support. Even parents and caregivers who themselves have low levels of literacy can be supported to provide a rich early literacy environment for their children (Ligon, 2018; Menheere & Hooge, 2010; Save the Children, 2016).

Together, these studies provide a promising basis for the likely effect of the provision of printed materials to pre-primary children during COVID-19 school closures. The examples of the above countries illustrate how this may be practically achieved to fill the gap in remote-learning delivery through online and broadcast media by supporting children without access to those modalities.

D. Mobile (social messaging applications, calls and SMS)

Key takeaways from mobile-based support for caregivers of pre-primary children

- Phone calls and mobile-based applications are frequently reported as the main way that teachers are reaching students during COVID-19 school closures.
- Phone-based outreach can be used alongside other remote-learning modalities to provide individualised support, particularly for marginalised children.
- Support through mobile-based applications can be manually initiated by teachers or facilitators, or be automated to link parents with resources or targeted messaging.
- Call- or text-based support, that require only a basic mobile telephone, have also been found to increase parents' engagement and young children's learning.

Refer to Case study 9: WhatsApp-based Early Learning Supports in Jordan and Case study 10: Scaling up Remote Community ECE Support in Turkey as well as the other examples referred to in this section.

Phone calls and mobile-based applications are frequently reported as the main way that teachers are reaching students during COVID-19 school closures

In the joint survey, 31 per cent of countries reported that pre-primary teachers were required to continue supporting learning via mobile phone. More than 20 countries, across all regions, mentioned WhatsApp or Facebook Groups/Messenger specifically in their free-text responses as a practice for providing support to teachers or parents during school closures. Kenya, for example, raised this, which is consistent with a national survey that found WhatsApp to be the predominant platform for teachers to reach their learners in the country (Uwezo, 2020). In a survey of early-childhood-education personnel in sub-Saharan Africa, mobile messenger applications were the most frequently used media reported by centre directors for providing for education continuity (UNESCO, 2020b).

Phone-based outreach can be used alongside other remote-learning modalities to provide

individualised support, particularly for marginalised children. All but two of the countries that required pre-primary teachers to provide mobile-phone-based teaching also offered other remote-learning modalities for pre-primary children. In Indonesia (*see Case study 7*), for example, the Government had made daily television-based-learning programming available for pre-primary children and also required teachers to reach out to their students and provide teaching support over the phone.

Structured calls or automated text-based support, that require only a basic mobile telephone, have been found to increase parents' engagement and young children's learning

There is growing evidence on the potential of engaging parents and providing learning supports for young children through mobile phones. Much of this relies on methods that can be used with basic mobile telephones (i.e., not relying on smartphone applications). In Botswana, following COVID-19 school closures, early analysis from a trial of SMS text messages and direct phone calls to primary school parents found that they increased parental engagement in their children's learning and accuracy of parent perceptions of their child's learning (Angrist et al, 2020). In the US, text messages to pre-primary children's caregivers, which target the behavioural barriers to engaged parenting, increased parental involvement at home and school, as well as gains in their children's literacy outcomes (York & Loeb, 2018). Text and audio messaging delivered after parenting workshops also increased the frequency and quality of parental time investment in Uruguay (Bloomfield, Balsa & Cid, 2019).

Supports through mobile-based applications can be manually initiated by teachers or facilitators, or be automated to link parents with resources or targeted messaging

In Jordan (*see Case study 9*), the MOE is working with UNICEF on how a mobile-based platform like WhatsApp can be used to provide remote-learning support to parents and caregivers of pre-primary children. The use of WhatsApp was chosen due to the prevalence of its use among the programme's beneficiary communities. Trained facilitators initiated discussions and provided continuous support to small groups of parents of young children on WhatsApp groups. In Turkey (*see Case study 10*), UNICEF ECE programmes were also converted to remote delivery facilitated through WhatsApp, supplemented by home visits and distribution of printed materials. In both instances, the platform was used to convey information to parents, initiate discussion with each other as well as seek feedback from them on programme improvements. For example, in Jordan, parents' feedback led to the development of additional content on literacy and numeracy domains as well as information on the importance of holistic learning across all domains. In Turkey, parent feedback led to more content addressing fathers.

As another example, BRAC is adapting its early-childhood-learning centres for three-to-five-year-old children in Bangladesh, Uganda and Tanzania. By using radio as well as phone-based hotlines and SMS campaigns to connect parents and children with teachers, their trained play leaders and counsellors provide guidance on play-based learning at home as well as psychosocial support (Hundred, 2020).

The Brazilian state of Maranhão, responding to internet access challenges faced by families in the jurisdiction, developed a family-engagement curriculum that offered concrete suggestions on ways for parents and caregivers to encourage child learning through daily routines and tasks, disseminated every weekday through state-owned television, radio and social media channels (Paulet-Piedra & Reimers, 2020). The content, developed in partnership with an educational NGO, focuses on transforming everyday situations into learning opportunities. Based on feedback from municipalities

that had previously disseminated learning resources through school WhatsApp groups, the Secretariat of Education is working to support other municipalities to collect contact information for local families and organise them into WhatsApp groups.

Other approaches relied on automated systems to provide push notifications and learning materials to families as well as allowing them to access or request additional materials. A version of the Jordanian parenting curriculum that had been adapted for mobile delivery was also made available on a WhatsApp for Business platform, using a chatbot⁹ to allow parents to register and receive regular tips and learning activities (*see Case study 9*). Automated WhatsApp chatbots also allow parents to request additional materials, including those that are specifically related to Sesame Street episodes that were airing on television to extend learning on the same theme (*see Case study 5*). In this instance, the mobile-phone offering is used to supplement and reinforce learning from other modalities.

⁹ A computer programme designed to simulate conversation with human users, providing pre-determined responses to a set of questions and requests that users are able to make.

4. LESSONS LEARNED FROM PROMISING PRACTICES IN PRE-PRIMARY REMOTE LEARNING

The case studies presented in this report demonstrate what is possible when governments prioritise pre-primary education. In the countries where these promising practices were implemented, governments already considered pre-primary education as part of the main agenda in mitigating the impact of COVID-19 on children's learning and development. In some of the approaches, MOEs took the lead, while in others, they played more of a coordinating role and partnered with donor agencies, or community or private-sector organizations – to deliver their response.

However, few government guidelines of remote-learning responses to COVID-19 closures refer to pre-primary education specifically. Where they do, they tend to indicate that governments are cautious about remote-learning provision for the youngest age groups, particularly online. The US state of Kansas, for example, provided recommended daily time limits for remote learning that expand by grade, with up to 30 minutes for pre-kindergarten students and 45 minutes for kindergarten students (Reich et al, 2020). The Government of India discouraged the use of online classes for pre-primary students and instead suggested the use of television and radio, to keep in mind younger children's physical and mental health (Ministry of Human Resource Development, 2020). For children younger than grade 3, the document stresses that "parents must be engaged as a bridge between the digital device and the child".

Some of these concerns link back to existing guidelines from health authorities around the use of technology for young children, which recommend no more than 1 hour per day of sedentary screen time use for children aged two-to-five years old (American Academy of Paediatrics, 2016; Australian Government Department of Health, 2017; Canadian Paediatric Society, 2017). Expert opinions, however, have also noted that the quality of the activity on devices is more relevant than the amount of time a child spends on them (Kuzmanović, 2020). Quality here is defined by age appropriateness, the extent of engagement expected from the child, as well as the help or support of caregivers.

Regardless of the modality, remote-learning support for pre-primary students should carefully consider how children in this age group learn. A guidance document developed by UNICEF Europe and Central Asia Regional Office (2020, unpublished report) distilled the existing research on this topic into the following key recommendations for child-friendly distance-learning programme content:

- **Have a simple structure with a comfortable pace** – Key features should include a predictable structure, a calm and slow pace that gives the child a chance to think and respond, a brief duration that fits with the typical attention span of young children, and balance of active with quieter segments.
- **Seek to engage both children and their caregivers** – Programmes should have a variety of ways to involve and reach out to parents or other caregivers and invite parents or other caregivers to do simple, follow-up activities with the child.
- **Help children make connections in their learning** – Strong programmes include help for children to make connections between new ideas or content and what they are already familiar with, building on earlier resources whenever possible and respecting and recognizing cultural connections.

- **Support and develop social and emotional well-being** – Programmes should emphasise more than just academic skills, have hosts that show feelings of caring and warmth, involve the child as a unique person, encourage the child to help others, and respect and talk about feelings.
- **Help children learn through play** – There should be many opportunities for children’s active engagement, invitations for children to react or try to do something related to the programme content, invitations to use real objects in different ways, challenges to engage in more or less complex ways depending on age and developmental level, and encouragement to use imagination and creativity.

The case studies in this report illustrate that the above principles for child-friendly, remote-learning content can be feasibly implemented across all remote-learning modalities. Furthermore, several key lessons in the delivery and implementation of remote learning for pre-primary children emerge:

First, most countries are using multiple modalities to deliver remote support to pre-primary learners. This recognises varying access to different technologies. In addition to the large inequities in access to the internet, TV and radio access also vary considerably, both across and within countries (Dreesen et al, 2020). Using multiple channels would maximise the reach of educational support. Targeted outreach, be it online or offline, can be used to provide individual supports for pre-primary learners alongside the availability of high-quality mass-media learning materials. These can be directed at the most vulnerable children and/or those who are marginalised and have limited access to other means of support. In addition, delivering coherent or related learning content across different modalities can also be used to extend or reinforce children’s learning.

Another theme that cuts across several case studies presented in this report was that countries learned from existing local approaches or initiatives that have been implemented in a comparable context. This allowed them to respond quickly, growing their offerings over time. Lessons from past practices and the current crisis includes the benefit of curating and aligning open educational resources with the national curriculum (UNESCO, 2020c).

Additionally, some countries incorporated pedagogical considerations in a similar way to in-school learning, providing a clear schedule and structure to the activities and lessons, including ensuring that they build on one another. The practices highlighted here produced or used content that maximised engagement and interactivity, even in traditionally one-way mediums such as television and radio.

An important theme is that the engagement of parents and caregivers in children’s learning is crucial. Learning theorists have argued that meaningful interaction with adults is how children develop cognitive skills (Vygotsky, 1978) and studies have found that the quality of interactions with adults, be it their primary caregivers or teachers, predict young children’s outcomes later in life (Pianta et al, 1997). The case studies presented here illustrate how parents and caregivers can be supported in their role of encouraging and enhancing children’s learning from remote content, through clear instructions, prompts for discussions, observation and reflection, and opportunities to provide feedback and seek support.

This reliance on the role of parents and caregivers to guide and support young children’s learning at home, however, risks widening existing inequities. Prior to the pandemic, data from the Multiple Indicators Cluster Survey found that children in wealthier households were more likely to have someone read to them at home, and those with more educated parents were more likely to receive help with schoolwork (Brossard et al, 2020). Even parents with low educational and literacy levels

themselves, however, can be supported to play an important role in their children's learning. Support for parents and caregivers more broadly is therefore needed to mitigate the likely consequences of pre-primary school closures: worsening the intergenerational learning disadvantage caused by the poverty gap. It is notable, however, that during the first few months of COVID-19 school closures, most countries were not providing support to parents/caregivers of pre-primary children.

With their training and pre-existing relationships with children and their families, pre-primary teachers and educators are well placed to undertake outreach to parents and caregivers and provide supports around children's learning. In the first instance, this requires that teachers themselves have the resources to access the relevant remote-learning modality, in terms of access to devices and supporting materials such as connection and data fees.

Additionally, teachers and educators should also be supported in the new role they play in this scenario. The new aspects of their role, including curating appropriate materials for individual children, providing more feedback and support to parents, and outreach to disengaged families through different means, relies on competencies that may be different to those that were central to their training. Some of the case studies presented in this brief include examples of how pre-primary teachers and educators are supporting children's learning through calls, texts and social messaging applications. It should be noted, however, that most countries were not requiring pre-primary teachers to continue teaching remotely, nor were they providing instructions or training for them to do so. Going forward, most countries have reported that remote-learning modalities will continue to be provided as schools reopen and many will utilise a hybrid model combining in-person and distant learning (UNESCO, UNICEF and the World Bank, 2020). Therefore, through incorporating ICT competence (UNESCO, 2018) in pre- and in-service teacher training will have both short- and long-term benefits.

Recent studies and evidence from past experiences suggest the impact of the pandemic and resulting closures is likely to be greatest for children and families who were already more vulnerable prior to the crisis. It is important, therefore, that pre-primary education responses support all learners, in particular the most disadvantaged. Some of the promising practices discussed here, particularly around the provision of printed and other take-home materials, illustrate how support can be adapted or enhanced for children of vulnerable groups, such as ethnic minorities and refugee children. However, systematic data on the provision of learning supports to pre-primary children with disabilities or other children not currently reachable through the main modalities of remote learning is lacking.

Finally, while a growing evidence base exists to underpin many of the promising practices included here, there is much still unknown about the impact of remote-learning support for pre-primary education. It is important, therefore, for providers to monitor how children and caregivers are using learning support and the effects that has on children's learning and development outcomes. Monitoring and evaluation readiness include capacities to monitor processes, track access and engagement – including monitoring differences in the levels of student participation of engagement – and assess learning outcomes (UNESCO, 2020c).

Most countries reported that they were monitoring access to remote learning and there were some examples of governments and other providers monitoring use, including utilizing the information to improve their pre-primary remote-learning offering. In a few case studies included in this report, educators or caregivers were asked to observe and report on children's progress against intended learning and development outcomes. These are all very useful starting points. However, instances of independent tracking of objective measurements, including those that would allow for evaluating the impact of these offering on intended outcomes, are rare.

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ANNEX: CASE STUDIES OF PRACTICES IN PRE-PRIMARY REMOTE LEARNING

Case study 1: Bahamas Ministry of Education virtual learning for preschool children

Case study 2: El Salvador Ministry of Education online learning for initial and preschool Education

Case study 3: Kosovo Ministry of Education, Science and Technology digital ECD platform

Case study 4: Interactive Radio Instruction for pre-primary children in Malawi

Case study 5: Sesame Street in the Americas and beyond

Case study 6: Educational television with Ubongo's Akili and Me in sub-Saharan Africa

Case study 7: Educational television by the Ministry of Education in Indonesia

Case study 8: Provision of printed early-learning booklets in Argentina

Case study 9: WhatsApp-based early-learning and parenting support in Jordan

Case study 1: Bahamas virtual learning for preschool

The Bahamas closed its schools on 16 March 2020 due to the COVID-19 pandemic. On 18 May, the Ministry of Education (MoE) launched the Bahamas Learning Channel, catering to pre-primary and primary education, following a channel dedicated to high school students launched a month earlier. Pre-primary content was also made available on the MoE's Virtual Learning website, while older students had live-streamed or synchronous options available. The Bahamas certainly benefited from its high internet-penetration rates, with an estimated 85 per cent of the population using the internet (ITU data, 2017, via the World Bank). Enrolment in pre-primary education remains low, however, at 35 per cent in 2018. The MoE Deputy Director of Education Technology noted that the Virtual School platform was already in development and utilized by students affected by Hurricane Dorian the previous September (Julian Anderson, 2020, on the MoE website).

In the [preschool virtual learning platform](#), each week's lessons revolve around a theme and start with morning circle time, led by a preschool teacher (*see Figure 1.1*). These circle time videos are about 25 minutes in length and feature an introduction of the theme, incorporating literacy and numeracy exercises, physical movements and, at times, hygiene activities (e.g., handwashing). The teachers address children directly, at times asking questions and giving children time to respond or making a request such as collecting materials for an activity and providing children time to undertake them. They are then followed with at-home activities, which may be provided by the students' teachers. On the platform, these take the form of embedded videos of external content that fit the theme of the week (*see Figure 1.2*). Story time is scheduled for 1 p.m., with a short video of a preschool teacher reading a story book, and the learning day closes with afternoon circle time, consisting of a short, five-minute video (*see Figure 1.3*). At the bottom of each week's page is a link to a parent feedback form, which asks about the children's experiences with the work and opportunity to report issues (*see Figure 1.4*).

In the joint survey, the MoE reported that they monitored actual use of the platform by tracking the number of students accessing the platform. In June, they estimated that 14 per cent of pre-primary students were accessing the platform. Viewing numbers were publicly available on the videos that were made available on the Ministry of Education's Preschool YouTube channel. The 18 videos available on the channel at the end of August 2020 had been viewed an average of 1,600 times. These are robust viewership numbers, higher than the June figures reported by the MOE, considering a pre-primary enrolment of about 3,600 children (UIS).

Figure 1.1

MINISTRY OF EDUCATION
VIRTUAL LEARNING
"Providing access amidst a global pandemic"

LEARNING SCHEDULE

WEEK 4
April 20 - April 24, 2020
Theme: "All About Plants"

Download Weekly Newsletter
Learn About The Course Web

9:30 a.m. - 10:00 a.m.

MORNING CIRCLE TIME

Circle Time with Mrs. Delany

Topic Development: Plants grow on land. Spiritual Development: God created trees and plants.

Where Do Fruits and Vegetables...
Episode

God creates Land, trees, plants...

Figure 1.2

11:30 a.m. - 12:00 p.m.
STEM ACTIVITY
Topic of the Week:
Parts of a Plant.

Parts of A Plant

Parts of a Plant

The Needs of a Plant.

The Needs of a Plant (going for kids about 5 things plants need to live)

The Needs of a Plant

Plants are a large group of living organisms. Plants grow nearly everywhere on Earth. Most plants grow in soil. Plants include grass, trees, flowers, bushes, ferns, mosses, and more. Whether there is sunlight, air and soil, plants can be found.

Plants can be:
big small flowers no flowers

Plants can have:
food shade

Plants can be used to:
make medicine prevent flooding

Figure 1.3

1:00 p.m. - 1:30 p.m.
STORY TIME

"The Tiny Seed"

The Tiny Seed Mia Edwards

1:30 p.m. - 1:45 p.m.
CREATIVE AND PHYSICAL DEVELOPMENT
Topic of the Week:
Nursery Rhyme
"Mary Mary Quite Contrary"

Mary Mary Quite Contrary - THE BEST Educational Songs for Children LooLoo Kids

1:45 p.m. - 2:00 p.m.
AFTERNOON SNACK

2:00 p.m. - 2:10 p.m.
AFTERNOON CIRCLE TIME

Figure 1.4

Parents Feedback Form for "Stay at Home" Study

Good afternoon parents,
Please find below the weekly feedback form for this week. You are kindly asked to answer the questions and submit your responses by Monday.

* Required

1. Who worked with your child this week? *

☐ Mother
☐ Father
☐ Siblings
☐ Other

2. How did your child find the work? *

☐ It was easy.
☐ It was not so hard.
☐ It was difficult.

3. How is your child adjusting to virtual schooling? *

☐ Very well
☐ Fairly well
☐ Not well at all

4. Did you incur any difficulties during the lesson(s)? *

☐ Yes
☐ No

5. If yes, what were the issues?

☐ No time
☐ Problems with internet
☐ No computer, tablet, or other electronic device
☐ Other

6. After completing this week's activities, do you think that your child learnt what was taught? *

☐ Yes
☐ Not sure
☐ No
☐ Problems with internet

Case study 2: El Salvador online learning for initial and preschool education

The Government of El Salvador moved to close schools in mid-March 2020, before the first COVID-19 case was confirmed in the country. Plans for reopening have been pushed back and schools are not likely to reopen before the end of 2020. At the end of May, the Ministry of Education (MINED) launched its third phase of the *Aprendamos en Casa* (We Learn at Home) programme, which included an online platform and television and radio broadcasts.

The [virtual education portal](#) includes sections for the families in the prenatal period, infant stage, initial education for children aged 1, 2 and 3 (specific for each age) and early childhood education for ages 4, 5 and 6 (again, separate for each age). For each age, the content includes printable guideline documents for caregivers (*see Figure 2.1*), which presents prompts and activity ideas (*see Figure 2.2*), links to existing/external online content relevant to the week's learnings that are accompanied by prompts for discussions (*see Figure 2.3*), and a table that outlines the concepts covered that week and asks caregivers to reflect on whether they could observe the learning indicators with their children (*see Figure 2.4*). The guide also includes the schedule for television broadcasts that week relevant to their child's age group. In addition, a phone number, which is contactable via calls and WhatsApp, has been made available for parents and caregivers to troubleshoot problems and seek pedagogical supports.

A survey of more than 3,000 teachers (across different levels) found that 86 per cent were using TV programming as one of their strategies to implement learning at home and 44 per cent were using the MINED portal (Hernández-Agramonte et al., "[3,000 Teachers Share their COVID-19 Remote Learning Experiences](#)"; *IDB Enforque Educación*, 1 September 2020). While most teachers reported being in regular contact with parents, and that parents were involved in their children's learning, most (71 per cent) thought the communication channels they were using – mainly mobile calls and WhatsApp – were not ideal platforms for parent-teacher communications. The main challenges reported were parents' lack of time to assist their children and attitudes that are not conducive to learning.

Figure 2.1

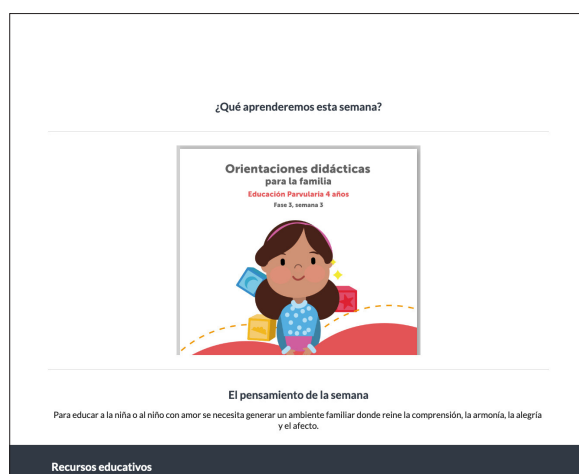



Figure 2.2




Figure 2.3




Vean con su hija o hijo el video "Por favor y gracias"; invitenle a cantar junto a Plim Plim y a poner en práctica las normas de cortesía.

Recuerden: reforzar positivamente durante la semana el uso de las palabras de cortesía, fomentado valores y un clima de convivencia agradable.



Pregúntenle a la niña o al niño, ¿qué aprendió de la familia de los osos? Luego pídanle que mencione las palabras mágicas que identificó.


Recuerden: siempre colóquense físicamente a la altura de su hija o hijo para ver sus ojos cuando les hable y escúchenle con atención; esto fortalece su seguridad y confianza.



Vean el video "Sésamo: Cada familia es maravillosa" con su hija o hijo. Después pídanle dibujar a su familia, mientras comentan sobre qué trató el video.

Luego explíquense que cada familia es diferente e importante, así como lo es cada miembro que la integra.

Recuerden: siempre deben animar a su hija o hijo a expresar su opinión con seguridad y confianza. Es importante que cada miembro de la familia refuerce que todos son diferentes y que merecen respeto y amor; eso ayudará a desarrollar una autoestima saludable en él o ella, así como un clima de convivencia positiva en el hogar.



Juntos con su hija o hijo vean el video "Todos somos diferentes", mientras cantan y bailan al ritmo de la canción. Después solicítenle que se describa y describa a los miembros de su familia. Para ello, puede responder: ¿Qué cosas les gustan y cuáles no? ¿Qué los hace diferentes a los demás? ¿Por qué está bien ser diferente? ¿Cuál es la mejor cualidad de cada integrante de la familia?

Recuerden: es importante conversar con la niña o el niño que todos somos diferentes y que merecemos un trato igualitario y justo. Esto ayudará a reforzar su confianza y autoestima.

Figure 2.4

ORIENTACIONES DIDÁCTICAS PARA EDUCACIÓN INICIAL • 3 AÑOS 11			
Aprendizaje esperado			
Marque una X en el concepto que considere que su hija o hijo ha logrado esta semana:			
Indicadores	Conceptos		
	Sí lo hace	Lo hace con ayuda	Todavía no lo hace
Acepta y cumple con las normas o reglas acordadas			
A veces espera turno sin que se le pida hacerlo			
Muestra conductas de respeto, colaboración y cortesía			
Reconoce algunas medidas básicas de protección y cuidado personal			
A veces pide "por favor" y da "gracias" sin que se le recuerde			
Produce creaciones artísticas con diferentes materiales			
Logra estados de relajación y descanso.			
Bebe y come sin derramar, utilizando cuchara y tenedor			
Se cepilla los dientes después de cada comida, si se le recuerda			
Se lava las manos cuando es necesario y sin ayuda			
Va al baño solo, pero solicita ayuda a veces			
Realiza lectura de imágenes			
Reconoce figuras geométricas, principalmente, círculo, triángulo y cuadrado			
Imita el trazo de un cuadrado			

Case study 3: Digital early childhood development platform in Kosovo

Kindergartens along with other educational institutions in Kosovo closed in mid-March 2020 in response to the COVID-19 crisis. In April, the Ministry of Education, Science, Technology (MEST) launched a digital platform to support families of children aged 0-6 years in Kosovo, supported by UNICEF and Save the Children. It seeks to ensure continuity in learning and to increase parental involvement during the COVID-19 lockdown and beyond. It was developed using data on the limited at-home-learning opportunities for young children. Survey data indicated less than half of children under 5 in Kosovo had access to children's books at home. Next, less than half of parents (and only 6 per cent of fathers) engaged in learning activities with children at home (Kosovo Agency of Statistics, 2014, based on Kosovo Multiple Indicator Cluster Survey 2013-2014).

The new platform (<https://edukimihershem.rks-gov.net/>) contains daily activities for children in four main age-groups: 0-3, 3-4, 4-5, and 5-6 (see Figure 3.1). The activities revolve around specific monthly themes. Each activity involves a set of actions to be accomplished using materials found at home and addressing the motoric, socio-emotional, and cognitive development of children (see Figure 3.2). It also contains materials for COVID-19 prevention and protection and good parenting resources for early childhood. Parents are invited to submit photos and videos of children undertaking the activity (see Figure 3.3). Educators are required to submit weekly reports on how they are working with parents, and reflections on the activities and how many children they are reaching directly (see Figure 3.4). MEST staff provide responses in a Q&A section. The platform has been translated into four languages: Albanian, Serbian, Roma, and Turkish.

User statistics showed the platform had 2.3 million visitors in its first two months. About 190,000 are considered regular users, significantly more than the approximately 30,000 children enrolled in preschools. This demonstrated a high level of access and engagement. It can be attributed to the high internet-penetration rate in Kosovo (over 93 per cent) as well as the efforts by MEST in launching the platform. This included sending 1.8 million notification messages via SMS to seek to reach all citizens, and informative videos on national TV stations. The high level of buy-in and engagement with the platform also provides significant opportunity to engage families in early learning, as only 14 per cent of children aged 3-4 years attended early-childhood education programmes in 2014. The online platform has therefore opened up opportunities not only for those children already attending but also for those that were not enrolled in early-childhood education programmes before the pandemic. To support vulnerable families, UNICEF is also supporting the MEST in distributing 5,000 ECD kits, which include printed versions of the activities on the platform and related didactic materials to families receiving government social assistance, as well as vulnerable migrant communities.

Figure 3.1

GOVERNA E KOSOVËS
MINISTRIA E ARSIMIT
DHE SHKENCËS

Shërb. Fillet Aktivitetet Arkiva Të tjera Kontakti Q

Tema e muajit Qershor, 2020 "Natyra dhe zogjtë"

GRUPIMOSHIA	TEMA JAVORE	E HËNË (01/06 /2020)	E MARTË (02/06 /2020)	E MËRKURË (03/06 /2020)	E ENJTE (04/06/2020)	E PREMTE (05/06/2020)
0 - 3 vjeç	Në pikë	<input type="checkbox"/> 1 Qershori - Festa ime	<input type="checkbox"/> Gjurmë me ngjyrë	<input type="checkbox"/> Në pikë me muzikë	<input type="checkbox"/> Eksperimentimi me ujë	<input type="checkbox"/> Dita e pikës
3 - 4 vjeç	Në pikë	<input type="checkbox"/> 1 Qershori - Festa ime	<input type="checkbox"/> Pikë me shatërvan	<input type="checkbox"/> Frymë balonë me ujë të ngrohtë	<input type="checkbox"/> Mosaic në gotë	<input type="checkbox"/> Dëgjoni me ngjyrë
4 - 5 vjeç	Zogjtë muzikë	<input type="checkbox"/> 1 Qershori - Festa ime	<input type="checkbox"/> Presim, ngjyem dhe krijim	<input type="checkbox"/> Numërt muzikë	<input type="checkbox"/> Eksperiment - Cila bimë pi ujë më shpejt?	<input type="checkbox"/> Orkestra ime
5 - 6 vjeç	Qershori me qershi	<input type="checkbox"/> 1 Qershori - Festa ime	<input type="checkbox"/> Pema me qershi	<input type="checkbox"/> Mbashe shpirtin	<input type="checkbox"/> Qëllim në shenjë	<input type="checkbox"/> Gjigëziza me hije

GRUPIMOSHIA	TEMA JAVORE	E HËNË (08/06/2020)	E MARTË (09/06/2020)	E MËRKURË (10/06 /2020)	E ENJTE (11/06 /2020)	E PREMTE (12/06/2020)
0 - 3 vjeç	Zogjtë	<input type="checkbox"/> Foleja nga plastelina	<input type="checkbox"/> Ushqejmë zogjtë	<input type="checkbox"/> Shikojmë zogjtë me dybl	<input type="checkbox"/> Klasifikim i zogjeve	<input type="checkbox"/> Zogjtë futurues
3 - 4 vjeç	Zogjtë	<input type="checkbox"/> Luletoria në tavolinë	<input type="checkbox"/> Zogjtë	<input type="checkbox"/> Vizatojmë zogun me ndihmë e duarve	<input type="checkbox"/> Foleja e zogut	<input type="checkbox"/> Rectoranti i zogut
4 - 5 vjeç	Pikë	<input type="checkbox"/> Laja me lodra	<input type="checkbox"/> Tregimet e përgjymuara - përgjymimi për pikë	<input type="checkbox"/> Laja me fjalë apo stime rreth pikës	<input type="checkbox"/> Gjërat e gjalla dhe jo të gjalla	<input type="checkbox"/> Më i shpejt
5 - 6 vjeç	Koha ecdh	<input type="checkbox"/> Emri im është...	<input type="checkbox"/> Ecdh këmbë-dorës	<input type="checkbox"/> Urdhë pullën	<input type="checkbox"/> Piktura e orizit	<input type="checkbox"/> Tëpi në laborant

GRUPIMOSHIA	TEMA JAVORE	E HËNË (15/06/2020)	E MARTË (16/06 /2020)	E MËRKURË (17/06/2020)	E ENJTE (18/06 /2020)	E PREMTE (19/06 /2020)
0 - 3 vjeç	Frutet	<input type="checkbox"/> I kombinim formet	<input type="checkbox"/> Frutet me ngjyrë	<input type="checkbox"/> E ushqejmë lepurushin	<input type="checkbox"/> Zbulojmë dhe krijim	<input type="checkbox"/> Dita e aventurës
3 - 4 vjeç	Frutet	<input type="checkbox"/> Të njohim frutet me sy mbyllur	<input type="checkbox"/> I modelojmë frutet me krijë dhe	<input type="checkbox"/> Shalqiri 3 Dimensional	<input type="checkbox"/> Të përgjymim kos me frutë dhe mjaltë	<input type="checkbox"/> Klasifikim i pemëve dhe

Figure 3.2

GOVERNA E KOSOVËS
MINISTRIA E ARSIMIT, SHKENCËS
DHE INNOVACIONIT

Shërb. Fillet Aktivitetet Arkiva Materiale rebushtetë

Vizatojmë me ujë

Në rast se de të dlini jashtë bashkë me fëmijën, ju duhet vetëm një forcë dhe një gotë ujë.

Lejojeni fëmijën të vizatojë me ujë në pllakat apo në rrugën pranë bonesës, ose në oborr [sigurohuni që fëmija është i/e sigurtë].

Ju mund të ngjithni një letër në dysheme dhe ti ofroni fëmijës edhe disa bojra ujë.

Nëse nuk planifikoni të dlini jashtë në natyrë sot, atëherë kthejeni përmbys tavolinën e punës së fëmijës ose një tavolinë tjetër apo edhe një karrige dhe rrethojeni me qese të tejdukshme [sikur në foto]. Ofrojeni fëmijës disa ngjyra dhe ai/ajo do të bëjë pikturën e tij/saj.

Figure 3.3

GOVERNA E KOSOVËS
MINISTRIA E ARSIMIT
DHE SHKENCËS

Turke Baylag Aktivitet Arkiva Destakleyici Malzemeler E kitab Betim Q

Destakleyici Malzemeler

Në këtë faqe mund të gjeni dokumente, fotografi, video dhe materiale të tjera lidhur me zhvillimin e fëmijëve në moshat e hershme, kërkim për minigjendjen psikologjike të prindërve etj.

Video gonder

Fotoğraf gonder

Videoları bak

Fotoğrafları bak

Android oyunlar

iOS oyunlar

Figure 3.4

mm/dd/yyyy

2. Periudha raportimit deri? *

Ju lutem përzgjedhni periudhën deri kur keni përfunduar raportimin?

Date

mm/dd/yyyy

3. Emri dhe Hbiemri i edukatorit/es: *

Your answer

4. Aktiviteti? *

(Ju lutem shkruaj 5 aktivitetet javore që keni realizuar gjatë javës 1, 2, 3, 4, 5)

Your answer

5. Numri i fëmijëve të angazhuar në aktivitet? *

Your answer

Case study 4: Interactive Radio Instruction for pre-primary children in Malawi

Following school closures in March 2020, the Government of Malawi's National COVID-19 Preparedness and Response Plan included a focus on working with Education Cluster partners to produce learning continuity programs through radio, TV and online, as well as the provision of resources, including radios and print materials for the poorest. Supported by Global Partnership of Education (GPE) funding, the Ministry of Gender, Children and Community Development played a coordinating role within the network of development partners. With the support of Save the Children, Interactive Radio Instruction (IRI) sessions began broadcasting in early June to facilitate continued learning for preschool and lower-primary school-aged children (UN Malawi, [COVID-19 Situation Update No. 13](#)).

Save the Children had already used IRI from 2013 as part of its programming. The lessons were adapted to learning at home following COVID-19 school closures with small groups of learners being supported by a caregiver. These learners are gathered across nearby households with social distance measures in place (this is one of the roles of the caregivers). Caregivers are community volunteers who had been identified as an ECD facilitator. There are approximately 32,000 caregivers in the country. Around half had received training on ECD by either the Ministry of Gender, Children and Community Development or a development partner. Caregivers work in groups of six to 10 in their community, with at least two to three trained caregivers in each group to allow for peer learning and support. The IRI programme addresses the youngest learners as they prepare to enrol in the first grade of primary school. The pre-recorded lessons were developed following an existing ECD curriculum. In them, the host directly addresses the children, building in interactivity through pauses to allow children to respond and follow along with the activities presented. The lessons follow a logical sequence, in the order that lessons would build on previous ones in the classroom (UNICEF Malawi, [Learning through the radio amid COVID-19](#)). The lessons are being broadcast across the country every weekday on 12 radio stations. Acknowledging the role that parents play in supporting their children's development, a separate programme providing instructions to parents is broadcast once a week (Save the Children Malawi, [Radio Programme Keeps Learning Alive amid COVID-19](#)).

Radio is the predominant media modality in the country. The 2014 Multiple Indicator Cluster Survey found that 45 per cent of women and 69 per cent of men listened to the radio at least once a week (National Statistical Office of Malawi, 2015, [Malawi MDG Endline Survey](#)). Despite this, access to a working device and reliable electricity can still be a challenge. Many households do not have access to radio. The model of caregivers gathering small groups of children in a household with a radio had developed to address this. During COVID-19 closures the caregivers also play a role in ensuring that physical distancing is being maintained. Another challenge that faced the programme was community awareness. The introduction of previous programming in Malawi usually involves physical campaigns, with household visits and community announcements as part of the sensitisation process. With COVID-19 restrictions in place, the awareness raising on the introduction of these new IRI programmes took place in the form of radio and television advertising.

Figure 4.1. IRI script excerpt (from Anzalone & Bosch, 2005)

Learning Tree: Children, we will play the letter game. I will call out a word, and you will tell me what letter the word starts with if your teacher picks you. We will use letters from the alphabet before the letter P. Teacher, please remind the students how to play the letter game in mother tongue.

Sound Effects: MUSIC BRIDGE INSTRUMENTAL, 10 SECS

Learning Tree: Teacher, please choose a girl to answer a question.

Pause for Teacher Response: 3 SECS.

Learning Tree (exaggerating B in banana): Here we go . . . what letter does the word BANANA start with?

Pause for Student Response: 3 SECS

Learning Tree: B, very good. B makes the sound /b/. BANANA starts with the letter B. Teacher, pick a boy this time.

Pause for Teacher Response: 3 SECS

Learning Tree: What letter does the word ICE start with?

Pause for Student Response: 3 SECS

Learning Tree: !! Letter I starts the word ICE. Now let's all play. Please divide the students into four teams. When I say a word, please ask one child in each group to write down the letter the word begins with on their slate or a piece of paper and hold it over their head. If they get the letter right, their team gets a point.

Case study 5: Expanding access to Sesame Street in the Americas

Sesame Street is an educational children's television series produced by Sesame Workshop and premiered in 1969. It combines live action, animation and puppetry and is known for its engaging child-friendly programmes.

Rigorous evaluations have found that Sesame Street can initiate short- and long-term learning. The benefits to children in the US of watching Sesame Street have been found to be equivalent to those generated by preschool programmes (Kearney & Levine, 2015). Contextual versions of Sesame Street air locally in countries around the world. The impact has been repeated in different contexts. A meta-analysis of 24 studies in 15 countries found that exposure to Sesame Street was linked to positive cognitive outcomes, including literacy and numeracy; learning about the world, including health and safety knowledge; social reasoning and attitudes towards out-groups (Mares & Pan, 2013). A more recent study of more than 1,300 children in 99 preschools in India found that exposure to the Indian version of Sesame Street, Galli Galli Sim Sim, improved literacy, numeracy, socio-emotional strategies and nutritional knowledge (Borzekowski et al, 2019). In the first few months following school closures, Sesame Workshop India reported that their viewership grew by 147 per cent (Khan, 2020).

As a response to the COVID-19 crisis, Sesame Workshop has developed specialised materials on related health topics, such as handwashing and wearing masks (see Figure 5.1). It will continue to develop new materials until the end of 2020 (Campos, 2020).

Through a partnership with the Inter-American Development Bank (IDB), until June 2021, more than 1,200 episodes of Sésamo (Sesame Street) and other Sesame Workshop content has been made available free to governments and other partners in all 14 countries in Latin America. They are being broadcast on public and private television and published on the web pages or online platforms of ministries of education throughout the region. Additionally, WhatsApp is used to further disseminate and support parents. A chatbot allows parents to request and receive additional activities, audio clips, e-books and other forms of content (see Figure 5.2). To deepen at-home learning, a code is aired with each live episode broadcast and when sent to the dedicated phone number, caregivers will receive activity ideas that are related to the episode (see Figure 5.3). Content bundles are also made available to parent WhatsApp groups through the Sesame Workshop directly, as well as through government partners.

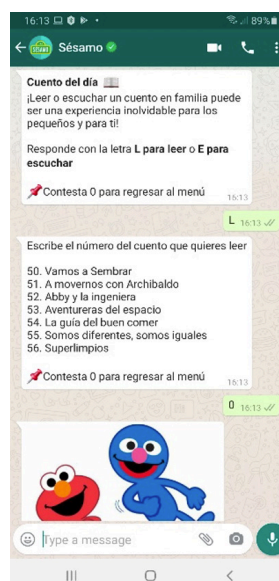
Figure 5.1



Figure 5.3



Figure 5.2



Case study 6: Educational TV with Ubongo's Akili and Me in sub-Saharan Africa

Ubongo began airing in 2013 in Tanzania, as an educational cartoon television show with live SMS-based participation by audiences. In 2016, it launched *Akili and Me*, programming aimed at children aged 3-to-6 years that covers numeracy, pre-literacy, English as a second language, art, health and socio-emotional skills. By 2019, *Akili and Me* was airing on free-to-air television channels in 10 countries and was estimated to be reaching more than 12 million unique viewers. It is translated into six additional languages. Additionally, *Akili Toolkits* programming allow parents and caregivers to access content using a range of platforms, including online, interactive voice response and WhatsApp groups. (Ubongo Annual Report 2019).

An evaluation of *Akili and Me*'s Kiswahilli content in Tanzania found that children aged 4-6 years who viewed the show daily outperformed a control group in counting, English language, number recognition, shape knowledge and drawing skills (Borzekowski, D, 2017). A study in Rwanda with first-grade primary students (7 years old), evaluating the content as adapted to Kinyarwanda, found comparable results (Borzekowski, et al, 2019).

Following school closures across Africa due to COVID-19, Ubongo developed new content on handwashing and other related topics as well as expanding its reach on free-to-air television and radio channels across the continent. Between March and May 2020, Ubongo saw its online viewership more than double in Kenya and Uganda and increase by more than 70 per cent in Rwanda and Tanzania. Weekly users of the toolkits grew more than 1,000 per cent over the same period. It has also developed WhatsApp-based chatbots in English, Kiswahili and Hausa, to allow parents to find and receive content and learning supports (Ubongo, 28 May 2020). In a survey of 207 Tanzanian viewers in July 2020, 95 per cent of parents reported that Ubongo's content was very important for their child's education and 86 per cent believed its importance had increased in the previous two months, with most parents who viewed *Akili and Me* valuing the increase in knowledge of numbers and reading they saw in their children (60dB, July 2020).

Figure 6.1

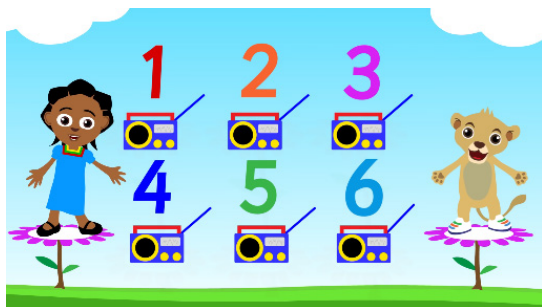


Figure 6.2

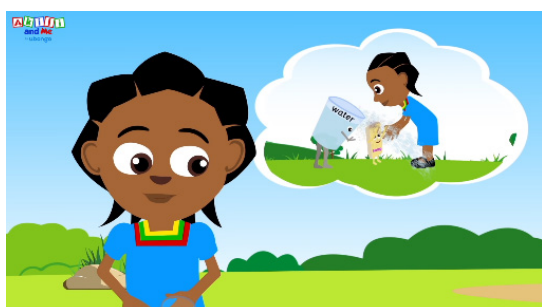
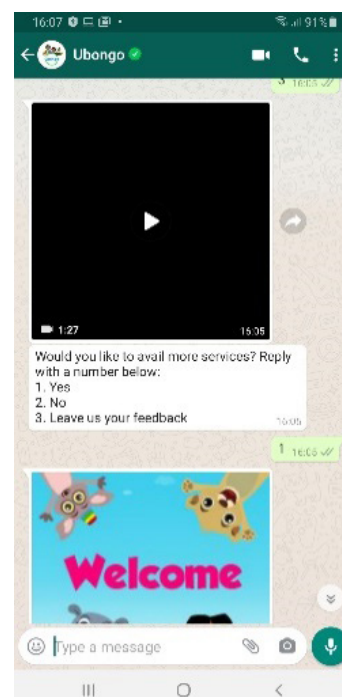


Figure 6.3



Case study 7: Educational TV and teacher supports in Indonesia

Following widespread school closures in mid-March 2020, the Indonesian Ministry of Education and Culture (MoEC) launched its Belajar dari Rumah (BDR) or Learning from Home television programming on the state-owned channel TVRI on 13 April. The educational technology sector in Indonesia prior to the pandemic had seen high levels of growth. But infrastructure challenges persist and access to devices remains unequal. In contrast, government data from 2018 found that 95 per cent of school-aged students had accessed TV in the week prior to the survey, including more than 92 per cent of students in rural areas. (Bhardwaj, R., and Yarrow, N. with Cali, M, 2020). In an interview, the MoEC Director-General for Early Childhood, Primary and Secondary Education expressed that the TVRI programming focusses on literacy, numeracy, character education, parenting and culture.

Programming for pre-primary children was scheduled for 30 minutes starting at 8 a.m. Initially, content relied heavily on existing materials from Jalan Sesama, the localized version of Sesame Street (see Figure 7.1). Subsequently, these were interspersed with locally produced content (see Figure 7.2). A MoEC survey at the end of April found that awareness of the TVRI programming among teachers, parents and students was high. Parents and students were viewing the programming five times a week and reported high satisfaction scores with the offering (Kemdikbud, 5 May 2020).

An extrapolation of multiple national surveys estimated that between 60 and 70 per cent of teachers interacted directly with students or through their parents, most commonly via WhatsApp. But around 10 per cent were providing tasks and homework without direct interaction or providing feedback (Arsendy, S. et al., 2020). This resulted in concerns about reliance on assigning tasks and homework. The MoEC Director of Early Childhood Teacher and Teaching Staff Coordination therefore requested pre-primary teachers not provide homework to their students and to focus on play-based learning (Ruang Guru PAUD, 23 May 2020).

At the start of the 2020/21 school year, only 6 per cent of students nationally were able to return to face-to-face teaching (*ibid.*). In August 2020, the Minister of Education and Culture announced that pre-primary institutions reopening would only occur two months after other levels were reopened due to the perceived difficulties in maintaining safety provisions (MoEC, 7 August 2020). MoEC also released a simplified emergency curriculum for primary and secondary schools. This was accompanied by learning modules for pre-primary around the principle of “Playing is Learning”, to support teachers in facilitating and monitoring, and support parents in receiving tips and strategies to accompany children’s learning at home.

Figure 7.1



Figure 7.2



Case study 8: Provision of printed booklets by the Ministry of Education in Argentina

The Seguimos Educando programme, developed by the Ministry of Education (MOE) and the Secretariat of Media and Public Communication, began broadcasting educational TV and radio content, and made this content available on the ministry's [online platform](#). In addition, to reach households without access to the required technology or connectivity, this was supplemented with printed learning resource booklets. From the beginning of school closures, the MOE produced two monthly booklets for the early years – a version for ages 0-3 and one for ages 4-5 (see *Figure 8.1*), as well as booklets for primary and secondary students. The pre-primary booklets are further divided into weeks, containing activity ideas, poetry, stories, games and prompts for discussions (see *Figure 8.2*). A UNICEF-supported National Evaluation of Learning Continuity ([NMOE-UNICEF](#), July 2020) found that 93 per cent of households with children aged 4-5 had been in contact with their schools. In addition, the reports estimated that 625,000 children preschool/initial education (47 per cent of the total four-and-five-year-old population) accessed the printed booklets.

The MOE signed agreements with the Chamber of Supermarkets so families could pick up a booklet free at one of more than 420 supermarkets around the country (see *Figure 8.3*). As pre-primary education falls under the jurisdiction of provincial governments, however, provincial education ministries are also allocating resources to provide printed booklets to students who need them. The approaches to identifying households vary by jurisdiction. Some rely on data they had already collected. Others consulted local officials and administrators to identify schools with the greatest access difficulties, and some selected geographic areas known to face connection difficulties. Methods for reaching households also vary, from distributing to shops for collection by families (without the ability to monitor who receives them), and other more direct delivery approaches ([Cardini et al.](#), 2020).

Chubut Province, for example, enlisted community leaders, firefighters, social organizations and volunteers, in addition to their own staff to distribute the booklets to the homes of children ([Gobierno Chubut MOE](#), 24 April 2020). In Santa Cruz, one of the smaller provinces with a population of around 350,000 people, a team of around 15 people equipped with personal protective equipment were responsible for the distribution of booklets on the basis of provincial survey data ([El Mediador](#), 21 April 2020). While most were distributing the booklets produced by the National MOE, several Provincial MOEs were supplementing these with locally produced materials ([MOE](#), 2020).

Figure 8.1



Figure 8.2



Figure 8.3



Case study 9: WhatsApp-based early-learning support in Jordan

After Jordanian schools were closed in mid-March 2020 to curb the spread of COVID-19, the Ministry of Education (MOE) introduced the online education portal Darsak as well as two dedicated television channels to deliver video lessons. Until the end of the academic year, the resources cover core subjects only for grades 1-12. Pre-primary content was not included, although the MOE encouraged teachers to maintain contact and teach pupils remotely.

UNICEF along with its partners responded in the early stages of the emergency by modifying its three parenting programmes for remote implementation using WhatsApp groups. More than 300 facilitators supported groups of 10-12 parents of children under the age of 6. The groups received three video and text messages a day: practical tips at 11 a.m., a learning activity at 2 p.m. and a song/story at 4 p.m. These were followed by probing questions from the facilitator to engage the families. This programme ran for 3 months with all video messages recorded in-house by volunteer facilitators using content provided by UNICEF. From the evidence-based parenting curricula, content was initially prioritised on helping parents set up and maintain daily routines, keep children safe, happy, protected, and engaged in age-appropriate learning activities, in addition to self-care for parents themselves. In response to parent requests for more literacy and numeracy content, more play-based literacy and numeracy activities were created, as well as those targeting physical and socio-emotional domains, with messaging on the importance of holistic learning. UNICEF also provided thousands of activity books for the most vulnerable families.

Over the summer, the MOE rapidly created a school-readiness curriculum as an emergency response to COVID-19, supporting years kindergarten-2 (KG2) pupils preparing to enter grade 1 in September 2020. The curriculum focused on literacy and numeracy, although parent feedback later found that they also appreciated the socio-emotional dimension of preparing for school. Organizations, including UNICEF, implemented the curriculum for more than 3,000 children in Syrian refugee camps and host communities, using WhatsApp groups as the main platform of communication. Over an 11-day period, parents received daily lessons of five videos (six-15 minutes). The groups were facilitated by trained educators who also distributed printed materials and conducted home visits.

These WhatsApp-based supports for parents saw high levels of interaction, with parents sharing thousands of videos, pictures, audio clips and text communication with facilitators and each other. WhatsApp was chosen as the delivery platform due to its widespread use in the community. Feedback from both programmes found that families appreciated the structured guidance to assist their children's learning. Additionally, a WhatsApp for Business platform for parents (Usrati) was also set up, with automated responses for families to receive regular info, tips and fun activity ideas for families. To support access, participating parents in the refugee camps received internet data cards.

In September, the MOE added content for KG2 to the Darsak platform and channels. The video lessons were based on the new play-based interactive curriculum that were already planned prior to the pandemic for the 2020/21 school year. Although the new school year started with in-person teaching and learning, in mid-September 2020, the Government announced another two-week closure of educational institutions due to an increase in COVID-19 cases across the country. While parents of students KG2 to grade 3 received an exception to send their children to school, the availability of the new remote materials and supports also meant the system was prepared for more closures which might take place nationally or locally when deemed necessary by relevant authorities.

Figure 9.1



Figure 9.2



Case study 10: Scaling-up remote community ECE support in Turkey

A week after educational institutions were closed in March 2020 due to COVID-19, the Ministry of National Education (MoNE) of Turkey launched the Education Information Network (EBA) which primarily broadcast lessons on television, also making them available on a virtual online platform together with other relevant materials – <https://www.eba.gov.tr/#/anasayfa> (see Figure 10.1). The content initially delivered curricula for grades 1-12. Following the gradual reopening of public preschools, in October the EBA began airing preschool lessons five days a week, for around 50 minutes. They were also made available on the online platform. The video lessons are presented by preschool teachers who address children directly.

Despite efforts to enhance online teaching and learning in Turkey, UNICEF Turkey estimated that more than 1.5 million Syrian and Turkish preschool-aged children were not reached by EBA at the beginning of the COVID-19 response due to a lack of available content through EBA and access to technology. To bridge this gap, MoNE distributed journals to poor and vulnerable families along with play materials (see Figure 10.2). MoNE is also planning to distribute 10,000 ECE kits, which will include two brand new activity books for the most vulnerable families.

Since March, all existing UNICEF ECE programs (ECE home- and community-based programs including ECE summer school) were converted to remote delivery, facilitated through a combination of mobile phone and printed materials. The remote programme runs for 11 weeks for each cohort, serving a total of approximately 5,000 Syrian and Turkish families as of October 2020. At the beginning of the programme, bilingual (Arabic and Turkish) ECE educators conducted home visits and distributed printed learning materials, including info booklets largely addressing mothers. Each day, they then received three activities via WhatsApp on early learning. Parents were expected to provide a video of their children undertaking the daily activities and interact with each other in the WhatsApp groups, and ECE educators contacted families to get feedback on the content. In response to parents' feedback, new content addressing fathers, and audio records of story books for each day were developed in Arabic. All participants were also encouraged to download a free mobile application released in 2019, which provides caregivers with daily information and recommendations on child development, activities, health and care (see Figure 10.3).

With the support of a \$30 million grant from the European Union, MoNE will begin to scale up the provision of ECE services, including alternative modalities such as community-based ECE, which have been implemented by UNICEF Turkey since 2016 (<https://www.unicef.org/turkey/en/stories/education-starts-home>). An initial pilot will be conducted in 20 provinces, selected based on existing low enrolment in ECE (pre-primary as well as preschool) and a high population of vulnerable children. The programming will include mobile preschool teachers conducting home visits to selected villages, container classrooms to add preschools to existing school land, and materials for caregivers. The overall aim of the programme is to increase access to and quality of pre-primary education and expanding services as part of the formal offering available to everyone. This aligns with the Government's Education Vision 2023 document and the 11th National Development Plans, both of which recognising the important role played by ECE.

Figure 10.1



Figure 10.3

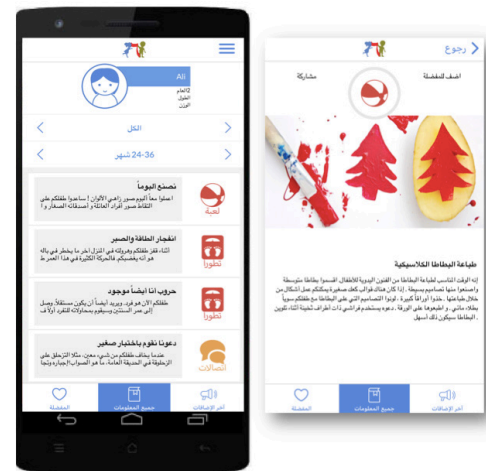
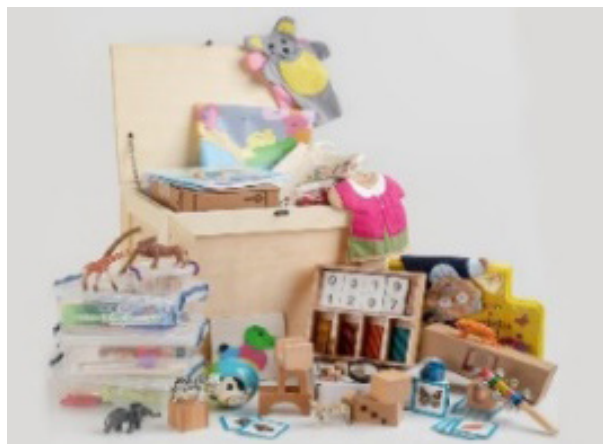


Figure 10.2



CASE STUDY FIGURES

Figure 1.1: Morning circle time in week 4 of Bahamas Ministry of Education Virtual Learning. Retrieved 27/08/2020 from <https://www.bahamasvirtuallearning.com/week-4.html> (c) Ministry of Education - The Bahamas. Screenshot by author.

Figure 1.2: Curated external content in week 4 of Bahamas Ministry of Education Virtual Learning. Retrieved 27/08/2020 from <https://www.bahamasvirtuallearning.com/week-4.html> (c) Ministry of Education - The Bahamas. Screenshot by author.

Figure 1.3: Afternoon circle time in week 4 of Bahamas Ministry of Education Virtual Learning. Retrieved 27/08/2020 from <https://www.bahamasvirtuallearning.com/week-4.html> (c) Ministry of Education - The Bahamas. Screenshot by author.

Figure 1.4: Parents Feedback Form for “Stay at Home” Study, linked from week 4 of Bahamas Ministry of Education Virtual Learning. Retrieved 27/08/2020 from <https://forms.office.com/Pages/ResponsePage.aspx?id=GujJYjABNUWvHG9ipZLcx-ZjNEe9-cVJgx-yJhp4gSNUQVVYQjBONihJME9IUII0MzdRWfKzVFIYQy4u> (c) Ministry of Education - The Bahamas. Screenshot by author.

Figure 2.1: Didactic guide for families, kindergarten age 4, phase 3, week 3. Retrieved 27/08/2020 from <http://sites.google.com/clases.edu.sv/parvularia4aossemana3/clase-del-estudiante> (c) Gobierno de El Salvador. Screenshot by author.

Figure 2.2: At-home learning activities, kindergarten age 4, phase 3, week 3. Retrieved 27/08/2020 from <http://sites.google.com/clases.edu.sv/parvularia4aossemana3/clase-del-estudiante> (c) Gobierno de El Salvador. Screenshot by author.

Figure 2.3: Curated external content with discussion prompts, from kindergarten age 4, phase 3, week 3. Retrieved 27/08/2020 from <http://sites.google.com/clases.edu.sv/parvularia4aossemana3/clase-del-estudiante> (c) Gobierno de El Salvador. Screenshot by author.

Figure 2.4: Expected learning concepts and indicators from didactic guide for families. Retrieved 27/08/2020 from <https://drive.google.com/file/d/1mQZ-x6x6B0WqiCoPppAWDxP4Syqsc5U/view> (c) Gobierno de El Salvador. Screenshot by author.

Figure 3.1: Schedule of daily activities by age group with monthly theme and weekly sub-theme. Retrieved from <https://edukimihershem.rks-gov.net/arkiva-tema-mujore> (c) Ministria e Arsimit, Shkences, Teknologjise dhe Ino. Screenshot by author.

Figure 5.1: Handwashing instruction video from Sesamo website. Retrieved from <https://sesamo.com/elmo/index.html?video=lavarse-las-manos> © 2020 Sesame Workshop. Screenshot by author.

Figure 5.2: Automated Sesamo WhatsApp chatbot to request resources, Retrieved from chat with Sesamo Official WhatsApp account. © 2020 Sesame Workshop. Screenshot by author.

Figure 5.3: Sesamo episode displaying WhatsApp number and code to request resources related to the topics covered in the episode. © 2020 Sesame Workshop. Reproduced from Campos, B (2020). <https://inee.org/system/files/resources/COVID-19%20Webinar%20Series%20ECE%20slide%20deck.pdf>

Figure 6.1: Akili and me video content on counting. Retrieved from <https://www.youtube.com/watch?v=ppkzPJ1AcRk&t=51s>. © Ubongo. Screenshot by author.

Figure 6.2: Akili and me video content on handwashing. Retrieved from https://www.youtube.com/watch?v=XJyTOyXG_gQ/ © Ubongo. Screenshot by author.

Figure 6.3: Automated Ubongo WhatsApp chatbot to receive weekly television schedule and videos. Retrieved from chat with official Ubongo account. © Ubongo. Screenshot by author.

Figure 7.1: Educational television schedule for early childhood, week of 27 March – 4 April. Retrieved from <https://bersamahadapikورونا.kemdikbud.go.id/wp-content/uploads/2020/04/Panduan-Program-Belajar-dari-Rumah-Minggu-3-27-April-3-Mei-2020.pdf> (c) Kemeterian Pendidikan dan Kebudayaan. Screenshot by author.

Figure 7.2: Educational television schedule for early childhood, week of 8 – 14 June. Retrieved from <https://covid19.go.id/storage/app/media/Materi%20Edukasi/panduan-belajar-dari-rumah-kemendikbud-di-tvri-8-14-jun.pdf> (c) Kemeterian Pendidikan dan Kebudayaan. Screenshot by author.

Figure 8.1: Learning from home booklets for different age groups. Retrieved from: <https://www.educ.ar/noticias/etiqueta/seguimos-educando> (c) educ.ar. Screenshot by author.

Figure 8.2: Sample content from activity booklet for 4-5 year olds, week 6. Retrieved from <https://www.educ.ar/recursos/153251/seguimos-educando-nivel-inicial-salas-4-y-5-a%C3%B1os-cuaderno-6#gsc.tab=0?from=151358> © educ.ar. Screenshot by author.

Figure 8.3: Map of the location of supermarkets where families can retrieve learning booklets. Retrieved from https://www.google.com/maps/d/viewer?mid=1lr-ekfmyvAuobO0_87nP6mBpel2_abRY&ll=-39.00731527903547%2C-58.66009887542428&z=5 © educ.ar. Screenshot by author.

Figure 9.1: Communication on parenting WhatsApp group. Screenshot by UNICEF Jordan.

Figure 9.2: Communication on parenting WhatsApp group. Screenshot by UNICEF Jordan.

Figure 10.1: Science demonstration for the Education Information Network online platform © MEB. Photo by Belma Tugrul

Figure 10.2: Materials distributed to families. Retrieved from <http://www.meb.gov.tr/benim-oyun-sandigim-yola-cikti/haber/19460/tr> © MEB

Figure 10.3: “First 6 years” free mobile application in Arabic. Screenshot by UNICEF Turkey.

