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Formative Assessment

Resource Pack to Support Remote Learning

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About the Remote Learning Resource Packs

In response to the challenge to education systems presented by the global COVID-19 pandemic, UNICEF and the World Bank have created a set of seven Resource Packs about remote learning. The packs are designed to support government officials and staff in national and international agencies tasked with designing and implementing effective remote learning opportunities for children in development and humanitarian contexts.

Remote learning is the process of teaching and learning performed at a distance. Rather than having learners meet their teachers in person, learners are distanced from their teacher and possibly their peers as well.

One of the consequences of COVID-19 is that almost every country has had to put in place remote learning programmes. The packs are therefore designed primarily to help you to enhance and improve the effectiveness of existing remote learning programmes.

PACK 1
Introduction

This introductory Resource Pack considers the key elements of a 'pedagogy-first' approach to remote learning, starting with the learner and learning, then considering technology options and your programmes' broader approach to supporting learning. It discusses some of the most common considerations that remote programmes often overlook but which, if carefully considered, can lead to improved learning for more children.

PACK 2
Radio

Radio has a long-established position among remote learning modalities, reflecting in part its wide accessibility in many parts of the world including in some of the hardest to reach areas. This pack is designed to support you if you are involved in remote learning using radio and help you to strengthen and improve systems and approaches so that learning outcomes can be improved for all children and young people.

PACK 3
Print

Despite advances in technology, print remains a crucial medium for many learners around the world. This pack discusses some of the major strengths and limitations of print as a medium for delivery of remote learning and identifies some of the approaches that can be taken when planning for the use of print within remote learning.

PACK 4
TV

A recent UNICEF survey of 127 countries using technology for remote learning identified that 75% are using edTV. This pack is designed to support you if you are involved in remote learning through edTV. It can help you to strengthen and improve your systems and approaches so that learning outcomes can be improved for all children and young people.

PACK 5
Digital

This Resource Pack is intended to help you design new digital remote learning programmes or strengthen existing programmes. This pack will help evaluate your digital learning options by placing your learning purpose and the context of your learners at the heart of your decision making.

PACK 6
Mobile

There are over 5 billion mobile users in the world today. Unsurprisingly, many countries are turning to mobile technology for remote learning. This pack is about creating and strengthening effective remote learning programmes using mobile technology. It overlaps with the Resource Pack about digital learning.

PACK 7
Formative Assessment

Children and young people cannot be expected to learn and progress through a remote learning programme with few or no interactions with teachers. This Resource Pack is about creating opportunities for formative assessment in remote learning programmes i.e. opportunities for checking understanding, giving feedback and collecting information to decide what to do next.

1.1

Purpose of the formative assessment pack

Assessing learning in remote learning programmes typically serves one of the following purposes:

- To monitor and evaluate the impact of a remote learning programme so that it can be adapted to better meet the needs of learners, and ultimately to increase the impact of the programme on learning.[1]
- To provide a measure of individual children's learning.

This resource pack is intended to provide readers with essential and introductory knowledge on how to **build formative assessment into remote learning programmes** so that children are more likely to remain motivated and engaged in learning.

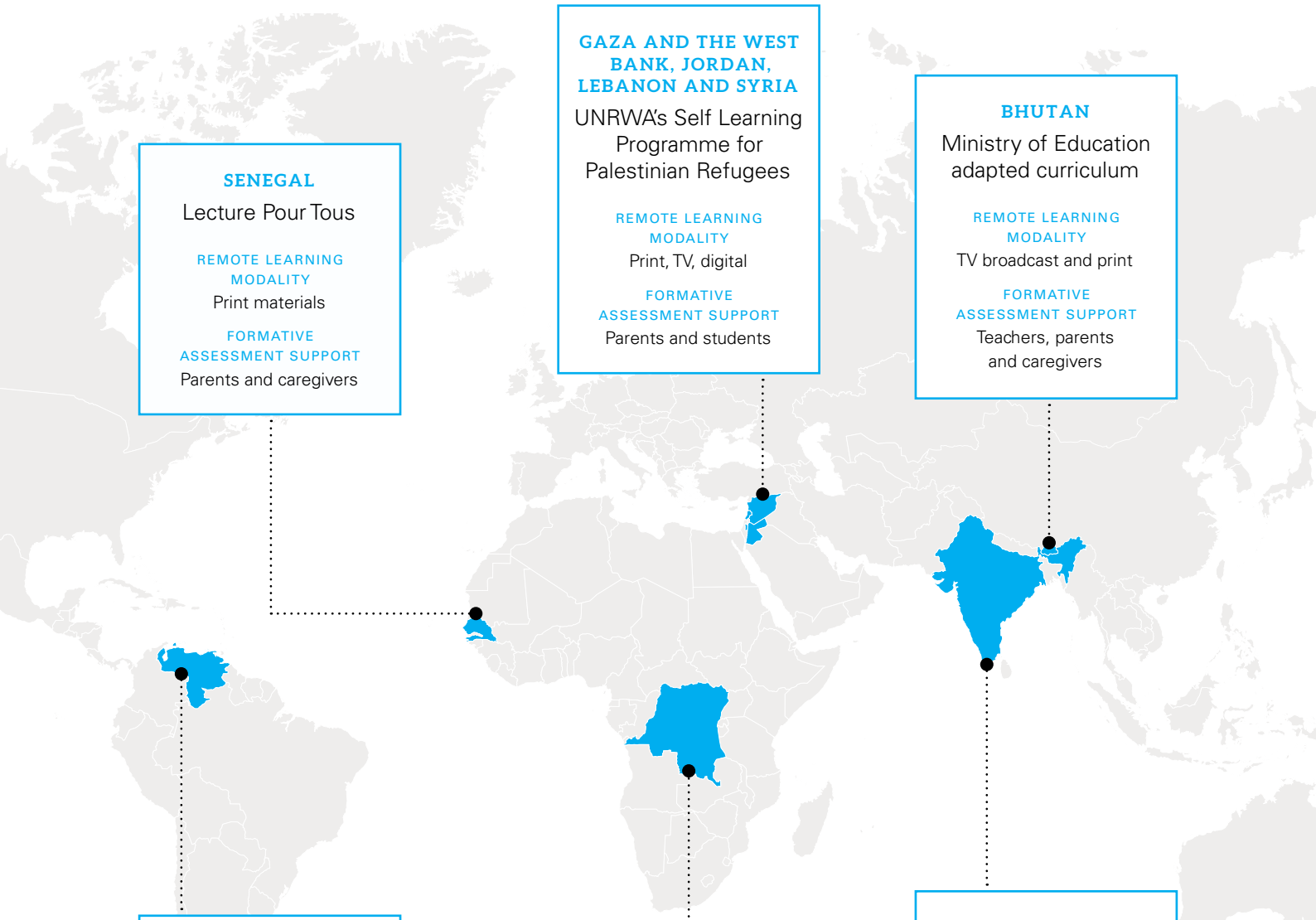
This resource pack identifies and discusses the building blocks to **create an enabling environment for formative assessment** in remote learning programmes.

The resource pack includes **reflection points and tasks** to encourage readers to reflect on their own plans and programmes for remote learning. It also includes examples or **short case studies** about remote learning programmes where formative assessment has been 'built-in' to the programme. These examples illustrate a broad range of contexts and approaches to formative assessment in remote learning programmes in low and lower middle-income countries. Together, they provide insights into some successful strategies and promising practices.

For a broader discussion on key dimension of assessment systems, including the differences between assessment types, and quality drivers such as enabling context refer to the World Bank's What Matters Most for Student Assessment Systems: A Framework Paper.

1.2

A selection of remote learning programmes featured in this pack



SENEGAL

Lecture Pour Tous

REMOTE LEARNING MODALITY
Print materials

FORMATIVE ASSESSMENT SUPPORT
Parents and caregivers

GAZA AND THE WEST BANK, JORDAN, LEBANON AND SYRIA

UNRWA's Self Learning Programme for Palestinian Refugees

REMOTE LEARNING MODALITY
Print, TV, digital

FORMATIVE ASSESSMENT SUPPORT
Parents and students

BHUTAN

Ministry of Education adapted curriculum

REMOTE LEARNING MODALITY
TV broadcast and print

FORMATIVE ASSESSMENT SUPPORT
Teachers, parents and caregivers

VENEZUELA

Fe y Alegria's Escuela en la Radio (School on the Radio)

REMOTE LEARNING MODALITY
Radio, print, mobile (WhatsApp) and meetings at schools

FORMATIVE ASSESSMENT SUPPORT
Teachers, parents and caregivers

DEMOCRATIC REPUBLIC OF CONGO

EDC's Integrated Youth Development Activity

REMOTE LEARNING MODALITY
Radio and face to face interaction

FORMATIVE ASSESSMENT SUPPORT
Parents and Youth Volunteers

INDIA

Learning Will Not Stop

REMOTE LEARNING MODALITY
Mobile phone via WhatsApp groups

FORMATIVE ASSESSMENT SUPPORT
Teachers

2

What is formative assessment and why is it important for remote learning?

2.1 What is formative assessment?

Many people assume that 'assessment' means taking a test, but assessment is broader than that. There are two main types of assessment: summative assessment and formative assessment. Summative assessment is sometimes referred to as assessment of learning: it sums up what a student has achieved at the end of a period of time, relative to the learning aims and the relevant national standards.

Formative assessment is sometimes referred to as **assessment *for* learning**. It refers to 'all those activities undertaken by teachers—and by their students in assessing themselves—that provide information to be used as feedback to modify teaching and learning activities.'[2]

It takes place on a day-to-day basis *during* teaching and learning, allowing teachers and pupils to frequently check attainment and progress. Formative assessments 'encompass a variety of standardized and non-standardized instruments and procedures for collecting and interpreting written, oral, and other forms of evidence on student learning or achievement. Examples of classroom assessment activities include oral questioning and feedback, homework assignments, student presentations, diagnostic tests.' The main purpose of these assessments is to provide 'real time information to support teaching and learning.'[3] Often, the results of formative assessment are not recorded: they simply **inform decisions about what to do next.**[4]

The National Foundation for Educational Research in the United Kingdom presents eight features of formative assessment.[5] Look out for these features in examples of formative assessment in remote learning in this pack.

Using assessment
to inform future actions

Explaining learning objectives
success criteria, or negotiating
them with pupils

Creating an environment in which
pupils can learn from each other

Creating informal opportunities
to assess pupils' knowledge
and understanding

8 key features of assessment for learning

Using questions and dialogue
that promote deep learning

Giving time for learning
to be absorbed

Encouraging pupils to reflect
upon their learning and to
monitor their own progress

Giving constructive
feedback

Research shows a strong link between effective classroom assessment activities and better student learning outcomes as measured by performance on standardized tests, with the largest gains being made by low achievers.[6]

The process of formative assessment can be broken down into four clear steps:

Communicate learning expectations/success criteria.

Find out what children have understood (class work, asking questions, having students complete a task, homework, doing a test or quiz, playing a game).

Give students feedback so that they know what they have done well and what they need to do to improve.

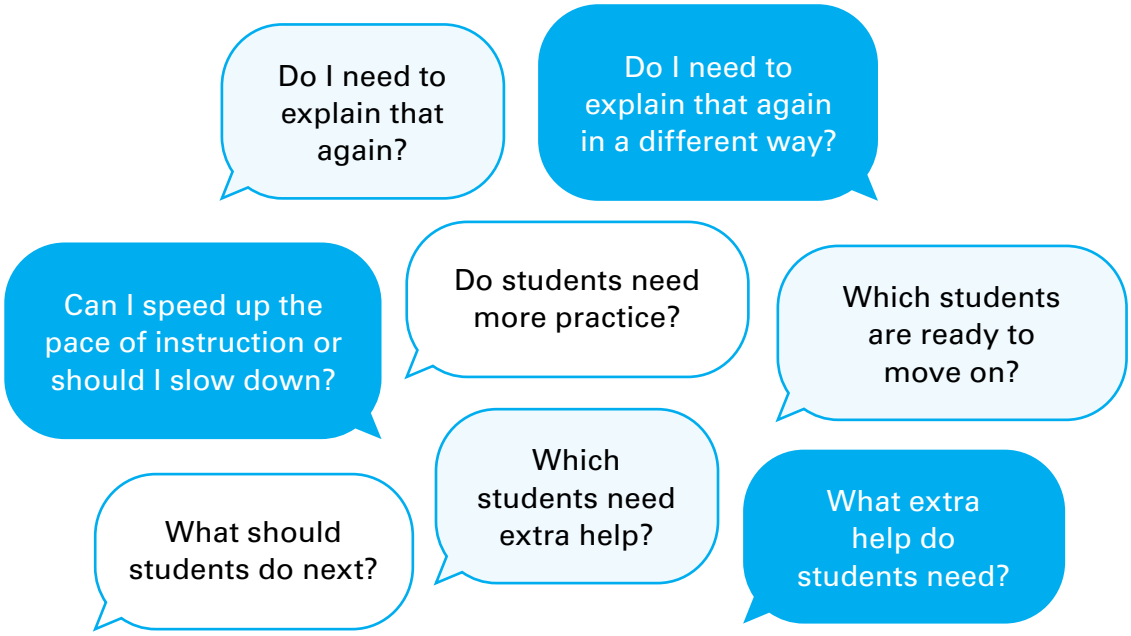
Plan and communicate next steps to help the learner understand what needs to be achieved.

Read more about formative assessment in Getting started with assessment for learning.[7]

2.2

Why is formative assessment important?

Formative assessment matters to teachers because it generates information that allows them to make instructional decisions. It helps answer questions such as:



Formative assessment matters to students because it tells them about what they are doing well and how they can improve. This specific advice (feedback) helps ensure that **students remain engaged in learning** and remain motivated.

Metacognition is a term used to describe 'thinking about thinking'. **Formative assessment develops metacognitive skills** because it can help students reflect on their own learning, to understand how they learn best and to reinterpret any new knowledge, skills and understandings that they have acquired.[8] For example, prompting pupils to reflect on their work or to consider the strategies they will use if they get stuck have been highlighted as valuable. Wider evidence related to metacognition and self-regulation suggests that disadvantaged pupils are likely to particularly benefit from explicit support to help them work independently, for example, by providing checklists or daily plans.[9]

The importance of formative assessment

Watch this short video[10] explaining the importance of formative assessment:

https://www.youtube.com/watch?v=IAqNcJXN-aY

2.3

Why is formative assessment so important in remote learning?

"While the provision of remote learning content has been necessary to support learning continuity, simply making content available is not enough – it is important to know whether and how students are in fact learning from the remote resources." [11]

Imagine a typical classroom where the teacher and students are together in the same location. The teacher is asking questions, talking with students, giving feedback on work they are doing. She is noticing who needs more practice and who is ready to move on to a more difficult task, or to the next stage in their learning. Perhaps students are giving each other feedback about their work.

Even in a class with lots of students and an untrained or minimally trained teacher who does not know about formative assessment, the fact that students are together means they can help each other and there is the possibility of getting some feedback on learning from their teacher, even if the feedback is limited.

A Senegalese mother and her daughter practising reading at home.

Photo: Lecture Pour Tous Senegal

Without structured and intentional efforts these events and opportunities do not happen in a remote learning environment. Students are left to motivate themselves to complete a task or assignment, or to take a test. They do not know if they are making the required progress; and, they have no one to ask if they get stuck on a problem. In a situation like this, it is easy for students to lose interest and become demotivated, which is why building formative assessment into remote learning programmes is so important.

Also, teachers may not know how to do formative assessment in a remote learning environment. They too need carefully designed formative assessment tasks built into the programme, and guidance on how and when to use them with students.

Key messages about formative assessment and remote learning in this Resource Pack

Formative assessment is a vital ingredient in teaching and learning.

Formative assessment must be built into remote learning programmes or it will not happen.

Choices about who should do formative assessment and how in a remote learning programme depend on who is learning and their context for learning.

Someone must take on the role of teacher in a remote learning programme so that formative assessment happens. Ideally it will be a teacher, but parents, caregivers and other members of the community can support formative assessment.

Teachers, parents, and others doing formative assessment in remote learning programmes need guidance and support.

Digital learning assessment can complement or supplement formative assessment by teachers or parents.

Formative assessment strategies should help children work independently with success.

Reflection task

Reflect on your own experience with remote learning/distance education, or that of students learning at home during the pandemic.

- What helped you to stay motivated and engaged?
- What hindered your motivation and engagement in remote learning?
- What could have increased your motivation and engagement in remote learning?

A mother in Kenya monitors her son's learning.
Photo: UNICEF

3

Planning for formative assessment in remote learning programmes

Before you start designing formative assessment you need to collect information about:

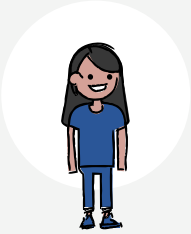
- the children you are trying to reach; and
- the situation in which they are learning remotely i.e. their *context* for learning.

The information you collect can be used to **create a Learner Profile**. The Learner Profile will help identify appropriate opportunities for formative assessment.

Consider the following learning profiles of three children learning remotely:

Tina is nearly 16.

She is a diligent student in her final year at high school and she is keen to do well in her exams. From Monday to Friday she watches lessons in core curriculum subjects on a TV channel set up by the Ministry of Education (MoE). Tina's teachers live nearby, and school is only a short walk away. She tries to find old exam papers so that she can practice but she is not sure if her answers are correct.



Samira is 4 years old.

She lives in a refugee camp. Samira listens to a radio programme broadcast by an organisation working in the camp. The programme is designed to help young children develop basic literacy and numeracy skills and to get ready for school. It is broadcast every day at noon. Samira's parents are busy during the day and so her grandmother takes care of her. She can't read but she likes to listen to the programme with Samira. She enjoys the songs and rhymes as much as her granddaughter.

Manuel is 13 years old.

An organisation in the city where he lives runs a life-skills programme.[12] Even though schools are closed, the organisation continues to broadcast a *telenovela* (a serial drama or soap opera) with storylines designed to help young people develop life skills. Manuel's mother has a smart phone and she receives regular messages to remind Manuel to watch the programme.

Even in these very *brief* learner profiles, one can begin to see that there *are* opportunities for formative assessment and that, in each case, they are very different.

It looks like Tina can manage her own learning. It might be possible for the MoE to distribute assignments and tests based on the TV programmes. Tina could collect the assignments from school, complete them and then return them to her teachers for marking and feedback. Tina could pick up the marked assignments and the feedback from school on her next visit.

For Samira, it may be possible to build assessment tasks into the radio programmes and for her grandmother to give feedback on the tasks. Her grandmother will likely need help to do this but the organisation that broadcasts the programmes could arrange informal workshops and training sessions to help prepare Samira's grandmother and other caregivers in the camp for their role.

The organisation that runs Manuel's life-skills programme could design a short online assessment, accessible via mobile, to be completed after each episode of the telenovela. The assessment could be set up to provide immediate feedback to learners about their responses. Information collected via the assessment could be used to develop new storylines for the telenovela.

Reflection task

Learning is active and must start with where the learner is.

The **Learner Profile Tool** helps you identify the important characteristics of the learners you are trying to reach—your target audience. Knowing more about your target audience will help you design a formative assessment that works in their context. To complete the tool, imagine a typical learner in your target audience. Then, ask yourself questions about the learner. Make a note of the characteristics you think of and then think about the implications of these characteristics for formative assessment. For example, what do the characteristics tell you about their ability to follow instructions and do self-assessment? Who is at home or in the community who could help with formative assessment? Do they have access to a mobile phone?

Who are they?

- How many learners with this profile are you likely to have on your programme?
- What is their age(s)?
- Are they female and/or male?
- What is their first language(s)?
- Do they have families around them?
- Where are they (e.g. rural homestead, urban shanty, refugee camp)?

What motivates their learning?

- Why are they learning?
- What challenges do they face in trying to learn?
- Will they value formative assessment? Why?
- What interests and experiences do they bring that are relevant?
- Are they motivated by interacting with peers?
- Do they meet their peers to learn together?

What technology do they have access to?

- Can they access a radio/ TV/mobile phone/ internet at home?
- Do they need consent of others to use them?
- For how long and how often can they use them?
- If not, is there community shared access?

What do we know about their ability to manage their own learning?

- Can learners read?
- Can learners follow instructions?
- Are they able to follow a schedule or timetable?
- Can they do a self-assessment?
- Can they get themselves online and navigate a digital interface?
- Can they interact effectively on the phone/online?

Who can help with formative assessment?

- Can their teachers do formative assessment with them? What support will teachers need?
- Can parents help? What support will they need?
- Are there other people in the community who could help?

What do we know that is surprising?

- What have you learned from speaking to learners and those who support them?

Learner Profile Tool

Brief description of targeted learner:

Who are they?

What motivates their learning?

What technology do they have access to?

What do we know about their ability to manage their own learning?

Who can help with formative assessment?

What do we know that is surprising?

What ideas do you have about how to do formative assessment based on this information? For example, what does the child's age tell you? What does information about access to technology tell you? What does the information about who can help tell you?

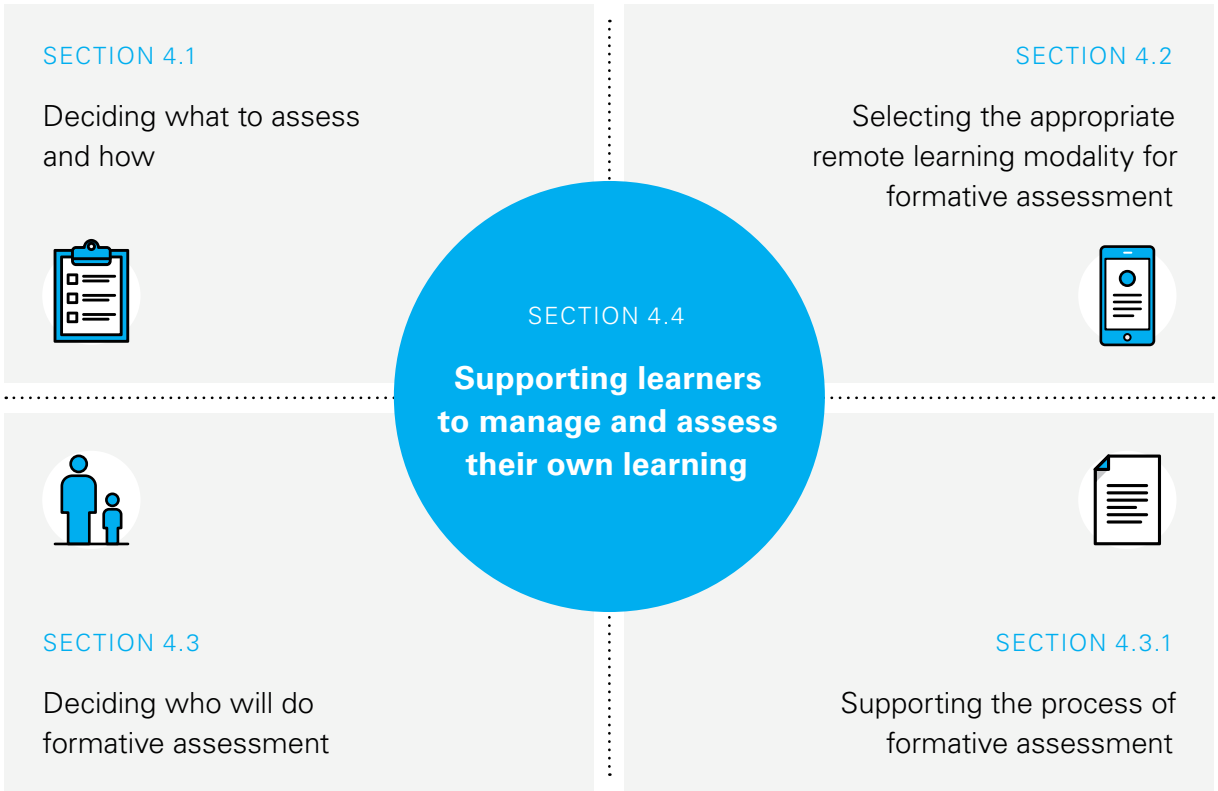
4

Creating an enabling environment for formative assessment in remote learning programmes

Doing formative assessment effectively in remote learning environments can be challenging – especially when the aim is to reach thousands if not millions of students – as has been the case for many remote learning programmes during the COVID-19 pandemic.

The goal is to create an enabling environment that encourages, supports, and provides opportunities to set expectations for learning, checking understanding, giving feedback, and planning next steps.

There are five elements, or building blocks, in an enabling environment for formative assessment in remote learning.



Each element is discussed in more detail in this section of the resource pack.

A young woman in a community-based learning session in Zimbabwe responds to a question.

Photo: SAGE/Plan International

4.1

Deciding what to assess and how

In a classroom where a skilled teacher is working in the same place with students, the teacher plans instruction and adapts it throughout the lesson based on formative assessment. The teacher has a plan for formative assessment, and they have identified the signs of progress that they expect to see or hear from students (and students know too).

In a remote learning programme, the same situation must be created. However, a lot happens in person in a classroom and typically, there are more and easier opportunities for formative assessment. **In remote learning, the curriculum and plans for formative assessment may need to be scaled back** and be much more clearly defined. This is especially the case in situations where teachers and students are new to remote learning.

Consider this example from Bhutan about how decisions were made about what to assess.

CASE STUDY

Bhutan

When setting up remote learning in Bhutan, the MoE adapted and prioritised the curriculum, paring it down to the most essential areas for each age group using the REAL model of prioritisation.[13] The REAL model consists of the following four key areas:[14]

R **Readiness.** This standard provides students with essential knowledge and skills necessary for success in the next class, course or grade level.

E **Endurance.** This standard provides students with knowledge and skills that are useful beyond a single test or unit of study.

A **Assessed.** This standard will be assessed on upcoming state and national examinations.

L **Leverage.** This standard will provide students with the knowledge and skills that will be of value in multiple disciplines.

Eventually, the prioritized curriculum covered about 65% of the syllabus for a regular academic year. As illustrated in the following excerpt from the curriculum matrix for grades IV-VI, the team adapting the curriculum also thought about the delivery of the prioritized curriculum *and* assessment. They identified tasks to achieve each of their curriculum priorities and they suggested ways in which and by whom learning could be formatively assessed.

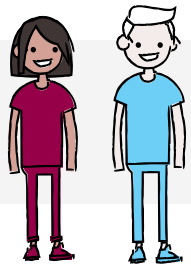
The remote learning programme prepared by the MoE in Bhutan was delivered through broadcast lessons on radio, TV and online, and supplemented with Google Classroom, YouTube, WeChat and social media. Assessment tasks were designed to be used in these modalities.

Key Stage	Learning Areas	Strategies	Remarks/Scope
Key Stage II (IV-VI)	Creative writing (realistic fiction)	Give as many topics as possible and ask children to choose and write on one topic every fortnight. Teachers should share features of realistic fiction.	Encourage children to first share paragraphs instead of the whole written work. This way it will be easier to monitor and guide. Wherever possible parents should help children.
	Reading	Select the most appropriate texts (short stories, essays, and poems). Explain the features of the respective genres and demonstrate the skills needed to comprehend the different texts. Ask students to read a certain number of stories, essays, and poems from the textbook periodically. Teachers develop appropriate set of prompts/cues to check the understanding.	Let children video/audio tape their readings of stories, essays, and poems for comments and feedback.

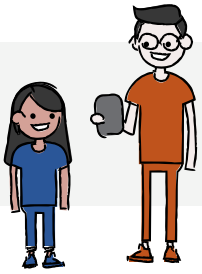
Having decided what to assess, decisions must be made about what **method** to use to do the assessment and **when** it will be done: will the teacher listen into a discussion between students in a WhatsApp group? Will students play a game with their parents at the end of a radio programme? Will students be required to do an assignment and upload it for the teacher to mark and give feedback?

The method selected to assess learning will depend on several factors including the modality (print, tv, radio, digital, mobile) and what you are assessing. Assessing facts (for example, the names of places or key dates in history) is relatively straightforward but assessing understanding, skills and attitudes is more challenging. You may need to build in opportunities to explain and demonstrate during formative assessment.

Assessing understanding	Assessing skills	Assessing attitudes/dispositions
Do children have an opportunity to explain their thinking or a strategy they used to solve a problem or complete an assignment?	Are there opportunities during the assessment for children to demonstrate the skills they are learning?	Do children have an opportunity to demonstrate new attitudes or behaviours?

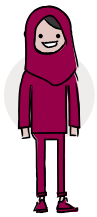


Do children have an opportunity to reflect on their learning?



In Section 3 of the pack, three short Learning Profiles are presented for Tina, Samira and Manuel. Based on the information in the profiles, formative assessment needs to check progress in:

- several exam subjects with Tina
- early grade literacy and numeracy skills with Samira
- life skills with Manuel.



For **Tina**, formative assessment needs to adhere closely to the syllabus for subjects in the examination so that she knows where she needs more practice. Her teachers could give her feedback on practice exam papers and help her compare her answers to model answers provided in practice papers.

For **Samira**, formative assessment needs to focus on a few key literacy and numeracy skills such as phonological and phonemic awareness, and rational counting in ones. Community based volunteers could visit Samira and her grandmother once every few weeks to administer a few simple tasks and give feedback. Learning assessments such as those produced by the PAL Network might provide a useful starting point for designing such tasks.

Life skills are best assessed by observing behaviour but that is not possible during the pandemic and anyway, there are probably too many children in **Manuel**'s life skills programme to observe them all. Manuel could use his mother's phone to respond to a short Situational Judgement Test (SJT) after each episode.[16] SJTs are measurement instruments that present the respondent with a real-world scenario and ask the individual to select the action that they would most likely take in that given situation. Examples of life skills that have been developed and tested using SJTs are empathy, integrity, resilience, interpersonal awareness, and communication.

When will formative assessment happen?[15]

Advantages of doing formative assessment **synchronously** (*during* a lesson or learning activity) for example, over a phone call or in person:

- Students can adjust immediately based on feedback.
- Teachers can quickly adjust instruction based on how well students understand the content.
- Teachers can help students who are struggling with a concept in real-time.

Advantages of doing formative assessment **asynchronously** (*after* a lesson or activity or sequence of instruction) for example, marking an assignment and sending feedback over WhatsApp or over a phone call or in person:

- Students have more time to research and process new information.
- Can be done at the student's pace and is less dependent on getting a good phone or having a parent or teacher available there and then to give feedback.
- Gives the teacher more time to reflect on what students are learning and to plan action.

CASE STUDY

Peru

Developing a tool to assess early literacy and numeracy skills[17]

In response to the challenge of learning assessments during school closures, Innovations for Poverty Action (IPA) and the Inter-American Development Bank (IDB) partnered to develop a phone based remote learning assessment for 4-6-year-olds. The priority was to gain information on the development of early skills in mathematics (e.g. counting, number comparisons, spatial reasoning); and literacy (e.g. sound identification, listening comprehension and expressive vocabulary); as well as socioemotional development (e.g. empathy and conflict resolution skills). To measure these skills, they developed a remote version of questions from two tests: Measuring Learning Quality and Outcomes and a preschool version of the Early Grade Mathematics Assessment.

There were some interesting findings from the initial feasibility study:

- Children maintained their attention during the 20+ minute test and understood the instructions.
- Some early childhood skills are more challenging to measure remotely. Asking the child to count or name items in certain categories (i.e. expressive vocabulary) was straightforward to adjust to a remote format. On the other hand, domains such as empathy, spatial sense and grouping objects were more challenging to adapt for remote testing as they require the use of visual aids and non-verbal responses.
- Remote learning assessments require different modes of application depending on the connectivity of each household. To ensure that children from any type of household can be included, the researchers developed a video and an audio format of the test. All images in the video test had to be fitted to a small screen as people tend to access internet through smartphones in Latin America (e.g. 89% of Peruvians with internet access connect through smartphones). Based on parental preference, the video format of the assessment can be administered either as a unilateral video – where the child cannot be seen by the enumerator, but the child can still see the enumerator's screen – or a bilateral video where the family and the enumerator can see each other.
- Caregivers play a key role in remote assessments in early childhood. Protocols for interactions with caregivers are central for everything from test scheduling and informed consents to monitoring the quality of the audio and mitigating parental influence on outcomes.

4.2

Selecting the appropriate remote learning modality for formative assessment

As illustrated in the table below some remote learning modalities are inherently better suited to formative assessment than others because they offer opportunities to give individualised feedback and advice on next steps.

Steps in the process of formative assessment	TV	Radio	Digital	Print	Mobile
1 Communicate learning expectations/success criteria.	✓	✓	✓	✓	✓
2 Setting a task/asking questions for children to demonstrate what they have learnt.	✓	✓	✓	✓	✓
3 Give students feedback so that they know what they have done well and what they need to do to improve.			✓	✓	✓
4 Plan and communicate next steps to help the learner understand what needs to be achieved.			✓	✓	✓

When planning for formative assessment, it is likely that the modality for remote learning will already have been decided. If the modality selected is TV or radio, it might be useful to add another modality to support Steps 3 and 4 of formative assessment. Throughout the pack you will find examples programmes that use more than one modality for remote learning. For example:

Radio Mobile

Rising Academies
Sierra Leone

Radio Print

Fe y Alegría School Program
Venezuela

TV Radio Digital Print

Seguimos Educando
developed by the Ministry of Education and the Secretariat of Media and Public Communication in Argentina

Supporting student learning at home with phone-based formative assessments[18]

The increasing penetration of mobile phones, even in poor households, offers a number of possibilities for formative assessment. The World Bank's Learning Assessment Platform (LeAP) team is working on a suite of remote formative assessment products and tools using basic feature phone technologies to support learning continuity outside of physical classrooms.

The activity focuses on three phone-based assessment solutions to facilitate access to remote formative assessment of learning using basic phones:

short message services (SMS) to deliver quizzes,

phone calls between students and teachers, and

interactive voice response (IVR) technologies to provide oral step-by-step guidance on learning content.

The LeAP team is working to evaluate take-up and student engagement with the three phone-based formative assessment solutions in three countries: Ghana, Nepal, and Pakistan. Implementation logistics for pilot projects and coordination with the country teams are ongoing. Upon conclusion of the pilot projects, the LeAP team will publish an implementation evaluation report including lessons learned from implementing the three phone-based formative assessment solutions and recommendations for their future application and use. It is envisioned that these activities and knowledge products can help support resilient education systems that are capable of responding to future shocks with adaptable learning assessment resources and strategies to ensure learning continuity.[19]

4.3

Deciding who will do formative assessment

Formative assessment requires someone to take on the role of the teacher. In some programmes, the person doing formative assessment is the student's teacher. In other programmes, formative assessment is carried out by people at home or in the community. Parents, teachers, community volunteers, peers and siblings can all play a role.

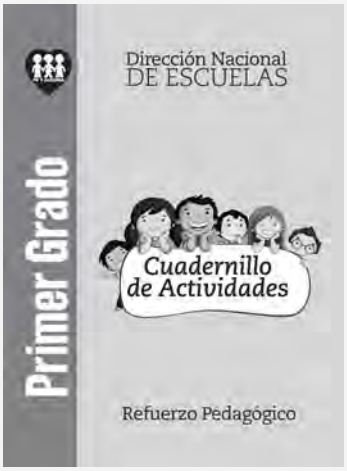
Programme	Who supports the assessment?	Role in assessment
Escuela en la Radio (School on the Radio) in Venezuela[20]	Parents	Give feedback on an activity set during the radio programme
Lecture Pour Tous in Senegal[21]	Parents	Help children do activities after a radio broadcast and check what they are learning
Integrated Youth Development Activity (IYDA) – led by the Education Development Centre in the Democratic Republic of Congo[22]	Community volunteers	Discuss progress, give feedback and encourage children to listen to the programmes
#ab padhai nahi rukegi' (Learning will not stop), Madhya Pradesh, India[23]	Teachers	Help students access learning material, check understanding and answer any questions
Rising Academy in Sierra Leone[24]	Teachers	Ask questions to check skills and understanding and gave immediate feedback

Case studies

In these two remote learning programmes in Venezuela and Senegal, **parents** support formative assessment.

CASE STUDY

Venezuela – Escuela en la Radio (School on the Radio)



The 60-minute lessons follow the national curriculum. They are broadcast on the radio every day from Monday to Friday. The first 15 minutes of the lesson is for the whole family. It includes dancing, singing, fun facts, riddles, and recipes. It also includes:

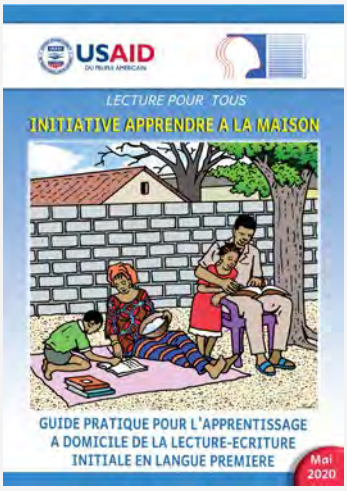
- An explanation on the content planned for the coming week and expected learning outcomes, tips for parents and caregivers on how to support their children's learning, advice on how to prepare the learning space.
- Guidance on tracking children's progress.

The remaining time is divided into three 15-minute blocks for young children (pre-schoolers), children in lower primary grades, and children in higher primary grades.

Short formative assessment tasks are included in each block. Each 15-minute session ends with wrap-up activities to help children check their learning, draw conclusions, present an analysis, explain and summarize what they have learned, or capture it using strategies and resources such as concept maps, drawings, etc. These small assessment exercises are captured in writing by the children. Parents are encouraged during the radio programme to check these exercises with their children and to give them feedback.

CASE STUDY

Senegal – Lecture Pour Tous led by Chemonics with the Ministry of Education



Prior to school closures in Senegal in March 2020 due to the COVID-19 pandemic, the USAID-funded early grade reading programme 'Lecture Pour Tous' was operating in seven of the 14 regions of Senegal. The programme already had a strong home-reading component: all students had a reading manual that they took home every day and parents and other caregivers had been trained to help their children practice reading at home.

When schools closed, the programme supported the Ministry of Education to set up radio lessons based on the reading manual for all the first grades in the three national languages. Each radio lesson ended with explicit instructions for post-lesson activities and regular formative assessment. These instructions were repeated in the guidebook for parents. Each new radio lesson built on the content learned during the last lesson and the homework done by the children with their parents. Reading facilitators engaged by the programme contacted parents via WhatsApp to provide further guidance or answer question.

A caregiver checking a mathematic task with a girl.

Photo: SESIL Uganda

In this example from the Democratic Republic of Congo, **community-based volunteers** support formative assessment.

CASE STUDY

Democratic Republic of Congo – Integrated Youth Development Activity led by Education Development Centre Inc. (EDC)

In the DRC, EDC and its partners are supporting youth affected by conflict to pursue educational, social and economic opportunities. Implementation of IYDA began in 2018 and will run through early October 2021.

When faced with the challenge of COVID-19, IYDA used existing materials and resources to make rapid changes in the way they implemented their accelerated learning programme for out of school youth. They modified a series of Interactive Radio Instruction (IRI) programmes developed by previous projects in DRC, and they adjusted the role of the 130 youth volunteers already recruited and trained by IYDA. These volunteers were older youth who had graduated and with some training, were able, in normal times, to provide support to youngsters in school with after school tutoring sessions and extracurricular activities.

These modifications allowed out of school youth to continue learning and prepare for the primary school exit examinations. After IRI broadcasts on the radio, youth volunteers visited student to make sure they had been listening, to check understanding and to provide an opportunity to ask questions. Youth volunteers were also able to use work from the school textbooks with students to reinforce the content in the IRI broadcasts and they checked homework.

In these two case studies from India and Sierra Leone, **teachers** do formative assessment.

CASE STUDY

Madhya Pradesh, India – *#ab padhai nahi rukegi* (Learning will not stop)

Madhya Pradesh (MP), a state in central India, has over 16 million children enrolled in approximately 150,000 schools spread across 52 districts, including 10.7 million children in rural areas. 60% of all students are enrolled in government-run schools. When schools closed in 2020, Madhya Pradesh continued improving learning through digital and non-digital programmes under the campaign *#ab padhai nahi rukegi* (# learning will not stop). The non-digital programmes for students include school lessons on the radio for primary school grades (1-8), educational television programmes for secondary school grades (9-12), as well as books, worksheets, and one-on-one teacher interactions for all grades. The digital learning component, the 'Digital Learning Enhancement Programme' (DigiLEP) shares curated learning material for all grades through WhatsApp groups.

The cascade method of dissemination through WhatsApp groups across multiple levels reaches grade specific parent teacher groups, where a 20-minute lesson is shared every day at 9am. Teachers were asked to call 5 students every day, to help them access the learning material, check understanding and answer any queries. They then advise on the next video to watch or whether the last one needs to be watched again. In addition, the WhatsApp videos, worksheets are distributed to students to provide extra practice.

CASE STUDY

Sierra Leone – Rising Academy

Rising Academy used phone assessments to check learning progress during a radio-based remote learning programme. In this example, a teacher made a telephone call to the students who had listened to the radio programme to test their literacy and numeracy skills.

Children listening to the programmes were young, so the test was kept short. Each student was asked to have pen and paper ready. Here are two sample questions:

- "I will count forward three numbers and I want you to tell me which number comes next. 15, 16, 17".
- "I want you to spell the word NOTE."

The teacher noted the answers given by the student and then shared feedback before explaining what to do next. Detailed scripts to guide teachers through this formative assessment exercise are available on the Rising Academy's website, per teaching level and for both numeracy and literacy lessons.

4.3.1

Supporting the process of formative assessment

Having decided who will do formative assessment in a remote learning programme, it is important to think about how they will be supported to do it well.

Helping teachers to do formative assessment in remote learning programmes

Remote learning requires teachers to rapidly change their practices, including practices for formative assessment. They may be asked to use new approaches to monitor children's learning (for example, phone calls instead of conversations in the classroom), and they may be asked to us different approaches with students in different grades and for different subjects. In addition, teachers may lack relevant resources at home, training and experience, particularly on digital learning platforms.[25]

FURTHER DEVELOPMENT

As described in the Introductory Resource Pack, the discussion on how best to support and empower teachers to face the shift between in person learning to remote and hybrid learning requires is critical.

In Jordan, the Learning Bridges programme offered an online, four-hour teacher training programme, introducing teachers to the new concepts. To date, more than 20,000 teachers have completed the course. Teachers also have access to the Padlet App. The app includes 'good practice noticeboards' where schools can post news or examples of children's work and it is being updated to enable interaction between students and learners. One female and one male teacher per district serve as Learning Champions. They encourage and support other teachers. Learning Champions are encouraged to have district noticeboards and to share links to these with school principals.

In addition, Learning Bridges produces animated videos on social media and broadcast channels to encourage teachers (and parents) to engage. A printed teacher pack gives guidance for every week, including the weekly learning objectives, common misconceptions children may have, and quick ways of assessing learning.

The importance of teaching presence for remote learning success[26]

Educator roles are critical in remote learning, but risk being inadequately supported. Two-thirds of teachers feel they do not have the skills (technological or pedagogical) to design and facilitate distance learning. Most countries have issued written guidance for teachers; however, less than 30 percent combine teacher guidance and training. More focus is placed on training to use Information Communication Technology as compared to remote training and support for pedagogy, formative assessment, and learner engagement. The use of technology should enhance teacher practices and increase engagement with students, through improved access to content, data and networks, helping teachers better support student learning.[27]

Studies of successful education programmes using radio, TV or online platforms also highlight the importance of effective teaching presence for learning achievement. Take the case of interactive radio instruction (IRI), which has a good record of producing learning gains. IRI programmes are rarely implemented without a teacher/facilitator present to guide interaction, and evaluations of successful IRI programmes emphasize the importance of trained teachers/facilitators.

In Mexico, a successful TV education programme (*Telesecundria*) also ascribed a key role to the teacher/facilitator as mediator of content. In online learning too, in the United States teaching presence has been found to be predictive of learner engagement and outcomes, and a study on European virtual schools identified appropriate professional teacher development as a critical success factor.

Reflection task

Look back at the examples of teachers doing formative assessment in Sierra Leone and Madhya Pradesh on page 28. What additional new knowledge and skills might they need to do formative assessment effectively? Think about new pedagogical and technology knowledge and skills.

Helping parents and caregivers conduct formative assessment

As has been the case for many children and young people during the pandemic, parents, caregivers and the wider community have had to take on the role of teacher. However, they may lack the confidence and skills to do it effectively, and so they need guidance and support.

The following examples illustrate ways in which parents and caregivers have been supported to do formative assessment in Venezuela, Cambodia, Gaza and the West Bank, Jordan, Lebanon and Syria and Senegal.

In **Venezuela**, the radio broadcast programme is accompanied by **guidebooks** for parents that explain the tasks that children should do at home and what parents or caregivers should be looking for when their children do the assessment task. The guides are **available for free** online. They are also shared via WhatsApp or printed and distributed to households in more remote, rural areas.

In **Cambodia**, teachers and literacy coaches supported parents who practised reading with their children at home every day during school closure. Parents received **reading material and guidance through Facebook, WhatsApp and phone calls**, and could also contact teachers and literacy coaches for help.[28]

In remote learning programmes in **Gaza and the West Bank, Jordan, Lebanon and Syria**, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) set up a remote learning programme for students in grades 1-9 covering the main subjects of the curriculum, i.e. Arabic, English, Mathematics and Sciences.[29] The remote programme includes TV lessons, online lessons and print-based lessons. A parent guide accompanies the programme. The guide is designed to help parents assess their children's progress and give feedback and guidance before, during and after lessons.

The parent guide explains when the assessment should happen, what children are expected to do, where parents can find the answers and also what they can do to help their child – as illustrated in the following extract:

Extract from the SL SLP parent's guidelines[30]

Pages 6 and 7 describe how parents can support formative assessment during and after each lesson.

- All materials are organized into units and sub-units. Each unit is designed for children to work through independently, giving them information to read and instructions on how to complete the activities.
- There are regular short questions for children to answer throughout and opportunities for them to produce longer pieces of writing. At the end of each sub-unit there is also an assessment.
- Each set of materials has an answer code at the end, which your child can use to check their work. You can compare your child's answers to those given on the answer code and help them improve by asking them to think about what they might have done wrong in answering a question incorrectly.

The USAID-funded early grade reading programme 'Lecture Pour Tous' mentioned earlier in the resource pack (page 26) provided a guidebook for parents with instructions for post-lesson activities and regular formative assessment. The following extract from the introductory section of the guidebook sets the scene and offers advice on managing learning at home and formative assessment:

La patience, la tolérance, la motivation par des appréciations positives, la perception de l'erreur comme une opportunité d'apprentissage, le guidage méthodique et graduel, sont les attitudes et actions incontournables attendues de l'encadreur(euse) qui devra toujours dire clairement à l'enfant ce qu'ils vont faire ensemble et ce que l'élève va y gagner en termes de capacités et de compétences. L'encadreur(euse) essayera aussi, autant que possible, de proposer à l'enfant d'autres supports de lecture récréatuve (album, ban des dessinées, coupures de journaux, etc.) qui vont enricher son environnement lettré.

Patience, tolerance, motivating with positive feedback, seeing errors as an opportunity for further learning, to guide the learner in a methodological and gradual way – all these are important attitudes and actions that are expected from parents or those who support children and learners. Parents or care givers should always clearly spell out what they will be doing together, what children will be learning and what competencies they will acquire.

This second excerpt from the guidebook explains to parents how they can carry out an end-of-session formative assessment. It clearly lays out their role in the assessment process, first explaining what the parent should do and then describing what the child should do.

Ensemble, avec l'élève:

- Rappelez la/le lettre/son que vous avez étudiée, ce jour.
- Écrivez la lettre sur son ardoise.
- Relisez dans la cartouche correspondante toutes les syllabes étudiées précédemment (Voir image ci-dessus avec l'aigle).

Demandez-lui de lire toutes les syllabes dans la cartouche.

Parents are invited to:

- Read the new letter or sound learned in the lesson together with the child.
- Write the letter or sound on a paper or on the little blackboard.
- Use the manual to read all the syllables covered during the lesson for your child.

Then they are advised to help their child practice reading the letters and syllables that were the focus for the lesson.

Useful resources

Guidance Report: Working with Parents to Support Children's Learning by the Education Endowment Foundation.[31]

World Bank (2021). Read@Home: Materials Guidance. Washington, DC: The World Bank. The guidance includes a sample handout on reading together with children.[32]

Reflection point

You will need to decide, based on knowledge of the learners you are trying to teach and their context for learning, who is best suited to carry out formative assessment. Think about your remote learning programme or a programme you know well:

- Who does formative assessment?
- Why do you think they were chosen to do formative assessment?
- What support did/do they need to do formative assessment?
- How can the support be best provided? Print, paper, online training, or something else?

4.4

Supporting learners to manage and assess their own learning

Some remote learning programmes have designed content and materials that helps learners assess their own learning. Self-learning and self-assessment typically require the ability to read and follow instructions, high levels of motivation, and the ability to manage one's own learning and metacognitive skills. It is not suitable for all learners. For some, it may be an option – or it may be an option if there is a helpful adult around to help the student use self-assessment tools and processes.

Since the start of the pandemic in 2020, the Ministry of Education in Argentina has distributed learning booklets.[33] The booklets can be viewed online by students or requested in print. They are available for each grade and have learning content and exercises for all core subject areas. Each booklet covers three weeks of learning. At the end of the booklet, expected learning outcomes are summarized and exercises are proposed to test learning achievements.

The following excerpt from one of the booklets presents a range of solutions to show different strategies to reach an answer to a problem. Learners self-assess by deciding which approach relates most closely to their own response, and then they are guided to the correct answer.[34]

A maths problem is presented. There are three shirts in three different colours and two pairs of shorts – one black and one white. Students are asked to work out how many different combinations of shirts and trousers can be made. They are given a tip about how to approach the problem – it is important to combine all the T-shirts with all the trousers.

The student is invited to compare the strategy they used to solve the problem with strategies used by three other children.

Questions are posed about each strategy to prompt thinking. For example: What result does he get? Why? Do you agree with this approach? Is this approach correct?

Then the student is asked if their solution looks like any of the solutions presented.

The idea of making a table is introduced as a strategy to ensure that all of the combinations have been found.

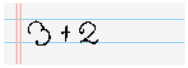
Then the student is invited to think about the solution in terms of a multiplication problem.

The task concludes by asking students to solve a similar problem using the strategy of making a table.

2. En el club están decidiendo cómo armar los conjuntos de remera y pantalón para el equipo de fútbol. Cuentan con distintas remeras, una de color rojo, otra verde y otra azul, y un pantalón negro y otro blanco. ¿Cuántos conjuntos diferentes se pueden armar? Cuidado: es importante combinar todas las remeras con todos los pantalones.

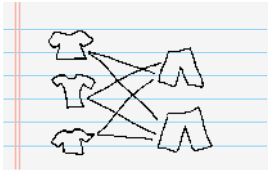
3. El problema anterior resultó bastante difícil. Estas son distintas maneras que encontraron unas amigas para llegar a la respuesta.

a) Carmencita:



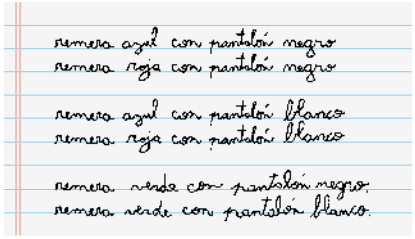
¿Estás de acuerdo? ¿Por qué?

b) Ale hizo estos dibujos:



¿A qué respuesta llegó? ¿Por qué?

c) En cambio, Ana fue escribiendo para no olvidarse de ningún conjunto. ¿Es correcto su procedimiento?



d) La manera en que resolvieron, ¿se parece a alguna de estas?

4. El hermano mayor de Ana le dijo que para estar seguro de que figuren todas las posibilidades es bueno hacer un cuadro como el siguiente.

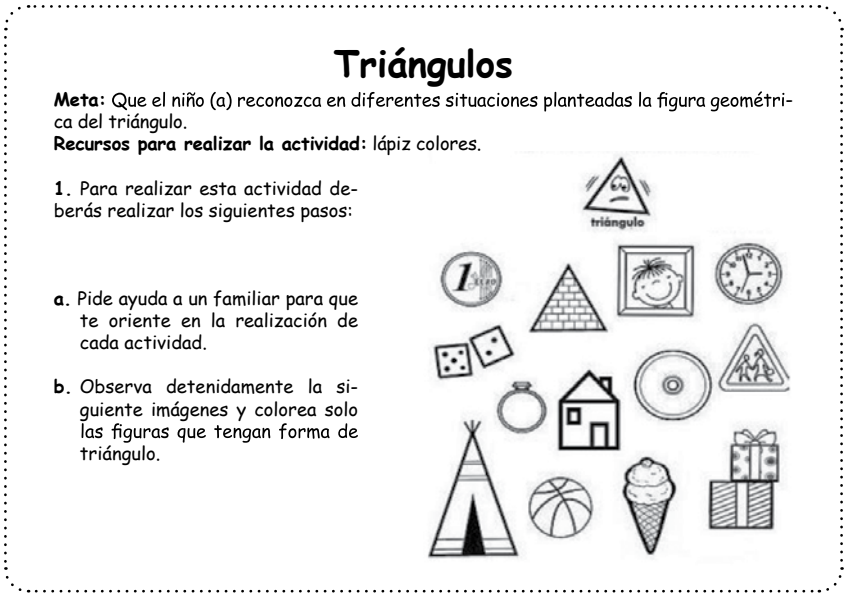
Remera / Pantalón	Remera roja	Remera verde	Remera azul
Pantalón negro	Remera roja Pantalón negro	Remera verde Pantalón negro	Remera azul Pantalón negro
Pantalón blanco	Remera roja Pantalón blanco	Remera verde Pantalón blanco	Remera azul Pantalón blanco

a) Entonces, con 3 remeras y 2 pantalones distintos, ¿el resultado al problema es 3 x 2?

b) Si cuentan con 4 remeras: roja, verde, azul y blanca y dos pantalones, ¿cuántos conjuntos diferentes se pueden armar? Pueden hacer un cuadro como el que armó el hermano de Ana.

In **Venezuela**, *Fe y Alegría* developed booklets to accompany a series of radio lessons. Each booklet covers learning content for one grade. It is organized in short sections and children are expected to complete one section per day. Each section starts by clearly outlining the learning goal and ends with an assessment to be done by the learner with the support of a parent or caregiver if possible. The booklet includes two types of assessment.

There are tasks to assess learning about the topic such as the task to the left about recognising triangles.



Triángulos

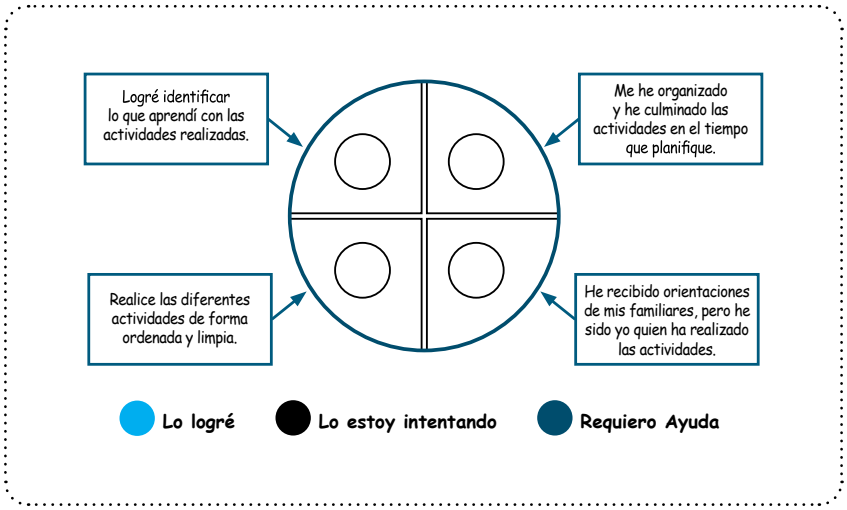
Meta: Que el niño (a) reconozca en diferentes situaciones planteadas la figura geométrica del triángulo.
Recursos para realizar la actividad: lápiz colores.

1. Para realizar esta actividad deberás realizar los siguientes pasos:

a. Pide ayuda a un familiar para que te oriente en la realización de cada actividad.

b. Observa detenidamente la siguiente imágenes y colorea solo las figuras que tengan forma de triángulo.

Then, there are tasks at the end of each section to help learners reflect on and assess their own learning (in relation to the learning goal set out at the beginning of the section). The child looks at the four domains which describe different aspects of the activities. For example, *I can explain what I've learned from the activities I've done. I managed to do the activities in the time given. I completed the activities in an organised and neat way. My family helped but it was me who did the activities*.



In the task above, the learner responds to several statements about learning using a colour key. Colouring in light blue means 'I made it'; colouring in black means 'I am trying' and dark blue means 'I need help.'

The booklets invite learners and their parents/care givers to compare learning and reflections on learning from day to day so they can see how learning is progressing.

4.5

Content and materials that support formative assessment

The resource packs in this series about each of the five remote learning modalities provide ideas and resources to develop content, and they include examples of programmes that check for understanding and provide feedback.

Resource Pack 1 **Radio**

Resource Pack 2 **Print**

Resource Pack 3 **TV**

Resource Pack 4 **Digital**

Resource Pack 5 **Mobile**

This section looks briefly at some specific challenges and opportunities in terms of creating content that supports formative assessment in remote learning. It includes content for unidirectional learning, digital content, using and adapting existing assessment tools and safeguarding.

4.5.1

Content for unidirectional remote learning modalities (TV and radio)

TV and radio are unidirectional modalities for remote learning – they work in one direction only. They can be used for step 1 of formative assessment (communicating learning outcomes and success criteria) and they can be used to set a task, but they cannot be used to find out what children have understood, or to give feedback and agree on next steps. The only solution is to add another modality like print, mobile or digital.

That said, it is possible to develop content for radio and TV that encourages children to assess their own learning, or helps a parent/caregiver provide feedback on learning. Consider the following examples of scripts for TV or radio. They use devices such as:

- Giving the answer and asking children to compare their own answer.
- Explaining the answer.
- Inviting students to share work with others to get feedback.
- Doing a quiz.
- Giving general guidance on what to do next.

Most of them will be familiar because they often appear in children's television and radio content (think of Sesame Street, for example).

Example 1

The child has just listened to a story and now it is time to check for understanding.

Presenter: Do you remember how many times Mavuto visited the market?

Presenter pauses for 5 seconds.

Presenter: He went to the market three times. Is that the answer you came up with too? The first time he went to the market was to get eggs. The second time he went was to get flour. The third time he went was to get sugar.

Example 2

The presenter has just explained an assignment for students to try at home. They have to draw a plan of their house.

Presenter: Remember, when you have finished, share it with your parents and ask them to tell you if you got it right.

Example 3

The presenter has finished a maths lesson on TV and she explains to students that she is going to give them a mental arithmetic test.

Presenter: Open your book on a clean page and make sure you have a pen or pencil. Are you ready?

Presenter waits for a few seconds.

Presenter: I am going to ask you 20 questions. Each question will be on your screen for 10 seconds. Read it and then write the answer in your book.

(20 questions are shown on the screen, one by one.)

Presenter: Well done everyone. That was the last question. Now let's check our answers. You will see each question again and then you will see the answer. Watch carefully and mark your answers.

(20 questions and answers are shown on the screen, one by one.)

Presenter: How did you do in the test? If you scored 15 or more then you are ready for the next programme on Friday morning. If you scored less than 15, watch the programme again tomorrow morning.

None of the examples are sufficient in terms of formative assessment, but they add an element of interaction and if it is impossible to add a complementary modality, they will be better than nothing at all.

You can see a range of similar devices in *Rising on Air* – a freely usable and adaptable 20-week programme of ready-to-air radio scripts and SMS content reaching over 10 million children. Their content includes literacy, language arts and numeracy and mathematics for students in primary and secondary education.[35]

Children in Jordan accessing materials using a QR code.
Photo: UNICEF/Learning Bridges

4.5.2

Formative assessment in digital remote learning programmes

Digital learning is learning that is facilitated, enabled or mediated using electronic technology. It includes using websites, eBooks, online communities, e-learning packages and products, social media, podcasts and more recently, gaming technology, artificial intelligence, virtual reality and cloud computing.[36] It also includes the use of technology products that do not require the user's computer to be connected to a network, or connected all of the time, when it is being used by the learner.

During school closures, digital resources became the lifeline for education and the pandemic pushed teachers and students to quickly adapt to teach and learn online. Virtually all countries have rapidly enhanced digital learning opportunities for both students and teachers and encouraged new forms of teacher collaboration.[37]

Digital learning offers almost limitless opportunities for formative assessment in remote learning programmes. It can be used to complement and support assessment by teachers and parents, or it can be as a standalone tool to check understanding, give feedback and identify next steps as illustrated in the case studies below.

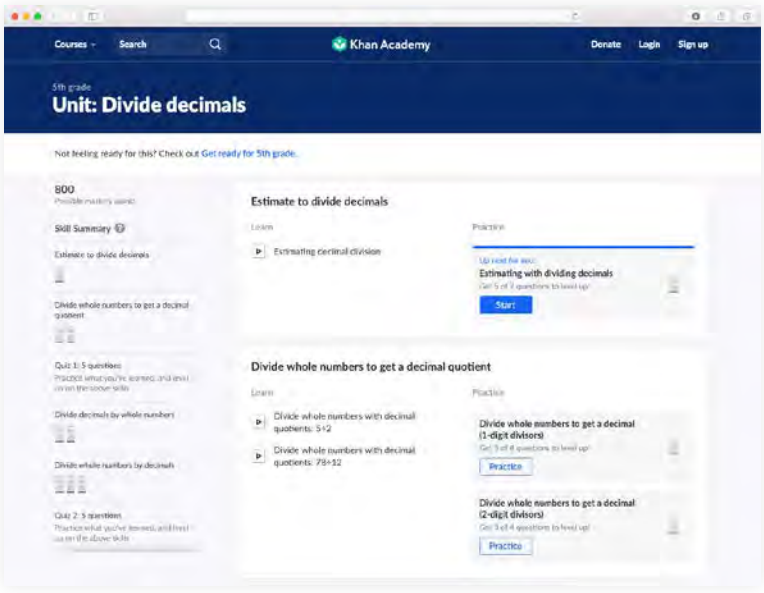
Khan Academy[38]

The Khan Academy is a hugely popular learning resource used by millions of children around the world. The following sequence of learning about dividing decimals illustrates how they have built in formative assessment so that students receive feedback and can access help when needed.

Step 1

Communicate learning outcomes/ expectations/success criteria

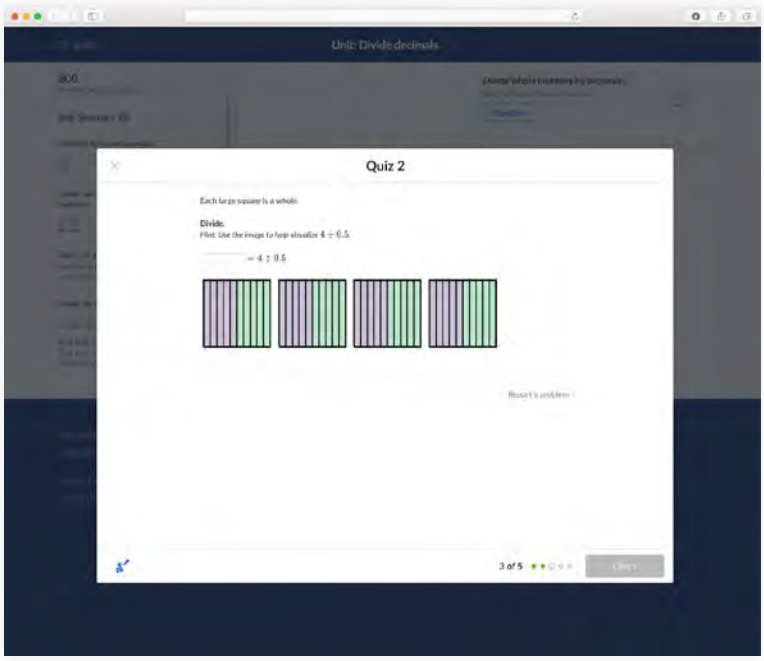
On the opening page to a lesson about dividing decimals Divide decimals | 5th grade | Math | Khan Academy learners can see the skills to be covered, the level of achievement needed to move to the next level and there is a suggestion for the learner if the lesson is too difficult.



Step 2

Find out what children have understood

Students then watch one or more short videos in which they learn about dividing decimals. Quizzes are built in after every two or three videos to assess what has been learnt. In this lesson, there are five questions through which learners work.



Step 3

Give students feedback

The responses given by the learners are marked immediately and feedback is provided. If a wrong answer is given, the learner is invited to get help by watching a video or reading a hint. The two different approaches enable the learner to access the level of support they need: either a full explanation (in the video) or a reminder (the hint).

At the end of each unit of study, there is a quiz available to the learner that also provides feedback, explanations and guidance.

Step 4

Deciding on next steps

Finally, students are offered "course challenges" which allow the learner to test the full programme for one grade in a particular subject area. These challenges last 30-45 minutes and are again evaluated immediately and feedback is provided. Based on their results, the learner is either encouraged to go through a unit again, or to move to the next grade.

The Khan Academy website provides a lot of information and guidance for parents and care givers to support their children's learning. This guidance includes information about how to choose the appropriate course, how to support the assessment, and how to motivate learners.

onetab/onecourse[39]

onetab/onecourse is a tablet based digital learning programme developed by onebillion, an NGO based in the UK. *onetab* is designed for young learners to help them develop literacy and numeracy skills. Children do a short diagnostic test when they start the course. The app sets up a first learning module based on the outcome of the test. At the end of the short module, another test is done and the next module comes up, based on the level and progression of the child. The app contains a pool of thousands of learning modules.

'Alefa' is a digital teacher. She guides each child through the course one step at a time, giving instant support and encouragement. She appears on screen herself, or as a pointing hand. For each new activity, she shows 'how to' and gives short, simple, and clear instructions. Depending on which language she speaks, Alefa's name changes.

The following are some of the features that support children's learning in *onetab/onecourse*:

- Upon touching an incorrect letter, all rows of the keyboard become grey and unresponsive except the row on which the correct letter is located. If the incorrect letter is touched again, all letters except the correct letter become grey and unresponsive.
- In some addition and subtraction activities, an incorrect answer leads to feedback showing how to do that sum using finger counting or using bottle tops as counters to help.
- In a counting activity, an incorrect answer gives feedback showing 'Alefa' (the digital teacher) counting peas by dragging them into the jar and counting along to help the child.
- In some reading activities, the correct word is highlighted as it is read aloud, and sometimes broken down into syllables.
- In a reading comprehension activity, an incorrect answer gives feedback in which the sentence in the passage which provides the answer to the question is highlighted and read aloud.

Watch this video '*onetab* explained' to find out more about *onetab* and how it is used by children.[40]

Using automated mobile quizzes and feedback

These are typically deployed through widely-used message platforms – WhatsApp or SMS – in contexts where many people may buy data bundles tied to WhatsApp and may have little or no experience of the internet or Apps beyond this. Chatbots provide automated feedback and can operate over both SMS and WhatsApp. These can be used for both self-learning and teacher-guided learning approaches. Edo-Best@home, Nigeria have developed a series of interactive quizzes for every grade from pre-school to Primary 6.[41] The quizzes are accessed via QR Code online, via WhatsApp, or SMS.

Useful resources about learning assessment and digital learning

For more information about Digital Education Assessment Tools, look at the Knowledge Pack created by the World Bank.[42]

Guidelines for Online Assessment for Educators (2016) The Commonwealth of Learning at Guidelines for Online Assessment for Educators. The Commonwealth of Learning.[43]

Reflection point

Look back at the description of the onetab/onecourse digital learning application. Remember that there are four steps in the process of formative assessment:

1. Communicate learning outcomes/expectations/ success criteria
2. Find out what children have understood (class work, asking questions, having students complete a task, homework, doing a test or quiz, playing a game)
3. Give students feedback so that they know what they have done well and what they need to do to improve.
4. Plan and communicate next steps to help the learner understand what needs to be achieved.

Try to identify the four steps in the description of the *onetab/onecourse* application.

4.5.3

Incorporating existing formative assessment tasks and tools into your programme

Designers of remote learning programmes should look at what exists already in terms of formative assessment tools and tasks. This may be as straightforward as checking the textbook and teacher guides for tasks or tests that teachers and students typically do in the classroom, and adjusting them for an online environment.

Consider **adding on assessment tools that have been developed by others** to support formative assessment (noting requirements to observe Intellectual Property Rights and copyrights). In some cases, they can be used 'off the shelf' with no modification, or they can be adapted as in this example from Rwanda.

EXAMPLE

Rwanda – Eneza Education [44]

When schools closed in 2020 in Rwanda, several initiatives were launched to ensure that students continue to learn at home. The Rwanda Education Board partnered with Eneza Education and the Mastercard Foundation to complement the radio and television programmes already being broadcast.

Eneza education's SMS-based platform Shupavu added interaction between teachers and students. The SMS platform set up by Eneza provides access to the 'Ask a Teacher' feature where students can ask questions to a pool of teachers and receive responses via SMS short-code 2910 on the MTN network.

Quizzes are sent to the students; they get feedback on their responses and they can ask additional questions via the same platform. Students also have access to lessons aligned to the Rwandan curriculum via the same short code. The service is free to students until July 2021.

4.5.4

Keeping children safe

Keep student records safe

Formative assessment is part of teaching and learning and does not necessarily require record keeping. For example, a teacher moving around the classroom to check student work might simply use the information gathered to give feedback and not write anything down. Sometimes it is useful for a teacher to keep records about individual student learning over time in order to spot trends and to build up a picture of a child's performance, or to record their progress towards a particular learning outcome or standard.

In a remote learning environment, student learning can be recorded in the same way as in face-to-face instruction in, for example, a record book, a portfolio, student reports or in documents on a computer or tablet. And just as in face-to-face instruction, teachers must keep such records safe and secure – especially when data is stored electronically. The use of personal information (a child's name, address, phone number, ethnicity for example) should be kept to a minimum, and electronic data should be password protected.

Safe communication and interaction

Checking understanding, giving feedback, and agreeing next steps for teaching and learning generally involves interaction. As has been discussed in the resource pack, that might mean interaction with parents, caregivers or others in the household who are known to children and living close-by, or it might mean interaction with teachers via, for example, phone calls, SMS messaging, WhatsApp groups, or online.

Phone calls, SMS messaging, WhatsApp groups, video calls and working online present a risk to children and their teachers including theft and misuse of personal data; inappropriate interaction between teachers and students and unwanted callers hacking phone or video calls.

Remote learning must consider what safeguarding measures are required to keep children and their teachers safe. Such measures could include:

- Supporting teachers to understand their role in keeping children safe.
- Reinforcing teachers' awareness of the need for appropriate professional behaviours whilst interacting with children remotely.
- Including an 'induction' session or pack/online content for teachers, children and young people teaching and learning remotely.
- Sharing information with parents and carers to help them understand the risks and what they can do to keep their children safe. This includes the use of Apps which may pass on data collected to a third party.
- Ensuring that any work that is shared online, via a text message or on WhatsApp does not require personal data to be shared.

5

Looking ahead

In 2020, countries around the world introduced remote learning as a crisis response to the COVID-19 pandemic. For many children, the reopening of schools will not mean an immediate or full return to pre-COVID-19 patterns of education. There will be an ongoing need, well into the future, for more flexible approaches that incorporate learning in school, at home, and in the community for many children.

There are at least three scenarios in which remote learning has an important role to play:

Using remote learning to help children back into schools

Integrating remote learning provision into mainstream education systems

Using remote learning as a means of creating learning resilience

5.1

Formative assessment to help children get back into school

> *"As children return to school, teachers will have to seek out the actual impact of interruptions caused by the pandemic on individual students in their care. Formative assessment while children have been learning remotely will help establish a complete picture of any necessary 'catch up' or otherwise."* [45]

How teachers approach this task will depend on the resources available, class size, the age of children, what is being assessed and their capabilities for doing formative assessment. A Guidance note on using learning assessment in the process of school reopening prepared by the World Bank Learning Assessment Platform (LeAP) recommends that countries with limited resources utilise the following steps:

1. Ministries of Education distribute existing classroom assessment tools (and training materials) to schools to administer and score these tools.

2. Once schools reopen, teachers administer the existing classroom assessment tools.

3. Teachers score the assessments and interpret the results to guide personalized instruction, as well as communicate the results to school principals, who allocate support and additional interventions to students with greatest need.

Policy makers, assessment experts and other educators can draw on assessment tools developed prior to the pandemic.[46] These may be country specific assessments or publicly available assessments such as the Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA). Members of the PAL Network (The People's Action for Learning Network) develop and conduct citizen-led assessments aimed at improving learning outcomes. They offer literacy and numeracy assessment tools in 11 languages, including the recently introduced International Common Assessment of Numeracy (I-CAN) – an open-source, robust and easy-to-use assessment tool aligned to grade 3-level or lower of the UNESCO Global Proficiency Framework.[47]

Regardless of resources and capabilities for conducting formative assessment, all teachers will benefit from guidance on what to assess and how. In Uzbekistan, practical guidance has been distributed to teachers and school principals on how to design and implement distance learning and catch up programmes. It includes links to demo videos on using different online applications for teaching, learning and assessing.[48]

5.2

Using technology to support formative assessment

> *"The pandemic has accelerated our thinking on issues for which there has historically been much resistance to change. In education, it has clarified the potential of new technologies, not to conserve nor replace existing practices, but to transform them."* [49]

Digital learning is already transforming teaching and learning and formative assessment. One of the technologies with the potential to speed up this transformation is Artificial Intelligence (AI).

A report by UK-based innovation agency NESTA about the future of AI in education, uses the following definition of AI: *Computers which perform cognitive tasks, usually associated with human minds, particularly learning and problem-solving.*[50]

The NESTA report identifies three categories of AIEd tools.

1. **Learner-facing AIEd** tools are often referred to as 'intelligent tutoring systems', or 'adaptive', 'personalised' or 'differentiated' learning platforms, and have capabilities such as:
   - Curating and staggering learning materials based on a student's needs.
   - Diagnosing strengths, weaknesses or gaps in a student's knowledge.
   - Providing automated feedback.
   - Facilitating collaboration between learners.

   Learner-facing tools benefit students by offering a move away from a 'one-size-fits-all' approach to learning, enabling students to learn at their own pace or tailor learning materials to their own interests. These tools may be especially useful in large, mixed ability classes with just one teacher. They are also used to carry out homework, or to facilitate flipped learning, where students familiarise themselves with new concepts via the intelligent tutoring system outside the classroom, with classroom time used to develop understanding of those concepts.

2. **Teacher-facing AIEd** can help teachers by automating tasks such as assessment and giving feedback and/or by providing insights about the progress of a student or class. Teacher-facing AIEd presents opportunities to evolve the role of the teacher. For example, time saved through the automation of tasks could free up a teacher's time to invest in other aspects of teaching such as spending more time with individual learners.

3. **System-facing AIEd** helps make or inform decisions made by those managing and administrating schools or an education system as a whole, with applications ranging from organising timetables to predicting inspections.

Adapted from Educ-AI-tion Rebooted? Exploring the future of artificial intelligence in schools and colleges. NESTA.
Educ-AI-tion Rebooted? Exploring the future of artificial intelligence in schools and colleges (nesta.org.uk)

Although AIEd is often seen as a replacement for teachers and schools, experience during the pandemic is a reminder that this is not desirable. There are social and emotional benefits to interacting in-person with peers and teachers, and there are some aspects of teaching and learning that, for the foreseeable future at least, are much better done by and with a teacher.

AIEd is also seen by some as being irrelevant to education in low income countries and to children from poor households. But, as evident in some of the examples mentioned in this series of resource packs on remote learning, AIEd is already reaching millions of children and young people and helping them achieve their learning goals. It seems almost inevitable that many more will join them as mobile phone penetration increases, and more people have access to computers. As such, AIEd presents an enormous opportunity to help more children learn more effectively.

That said, there is a natural tendency of education technology to increase inequality and care will be required to ensure that all children benefit equally from AIEd and that they are protected from some of the risks.[51] Prejudice can creep into algorithms in many ways and there are risks around privacy and surveillance because of the large quantities of data the analytical capabilities of AI can generate. There is also a risk that the 'wrong kind' of AIEd limits learning, or that AIEd becomes the default option for children from less wealthy households while children from wealthier households continue to benefit from the presence of a well-trained teacher.[52]

Useful Resources

Artificial intelligence in education (unesco.org)

Artificial Intelligence for Sustainable Development at Mobile Learning Week 2019 (unesco.org)

How AI Transforms the Learning Experience at 5 Main Roles Of Artificial Intelligence in Education - eLearning Industry

5.3

Creating independent learners

Remote learning places more responsibility on students for their own learning than is the case in a typical classroom. So, if remote learning is going to work, we must focus on creating effective, independent learners with skills and dispositions to plan, manage and monitor their own learning.

For students to plan, manage and monitor their own learning they need metacognitive knowledge. Metacognitive knowledge is knowledge students have about themselves as a learner. They also need to be self-regulated learners who are aware of their strengths and weaknesses and can motivate themselves to improve their learning.

A report by the Education Endowment Foundation (EEF) makes several practical recommendations about developing metacognition and self-regulated learning.[53]

The actions they recommend include:

- Helping teachers acquire the professional understanding and skills to develop their pupils' metacognitive knowledge.
- Explicitly teaching students metacognitive strategies, including how to plan, monitor, and evaluate their learning.
- Teaching students to plan, monitor, and evaluate their learning.
- Promoting and developing metacognitive talk in the classroom.
- Explicitly teaching pupils how to organise and effectively manage their learning independently.

Independent learning and video games

Independent learning is something learners do outside of formal education. Section 2.2 of the resource pack included a reference to a short video about formative assessment in which the presenter reflects on the ability of young people to learn to play complex video games. They search for the games they want to play; they find out how to play them; they draw on feedback and advice from their peers; they practice; and, they monitor and evaluate their goal.

youtube.com/watch?v=IAqNcJXN-aY

These recommendations apply not just to classroom teachers but also to designers of remote learning programmes and instructional materials. As illustrated in examples of resources from Venezuela and Argentina, materials can be designed to help students develop metacognitive strategies, to prompt thinking and to evaluate one's own work.

The following advice is about designing online learning but it can be applied to both remote and face to face teaching and learning, and to remote learning using radio, TV, digital, print and mobile.[54]

Include clear, easy-to-find instructions for assignments, well-defined organization, and easy navigation.

Offer an orientation that addresses self-regulation—what it is, why it is important, and strategies to attain it—that has learners assess their own self-regulation skills and provide scaffolds and strategies for self-regulation (such as having the learners design a study plan, etc.).

Design multiple short-term goals that align with activities that are briefer and that have tighter timelines.

Use checklists and estimates of how long activities will take to complete.

Metacognition and self-regulation are not easy to teach but evidence suggests that they are powerful tools for improving learning and that they have an impact well into adulthood.

Useful resources

Self-Regulation in Online Learning - eLearning Industry

Completing an Online Course: 13 Time Management Tips - eLearning Industry

Remote Learning Rapid Evidence Assessment (2021) by the Education Endowment Foundation at Remote_Learning_Rapid_Evidence_Assessment.pdf (educationendowmentfoundation.org.uk)

Metacognition and self-regulated learning Guidance Report by the Education Endowment Foundation at EEF_Metacognition_and_self-regulated_learning.pdf (educationendowmentfoundation.org.uk)

Endnotes

About the Remote Learning Resource Packs

1. USAID (2021) A Roadmap for Measuring Distance Learning: A Review of Evidence and Emerging Practices. Available from https://www.ictworks.org/wp-content/uploads/2021/02/Roadmap-Measuring-Distance-Learning.pdf

What is formative assessment and why is it important for remote learning?

2. Black, P. J., & Wiliam, D. (1998). Inside the black box: raising standards through classroom assessment. *Phi Delta Kappan*, 80(2), 139-148.
3. Clarke, Marguerite. 2012. What Matters Most for Student Assessment Systems : A Framework Paper. Systems Approach for Better Education Results (SABER) student assessment working paper; no. 1. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/17471 License: CC BY 3.0 IGO
4. NFER. Available from https://www.nfer.ac.uk/for-schools/free-resources-advice/assessment-hub/introduction-to-assessment/an-introduction-to-formative-and-summative-assessment/
5. NFER. Available from https://www.nfer.ac.uk/media/3094/assessment_for_learning.pdf
6. Ibid.
7. Cambridge Education International Assessment. Available from https://www.cambridge-community.org.uk/professional-development/gswafl/index.html
8. Ibid.
9. Education Endowment Foundation (2020) Available from https://educationendowmentfoundation.org.uk/public/files/Publications/Covid-19_Resources/Remote_learning_evidence_review/Remote_Learning_Rapid_Evidence_Assessment.pdf
10. Available from https://www.youtube.com/watch?v=IAqNcJXN-aY
11. World Bank (2021) Assessing outside of the "classroom box" while schools are closed: The potential of phone-based formative assessments to support learning continuity. Available from https://blogs.worldbank.org/education/assessing-outside-classroom-box-while-schools-are-closed-potential-phone-based-formative

Planning for formative assessment in remote learning programmes

12. UNICEF (2019) Measuring life skills in the context of Life Skills and Citizenship Education the Middle East and North Africa: United Nations Children's Fund (UNICEF) and the World Bank. Available from https://www.unicef.org/mena/media/7011/file/Measuring%20life%20skills_web.pdf.pdf

Creating an enabling environment for formative assessment in remote learning programmes

13. Ministry of Education Royal Education Council Bhutan Council for School Examinations and Assessment (2020) Education in Emergency (2020) Adapted Curriculum & Prioritised Curriculum Key Stage 2, Classes IV – VI. Available from http://www.education.gov.bt/wp-content/uploads/2020/07/AC-PC-KS-2.pdf
14. Many, T. and Horrell, T. (2014) Prioritizing the Standards Using R.E.A.L. Criteria. Available from https://absenterprisedotcom.files.wordpress.com/2016/06/real-standards.pdf
15. Downloaded from Tech & Learning. Available from https://www.techlearning.com/how-to/strategies-for-assessing-students-remotely
16. UNICEF (2019) Measuring life skills in the context of Life Skills and Citizenship Education the Middle East and North Africa: United Nations Children's Fund (UNICEF) and the World Bank. Available from https://www.unicef.org/mena/media/7011/file/Measuring%20life%20skills_web.pdf.pdf
17. IADB (2021) Can you assess early childhood development remotely? Distance assessment of preschoolers. Available from https://blogs.iadb.org/desarrollo-infantil/en/assessing-early-childhood-development-remotely/
18. World Bank (2021) Remote Formative Assessment Solutions. Available from https://www.worldbank.org/en/topic/education/brief/remote-formative-assessment-solutions
19. https://www.worldbank.org/en/topic/education/brief/remote-formative-assessment-solutions
20. Available from https://www.feyalegria.org/venezuela/
21. USAID/Senegal's COVID-19 Response: Lecture Pour Tous. Available from https://www.chemonics.com/video/usaid-senegal-covid-19-response-lecture-pour-tous/
22. Available from https://www.edc.org/USAID-DRC-IYDA
23. Batra, G., Nangia, A. and Reimers, F. (2020), India: #Ab Padhai Nahi Rukegi (#Learning Will Not Stop), Education continuity stories series, OECD Publishing, Paris. Available from https://oecdedutoday.com/wp-content/uploads/2020/09/India-Learning-Will-Not-Stop.pdf

Endnotes

24. https://www.risingacademies.com/on-air-teacher-phone-calls

25. UNICEF EAPRO (2020) Guidance: Assessing and Monitoring Learning during the Covid 19 Crisis. Available from https://learningportal.iiep.unesco.org/en/library/guidance-assessing-and-monitoring-learning-during-the-covid-19-crisis

26. Andeleeb, A. and Tiwari, P. (2020) Putting the 'learning' back in remote learning. UNICEF Office of Global Insight and Policy. Available from UNICEF-Global-Insight-remote-learning-issue-brief-2020.pdf

27. Barron Rodriguez, Maria; Cobo, Cristobal; Munoz-Najar, Alberto; Sanchez Ciarrusta, Inaki. 2021. Remote Learning During the Global School Lockdown : Multi-Country Lessons. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/36141 License: CC BY 3.0 IGO

28. RTI Cambodian Students Learn at Home while Schools are Closed. Available from https://www.rti.org/impact/cambodian-students-learn-at-home-during-covid-19

29. UNRWA (2018) Self-learning programme. Guide for parents and care givers. Available from https://www.unrwa.org/sites/default/files/slp_parent_guidelines_-_english_-_final_w_annex.pdf

30. Ibid.

31. Education Endowment Foundation (2018). Available from https://educationendowmentfoundation.org.uk/tools/guidance-reports/working-with-parents-to-support-childrens-learning/

32. World Bank (2021) Available from https://www.worldbank.org/en/topic/education/brief/read-at-home

33. Available from https://www.educ.ar/recursos/151358/seguimos-educando-cuadernos

34. Available from https://www.educ.ar/recursos/154803/seguimos-educando-educacion-primaria-segundo-y-tercer-grado

35. Resources available at https://www.risingacademies.com/on-air-teacher-phone-calls

36. Available from https://www.cipd.co.uk/knowledge/fundamentals/people/development/digital-learning-factsheet

37. Schleicher, A. (2021) Available from The state of education – one year into COVID - OECD Education and Skills Today (oecdedutoday.com)

38. Available from https://www.khanacademy.org/

39. Available from https://onebillion.org/onetab/

40. Onetab explained video available from https://www.youtube.com/watch?v=GLsJh5mG90I

41. OECD (2020) Education continuity during the Coronavirus crisis. Nigeria: Edo-Best@Home. Available from https://oecdedutoday.com/wp-content/uploads/2020/11/Nigeria-Edo-BEST-at-Home.pdf

42. World Bank (2021) Digital Education Assessment Tools Knowledge Pack – with a focus on low resource settings.

43. Duan vd Westhuizen (2016), Guidelines for Online Assessment for Educators. The Commonwealth of Learning. Available from http://oasis.col.org/handle/11599/2446

44. Eneza education https://enezaeducation.com/

Looking ahead

45. Education Endowment Foundation (2021) Learning recovery and the role of diagnostic assessment. Available from https://educationendowmentfoundation.org.uk/news/eef-blog-the-impact-of-covid-19-and-catching-up/

46. UNICEF (2021) How can formative assessment foster learning as schools reopen? Available at https://blogs.unicef.org/evidence-for-action/how-can-assessment-foster-learning-as-schools-reopen/

47. Examples of assessment tools developed by the PAL Network are available at: www.palnetwork.org/tools/

48. UNICEF (2020) Guidelines for ensuring quality education for every child in Uzbekistan. Available from https://www.unicef.org/uzbekistan/en/guidelines-to-ensure-quality-education

49. Schleicher, A. (2020) Available from https://oecdedutoday.com/lessons-from-covid-bring-deeper-change-education/

50. Baker, T., Smith, L., and Anissa, N. (2019) Educ-AI-tion Rebooted? Exploring the future of artificial intelligence in schools and colleges. NESTA. Available from https://media.nesta.org.uk/documents/Future_of_AI_and_education_v5_WEB.pdf

51. Truncano, M. The Matthew Effect in Educational Technology. Available from https://blogs.worldbank.org/edutech/matthew-effect-educational-technology

52. NESTA (2020) The right kind of AI in education. Available from https://www.nesta.org.uk/blog/right-kind-ai-education/

53. Education Endowment Foundation. Available from https://educationendowmentfoundation.org.uk/public/files/Publications/Metacognition/EEF_Metacognition_and_self-regulated_learning.pdf

54. Turning On, Tuning In, And Dropping Out (2020). Available from https://elearningindustry.com/self-regulation-in-online-learning

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