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Teachers' Professional Development Modules:

Formative Assessment for Quality, Inclusive Digital and Distance Learning during and beyond the COVID-19 Pandemic

Learning Guide for Teachers

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Formative Assessment for Quality, Inclusive Digital and Distance Learning during and beyond the COVID-19 Pandemic

Learning Guide for Teachers

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Purpose of this Guide

This Guide summarizes the content of the *Formative Assessment for Quality, Inclusive Digital and Distance Learning during and beyond the COVID-19 Pandemic* teacher professional development course. Its purpose is to guide you through your learning experience. It is divided into two major sections:

Part I:

Course Description – This section introduces the topic, the aims, objectives, expected outcomes, structure and other components of this course on formative assessment for quality, inclusive digital and distance learning.

Part 2:

Content – This section introduces the aim and objectives of each module and offers a detailed description of each session's content, with instructions on how to read, work and approach each topic. At the end of each session there are recommended activities for participants to do either independently or in groups.

This is a free course offered by the UNICEF Regional Office for Europe and Central Asia. All participants can access the material via the Learning Passport platform (https://www.learningpassport.org/.) There you will be able to track your progress via your activity record. This version of the content may include video, images and interactive content that may not be optimized for your device.

PART 1: PROGRAMME DESCRIPTION

Introduction

When disaster strikes, you, teachers, are on the frontlines working hard to ensure that students continue learning. In 2020 and 2021, the world saw first-hand the essential role that you play, as school closures due to the COVID-19 pandemic affected more than 1.6 billion learners around the world. Remote learning was rolled out using television, radio, paper-based delivery, digital learning or a combination of these modalities. However, it left out many of the most vulnerable children and created new challenges for you, such as in ensuring inclusive and engaging remote learning environments and using new technologies.

Even when there is not a global emergency, digital learning—when paired with efforts to bridge the digital divide for the most marginalized children—can help to make education more accessible and inclusive. Digital technology can support in-person, distance, and hybrid (a mix of in-person and distance) instruction with blended pedagogical methods and a range of tools, opportunities for experiential learning and personalized learning pathways. Flexibly using a mix of these pedagogies and tools across delivery methods for quality, inclusive teaching and learning is an essential professional requirement for teachers today. Digital learning is 21st-century learning!

Regardless of how education is delivered, it requires you to identify and address gaps that your students may have in their knowledge, their different levels of skills development, their strengths and their needs. Formative assessment enables you to gather this information and adjust your instruction to help move each student toward their learning goals. Digital technology can support you in making formative assessment a regular part of your teaching. But gathering and using this information in digital and blended learning environments, especially at a distance, may be an unfamiliar task.

Overview of this course and learning guide

This teacher professional development course on F*ormative Assessment for Quality, Inclusive Digital and Distance Learning during and beyond the COVID-19 Pandemic* is designed to support you in this process by providing guidance on using assessment for learning across a variety of contexts, including in-person, hybrid, and distance learning, both online and offline. The course team hopes that by studying formative assessment, teachers will be undertaking a journey in developing and improving their ability to apply formative assessment in an inclusive way to strengthen the quality of their teaching practice.

Professionals, including teachers, develop and hone their competences through formal means, such as in-service training courses, non-formal ways – such as external training opportunities – and informal methods, as they learn from their own practice. This course integrates formal, non-formal and informal methods with external support through structures provided to course participants. Each module will be delivered using a range of teaching methods and approaches designed to introduce you to the central concepts of the module and invite you to reflect on them.

This *Learning Guide for Teachers* walks you through each step and provides you with essential information, including the content of each session and how you should prepare for it. It offers formative assessment activities at the end of each module to assess your own learning while interacting with the material.

Also, there are activities throughout this guide that enable you to consolidate what you are learning and apply it in your classroom practice.

You will get the most out of each module if you fully engage with the readings, activities, material and sessions available. It is vital that you attend the sessions fully prepared, having completed the pre-readings and preparation activities (if requested). After each teaching session, you should use the available discussion forum (if provided) to post questions and reflections on the session. This will allow you, your colleagues, and your fellow course participants to continue the discussion outside of the scheduled hours, to deepen your knowledge on key issues as you progress through the course, and to receive additional support from your colleagues and course facilitators.

Purpose

This course on *Formative Assessment for Quality, Inclusive Digital and Distance Learning during and beyond the COVID-19 Pandemic* was designed for teachers in primary and secondary education. It is firmly rooted in the view that all who are involved in teaching and learning must constantly improve their practice by collecting information on learning and using it in a timely and purposeful way to move learners closer toward their learning goals. The fundamental purpose of the course is to engage you, teachers, in a conscious and active process of formative assessment in order to improve your pedagogy and your students' learning outcomes. The modules present a variety of purposes of, approaches to, and tools for formative assessment across a variety of delivery modalities. They give particular attention to the inclusion of children with disabilities, regardless of whether learning takes place in person or at a distance.

Learning outcomes

By actively participating in and completing this course, you will be able to:

- Integrate formative assessment as a regular and consistent part of teaching and learning, flexibly adapt it to various contexts;
- Ensure coherence in assessment across face-to-face and distance learning environments; and
- Use the results of formative assessment to identify and bridge knowledge and skills gaps and align your teaching to students' diverse strengths and needs.

Key questions

Three key questions are addressed throughout the course to help you achieve the learning outcomes outlined above. These questions serve to link the topics explored in this course so as to give you a holistic understanding of formative assessment. These key questions are:

1. What is formative assessment and why is it important for effective teaching and learning?
2. How can you apply formative assessment across a variety of learning delivery methods and modalities, including in-person, hybrid, and distance learning, both online and offline?
3. How can you use formative assessment to improve the quality of teaching and learning, no matter how it is delivered?

This Learning Guide begins with a preliminary examination of these key questions in Modules 1 and 2, as outlined below under *Structure & course components*. You will be continually improving your understanding of the issues raised in these three questions as you work through the content and activities for Modules 3 through 5, and the accompanying learning sessions, if you are participating in a facilitated version of this course. It will be useful to record your growing understanding of the three key questions as you work through the course. You may wish to keep a notebook or a digital log of your responses, reflections and thoughts and pay particular attention to how they change throughout the course.

Approach

The course and this Learning Guide are designed to support either your independent, self-paced learning, or your learning as part of a facilitated course. Throughout the modules, you will be invited to reflect critically on how formative assessment can support your teaching to meet the needs of all learners.

This Learning Guide begins by introducing the foundational principles of assessment and considers how formative assessment differs from and supports other types of assessment to facilitate teaching that is learner-centred. The guide then develops an understanding of how to apply these principles to learning delivered via multiple modalities. This leads to a consideration of how to select appropriate and effective formative assessment techniques and tools for carrying them out, even when teaching is not in person but is supported by digital technology. You will then learn how to use the information you gather from formative assessment to improve your teaching and your students' learning. Considerable emphasis is given to inclusion, differentiation, and supporting learners who are the farthest behind. This course aims to support the instructional core of interactions among teachers, learners and content, no matter how education is delivered.

Structure & course components

This learning guide is designed to accompany each module of the course by outlining the module's aims and learning outcomes. It then provides an opportunity for you to reflect on what you already know. You should record your responses to these questions in a personal learning journal that you keep as you progress through the course. Next, the learning guide outlines essential readings, key terminology, the core content from the module, examples, key takeaways, and activities such as self-assessment to check your understanding and help you identify gaps in knowledge. Each module then concludes with further readings and additional materials, such as videos, to support you in deepening your knowledge of the topics presented. The modules are interconnected; each module builds upon the skills strengthened in that which precedes it. The modules are designed to be used together to support sequential learning sessions. The modules for this course are as follows:

- **Module 1: Foundations of formative assessment for distance and blended learning** - This first module covers the purpose and types of assessment, the foundational principles of formative assessment, and fostering an environment conducive to assessment for learning.
- **Module 2: Implementing formative assessment in digital and distance learning** - This module addresses how to adapt the formative assessment cycle for

different modalities in distance learning, including digital learning, as well as challenges to doing so.

- **Module 3: Formative assessment strategies for digital and distance learning** - The third module introduces various formative assessment techniques and dives more deeply into the types of questions that you can ask for formative assessment.
- **Module 4: Carrying out formative assessment in distance and digital learning: Activities and tools** - This module aims to help you reflect on how to choose among the various options for asynchronous and synchronous formative assessment. It also provides examples of activities and tools to support formative assessment in distance and digital learning.
- **Module 5: Using the results of formative assessment to promote quality, inclusive learning** - The final module guides you in how to use the information that you collect from formative assessment to communicate with learners and parents, facilitate feedback and to make decisions about teaching and learning.

The course includes structured opportunities to engage in practical activities. Teachers are encouraged to share their responses to pre- and post-module reflection questions with their peers, such as by discussing them in an online discussion board provided by your trainer, on a social media page or messaging group that you share with your colleagues, or in the LearnIn Community of Practice. Another opportunity for collaboration during this course is building and working in teams in order to undertake a case study on formative assessment. More instructions for this activity will be provided by your trainer, if you are participating in the facilitated version of this course.

Concepts and terminology

Important terms related to the topics covered are defined at the beginning of each module. The following concepts and terms are relevant to the overall scope of the course.

In-person (or classroom-based) learning refers to education that is delivered via traditional classroom-based contact between teachers and students. In-person learning may be conducted face-to-face (without the use of technology) or may involve digital learning.

Emergency remote teaching (or Emergency remote learning) refers to the delivery of education services in response to crises, rather than having been planned or designed for distance education. It refers to a sudden (often rushed) transition from in-person teaching to distance delivery. While distance (including online) learning is often planned and designed to be flexible and inclusive, emergency remote teaching often involves the use of printed materials or technology to conduct tasks designed for face-to-face learning and may exclude the most vulnerable learners.

Distance learning is education provided to students without regular, in-person contact with a classroom teacher.[ii] Distance education may be carried out through print materials, radio or television programmes, via offline and online digital technology, or a combination of these.

Hybrid learning combines in-person and distance learning delivery. In the context of the COVID-19 pandemic, children may have attended classes in person part-time and online part-time when full-time in-person learning was not safe. It can, but does not always, involve the use of digital learning.

Digital learning uses digital technology to carry out teaching and learning activities, regardless of whether they take place in person or at a distance. Digital learning can be both online and offline.

Blended learning is education delivery that includes both traditional (i.e., face-to-face or not supported by technology) and technology-supported teaching and learning activities.[iii] Countries are increasingly implementing blended learning by scaling up the use of digital technology to support rather than replace in-person education delivery.

Inclusive education is conceptualized broadly as not only fully including marginalized learners in the general education classroom (or, in distance learning, in the class), but also providing education that meets the diverse needs of all learners, including the most marginalized. In Europe and Central Asia, these children are most often (but not limited to) those with disabilities, Roma children and children from other ethnic or linguistic minorities, children from the poorest families, migrant and refugee children, internally displaced children, children in conflict with the law and from dysfunctional or vulnerable households, those living and working in the street, and out-of-school children. They might be girls and/or boys, depending on the context, but it is recognized that gender-based exclusion has likely been worsened by the COVID-19 crisis. Marginalized children often experience intersecting vulnerabilities and need inclusive education that provides adequate support.

Personalized learning is learning that is designed to build on children's existing strengths and abilities while moving them toward their learning goals by providing support specific to their needs. It also takes into account learners' interests and ideas. This may involve, for example, the flexible assembly of learning units in digital learning to develop personal learning pathways for each student.

Formative assessment is the ongoing process of gathering information about what students know and can do, their ideas and misconceptions and where they may need further support. It provides feedback to both you and the students on their learning and your teaching and involves the use of this information to adjust instruction and help to move each student toward their learning goals. Formative assessment is different, both conceptually and in practice, when conducted during in-person learning and in distance learning. There are also important differences between formative assessment in digital learning and in traditional learning. These modules further explore these differences.

PART 2: COURSE CONTENT

Module 1: Foundations of formative assessment

1.1 Introductory content

Learning for this module should take you approximately 35-40 minutes.

1.1.1 Session's aims

This first module provides an introduction to the foundational principles of formative assessment. You will learn how formative assessment differs from other types of assessment and why it is essential for learner-centred teaching. You will learn about fostering a supportive learning environment and learner agency.

1.1.2 Learning objectives

At the end of this module, you should be able to…

- ☑ Identify and distinguish the various types of assessment and their uses;
- ☑ Explain how formative assessment supports students' learning;
- ☑ Describe formative assessment-driven, learner-centred teaching (both in-person and in distance learning) and modify summative assessment-oriented teaching practices to be formatively-driven and learner-centred;
- ☑ Explain how to create a classroom culture that is conducive to formative assessment, as well as the role of the teacher in doing so, especially in distance and digital learning;
- ☑ Assess your own practices to determine whether they are supportive of formative assessment and determine what aspects of your teaching you might need to change and how; and
- ☑ Explain how to support learners to develop skills for self-regulated learning.

1.1.3 Reflect on what you already know

Record your answers to the following questions in your learning journal:

- → What do you know about the various types of assessment?
- → What types of assessment do you use in your teaching? How do you know which assessment to use?
- → Would you describe your teaching as learner-centred? Why or why not?
- → How would you describe your class culture and learning environment, both in in-person and distance learning?
- → How do you see your role as a teacher in formative assessment? What do you think are your main responsibilities?

1.1.4 Essential pre-readings

Complete the following readings before exploring Module 1's core content:

- ☑ Black, P. & William, D., *Inside the black box: Raising standards through classroom assessment*. Phi Delta Kappan, September 2010. Available at https://www.researchgate.net/publication/44836144_Inside_the_Black_Box_Raising_Standards_Through_Classroom_Assessment
- ☑ Hattie, J., Chapter 3: 'The argument: Visible teaching and visible learning', *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*, Routledge, Oxford, 2009, pp22-38. Available at https://users.ugent.be/~mvalcke/CV/visible-learning-chapter-3-hattie.pdf

1.1.5 Key terms

- **Assessment of learning** is the use of assessments to gather information on what students have learned to judge whether students have met their learning goals. Assessment of learning is used to assign marks or certify learning, or to decide whether students should progress to the next grade or academic level.
- **Summative assessments** are assessments carried out at the end of a unit, semester or academic year that are most often used as assessments of learning. In other words, the results of summative assessments are typically used to judge learning, assign marks, or certify skills.
- **Assessment for learning** is the use of assessment tools to identify learning needs and make decisions to improve teaching and learning with the goal of moving learners toward their goals.
- **Diagnostic assessment** provides information on what students previously learned and did not learn, and provides a clear idea of where to begin at the start of a new lesson, unit, or school year. Formative assessment starts with diagnostic assessment.
- **Formative assessment**, the focus of these modules, provides insight into what students are thinking, their thought processes, their skills, abilities, and needs for additional support. This information is used collaboratively to guide the teaching and learning processes as they take place.
- **Differentiation** is the process of including a variety of content, activities and working environments for learners based on their strengths and needs.
- **Scaffolding** supports differentiation, and it is the progressive building of students' knowledge and skills by linking new learning with what they already know and can do. It involves providing temporary, flexible support that is gradually removed as students move toward independence and mastery.
- **Learning environment** includes not only the physical location but also the contexts and cultures in which teaching and learning activities take place.

- **Class culture** refers to the ethos that governs interactions and decisions, including how you interact with your students, how they interact with each other, the organization of space and time and the priorities and values that these decisions communicate.
- **Class routines** are rehearsed patterns of actions by you and your students that help them to know what is expected of them and to respond accordingly.
- **Class rules** refer to behavioural expectations agreed upon by you and your students that have logical consequences if broken.
- **Logical consequences** are decided upon by the teacher and student when a student breaks a class rule. They should fit the behaviour, learner and context, but focus on why the behaviour occurred, while also supporting learners' ability to regulate their behaviour.
- **Class dynamics** include the influence of norms and beliefs on class interactions. They are shaped by influences such as power, privilege, identities and how they intersect, exclusion, bias, and stereotypes.
- **Modelling** refers to a teacher's demonstration of appropriate or expected behaviour to make actions and thinking—and the process by which they occur—apparent to learners.
- **Teacher talk** includes everything that you say during class, as well as the manner in which you say it.
- **Think-time** refers to periods of silence and undisturbed waiting at specific moments during class interactions to encourage quality interactions and thoughtful responses.
- **Self-regulation** involves skills that enable learners to be aware of their strengths, challenges, and the strategies that they use to learn. It involves cognition, metacognition and motivation.

1.2 Core content for Module 1

Effective teaching involves having clearly defined learning objectives that lead to the achievement of learning goals, and scaffolding based on learners' diverse needs, building on students' previous learning.[iv] To do this, you must:

- ☑ identify students' learning and needs;
- ☑ monitor their progress; and
- ☑ adapt your teaching and support accordingly.

However, children and young people may lack access to education for prolonged periods of time for a number of reasons, such as prolonged school closures due to the COVID-19 pandemic or other crises, or because of displacement or migration. In these cases, bridging (and mitigating further) learning gaps may require targeted efforts such as catch-up programmes or accelerated learning (see Box 1.1).

Box 1.1 Programmes for bridging learning gaps[v]

Catch-up programmes are short-term, transitional programmes focused on missed content for learners who had been attending school prior to a disruption.

Remedial programmes provide additional, targeted learning alongside regular classes for students who require short-term support on content learning or skills development in order to be successful in regular, formal education. In the context of COVID-19, when some learners have been disproportionately affected in certain contexts, remedial programmes may help to bridge learning gaps for the farthest behind while enabling their continued participation in general classes.

Accelerated learning includes evidence-based approaches to teaching and learning that provide engaged, proficient and faster development of knowledge and skills.

Accelerated education programmes are flexible programmes, delivered in an accelerated timeframe, that provide education for learners who are over-age, out-of-school or otherwise disadvantaged, including those who may have had their education interrupted. The goal is to provide equivalent, certified competencies for basic education using effective and age- and developmentally-appropriate teaching and learning practices.

Whether for these targeted efforts or for everyday planning, designing and delivering quality, inclusive education requires that teachers and schools have a thorough understanding of what students have and have not learned.

1.2.1 Lesson 1: Purpose and types of assessment

To know what students have and have not learned and what they may need for further learning, teachers use assessment. As a teacher, you regularly use various types of assessment in your classroom. For example, you might:

- ☑ Ask questions before introducing a new topic to see what students already know;
- ☑ Ask questions throughout a lesson to see if your students understood key points;
- ☑ Assign students to groups and listen to the ideas that come up in their conversations;
- ☑ Give students an exam at the end of a unit; or
- ☑ Keep a portfolio for students' work throughout the year.

These are all forms of assessment because they gather information on **what your students know and can do**.

Types of Assessment

Assessment types include summative assessment, formative assessment, and diagnostic assessment (which is also a key step in the formative assessment cycle). These types are also identified as assessment *of* learning and assessment *for* learning.

> A common misconception is that the tool that teachers use for assessment determines what type of assessment it is. Rather, it is the purpose – or the way the information gathered from these various assessment activities is used – that determines what type of assessment is being conducted.

Assessment of learning

Assessment *of* learning occurs when information gathered through assessment is used to identify what students have learned in order to make judgments about learning. Most often, this involves **summative** assessment, which occurs at the end of a unit, subject, semester or academic year. Summative assessment results are often used to assign final grades, for example, to decide whether students will be promoted or will repeat a year, to track students into academic or vocational education, or to certify learning, such as by issuing secondary diplomas. Assessment of learning can also be used to evaluate teachers on the quality of their pedagogy, as well as to evaluate schools for accountability.

Assessment for learning

Assessment for learning occurs when information gathered through assessment is used to identify learning needs, to adjust teaching accordingly, and to design teaching and learning activities that will help learners meet their goals. Assessment for learning can include diagnostic assessment, which is typically conducted at the beginning of a new unit, a new academic year, or a new academic cycle and provides information on what students learned and did not learn in previous lessons or terms, as well as what misconceptions remain.vi

Diagnostic assessment tools may look similar to summative assessment tools, such as having the same format as a test. Importantly, the information gathered provides a clear idea of where to start when deciding how to address gaps and misconceptions. After periods of prolonged school closure during crises, for example, diagnostic assessment is critical to identify gaps in knowledge and skills.

Diagnostic assessment is also an important first step in the ongoing process of formative assessment. **Formative assessment** is implemented as a continuous process throughout teaching and learning rather than simply before or after a lesson, unit, or cycle.

Checking in with your students regularly and frequently through formative assessment helps to make sure that they are on track with their learning goals. It offers information about their ideas, understanding, thought processes, misconceptions, skills and ability to use what they know, and needs for further revision or support.

You can think of formative assessment as similar to going to the doctor for a routine check-up. Regular check-ups help you stay as healthy as possible, identify any problems that may arise, and to address these issues before they create bigger challenges.

Figure 1.1: Summary of assessment types

Summative assessment

- End of unit, subject, term or cycle
- Results used to evaluate, assign final grades, or certify final learning

Diagnostic assessment

- Beginning of new unit, term or cycle
- Information used to guide teachers & learnerson where gaps exist, and how and where to start to address them

Formative assessment

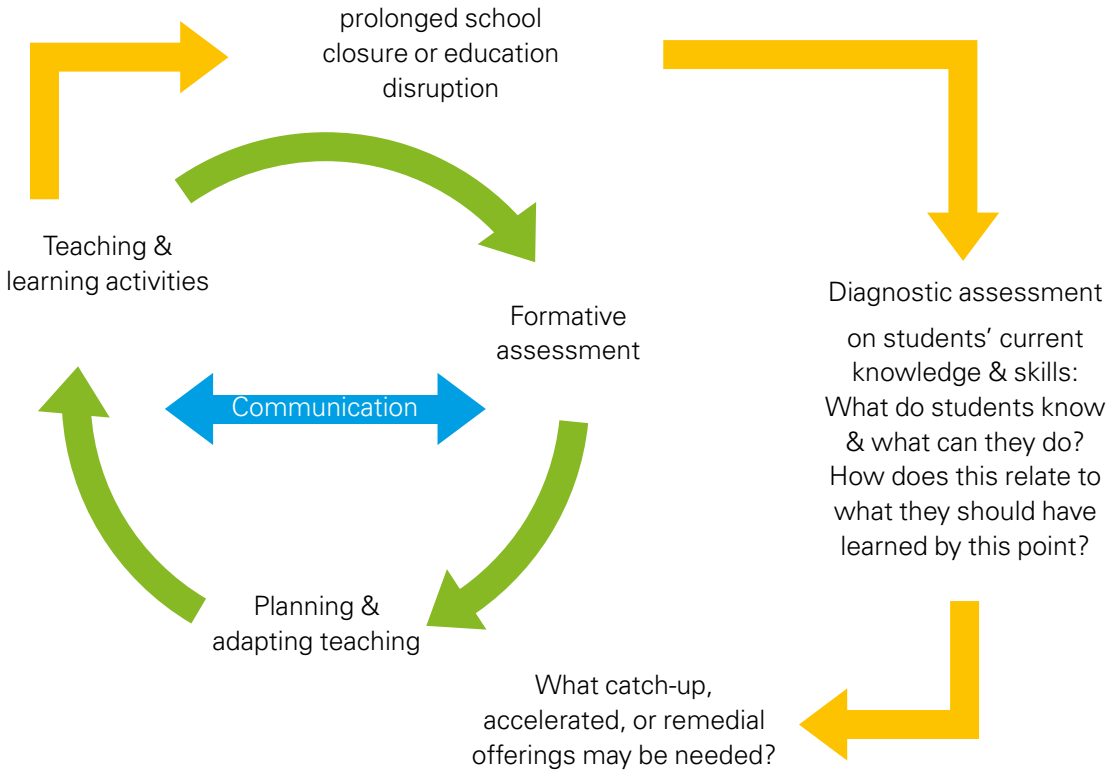
- Ongoing process throughout teaching & learning
- Provides insight into ideas, understanding, thinking, missconceptions, knowledge, skills, and learning needs

This information serves as the basis of feedback on students' learning and your teaching practices. It is used collaboratively by both you and your students to identify how they might need to change their approach to learning and how you might adjust your teaching. Research shows that formative assessment positively impacts student achievement.[vii] It is critical for quality, inclusive teaching, including for students who have special learning needs.

The ongoing processes of assessing and course-correcting can support more than day-to-day teaching and learning tasks. It can also help:

- ☑ **To identify learning and skills gaps** that may remain from previous content or from prolonged periods of learning disruption, such as for migrant or refugee children or during and after school closures.
- ☑ **To identify students who may have learning disorders** (such as dyslexia, dyscalculia or an auditory processing disorder) or need further support by providing an ongoing record of information related not only to students' learning outcomes but also to their behaviour, memory, attention, time on task, and interactions with other students. This is valuable in ensuring that children with these and other special learning needs are properly referred for further assessment and receive the appropriate support.
- ☑ **With early identification of students who are consistently falling behind**, a key indicator of **potential dropout risk**.[viii] Formative assessment, therefore, plays a key role in identifying who might benefit from catch-up efforts and in designing accelerated programmes to close key learning and skills gaps.

Figure 1.2: The role of formative assessment in teaching and learning, including during and after school closures



It is important to keep in mind that all types of assessment can be *for* learning—that is, formatively—if the information gathered is used to inform future learning. For example, a summative assessment in the form of an exam at the end of a unit can (and should) be used not only to assign grades but also to help you understand what misconceptions students still have that must be addressed before or during the next unit. Again, what matters is how the assessment is used.

1.2.2 Lesson 2: Embedding formative assessment in teaching and learning

As a teacher, you likely plan your teaching to include a variety of content, different activities and maybe even different working environments for learners based on their strengths and needs. This is called **differentiation**. It is important that differentiation includes **scaffolding**, or progressively building students' knowledge and skills by linking new learning with what students already know and can do. This also requires providing temporary and flexible support that moves them toward mastery.[ix]

Formatively-driven, learner-centred teaching – even at a distance

In distance or blended learning, designing this targeted support and ensuring consistency in what students are learning can be challenging. This is especially true when the modality of education delivery is changing or when multiple delivery modalities are used. Gaps may inadvertently occur, for example, between where online lessons end and face-to-face lessons pick up. Still, it remains critical that teaching, differentiation and scaffolding are based on students' strengths and needs. That is why effective teaching, especially in distance or blended learning, must be formatively driven and learner centred.

Formatively driven

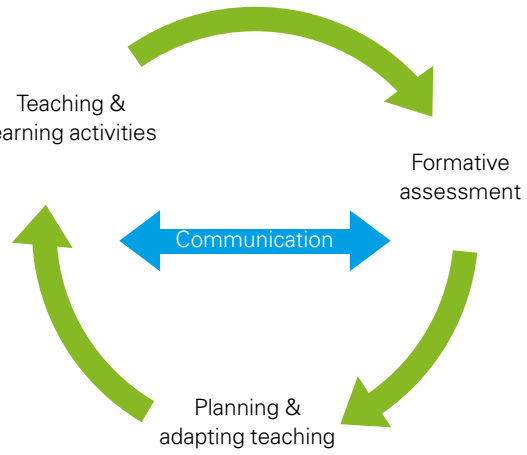
In the first lesson, we learned that formative assessment is not a one-time task but an ongoing process. Designing your instruction to be **formatively driven** involves continually collecting evidence on students' thinking, understanding, strengths and misconceptions. It also involves continually using this evidence to decide what to teach, when and how to teach it, and how to scaffold each students' learning through targeted content, activities and interventions. It can show you in real time when you may need to review or reteach content and when you may need to adjust your teaching plans. Time to carry out formative assessment activities and to course-correct based on what you learn from them must be built into the schedule of each teaching and learning episode.

It is not just the frequency but also the assessment methods used that ensure teaching is formatively driven. Formative assessment is not always a written assessment. It can include questioning, dialogue, collaborative learning, and peer- and self-assessment, which not only highlight what students have learned but also their misconceptions.[x]

We will learn more about formative assessment techniques and tools in an upcoming module.

Learner centred

Over time, formative assessment and adapting teaching accordingly become embedded as normal and ongoing parts of teaching and learning, whether these interactions take place face-to-face or at a distance. These elements should be implemented cyclically and viewed as essential and complementary parts of the teaching and learning process.[xi] This drives teaching that is **learner centred**, in that it is guided by and tailored to students' needs and involves them as owners of and actors in their learning.



In learner-centred teaching, the teacher does not impart knowledge but acts as a facilitator to help all students construct knowledge and develop skills. It is important for you to not only conduct assessment to understand how your students think, their strengths and interests, but also to involve them in the process, as they come to know more about themselves as learners.

1.2.3 Lesson 3: The teacher's role and the learning environment

Soon we will learn about various techniques and tools for implementing formative assessment, especially for distance and digital learning. First, it is important to understand your role in fostering a **learning environment** that is conducive to inclusive and effective formative assessment, no matter how learning takes place. A key component of the learning environment is the **class culture**.

> The **learning environment** includes not only the physical location but also the contexts and cultures in which teaching and learning activities take place.
>
> The **class culture** refers to the ethos that governs interactions and decisions, including how you interact with your students, how they interact with each other, the organization of space and time and the priorities and values that these decisions communicate.

Children must feel safe, included and supported to engage in practices necessary for formative assessment, such as dialogue, collaborative learning and self-reflection, which are key parts of formatively-driven classrooms.[xii] When children are neither together with each other nor with their teacher, this may require some closer attention. Let's look at what you can do to foster this.

Predictability, safety and inclusion

While teaching and assessment cannot be simply transferred from the classroom to online or other distance modalities, a stable and predictable learning environment can facilitate smoother transitions among learning delivery methods. There are multiple opportunities to create such an environment. Class routines, class rules, and class discussion are a few examples.

Class routines are rehearsed patterns of actions by you and your students that help them to know what is expected of them and to respond accordingly. Class routines can include, for example, how learners are expected to behave when they enter the classroom, what they do if they finish an independent task with spare time, and how they transition between whole-class and small group work. They can also include routines for formative assessment. For example, you might end each online class with a multiple-choice question that you design to always be completed individually, answered by responding to the online poll, and followed by quiet waiting for those who finish early. Establishing such routines early is important for class management, helps to save time, and helps students to know what is expected of them.

Class routines must be:

- ☑ Taught as soon as possible with clear expectations, which might be different for different learners based on their abilities and developmental levels;
- ☑ Modelled by the teacher and practiced as often as is needed by the class; and
- ☑ Enforced.

Class rules refer to behavioural expectations agreed upon by you and your students that have logical consequences if broken. Rules are important for ensuring that your class's learning environment is one where each person is respected and safe and knows what is expected. Class rules should be:

- ☑ Co-created. In addition to the fundamental rules that students must know, provide an opportunity for your learners to discuss and agree upon class rules, which can facilitate a sense of ownership and personal and collective responsibility. For example, you might develop a collective list through discussion and then all vote on the most important ones. This process itself is an opportunity to model class routines.
- ☑ Prioritized and reasonable. Limit your list to the most important rules to increase the likelihood that your learners will remember them. It may be helpful to consider which behaviours directly impact your class's ability to learn inclusively and which others could be kept off the list.
- ☑ Inclusive. Think carefully about each of your class rules to make sure they do not target certain groups of students or inadvertently penalize certain learners for behaviours beyond their control.
- ☑ Specific.[xiii] Rules should be written in language that is developmentally appropriate and culturally relevant for all of your learners. Whenever possible, specify the behaviour not just the value. For example, you might say, "Enter the virtual classroom and submit assignments on time," rather than, "Be prepared."
- ☑ Taught. Teach class rules as a lesson in itself, ideally as your first lesson. Support students through discussion to understand why each rule is important and ask for examples of what following and breaking the rules looks like.[xiv] In distance learning, during and after learning disruption, and in transitioning among learning delivery methods, it is important to review rules often, especially as students might join at different times or attend irregularly.

Rules might look different for distance and digital learning, even though fundamental values remain the same. A rule such as "Do not disturb other students' learning," which in class may mean not interrupting someone when they are working, may have a different meaning online, such as to keep your microphone muted when you are not speaking. Take time immediately after transitions to a new learning delivery method or modality to review rules and revise as needed.

Importantly, rules must also be accompanied by **logical consequences**.

Logical consequences[xv] are not the same as punishment. They should fit the cause of the inappropriate behaviour rather than the behaviour itself or the number of times a student demonstrated it. They should also be fitting for the severity of the behaviour and appropriate for each learner's developmental level and ability. Learners who have experienced trauma or those with neurodevelopmental disorders may struggle with regulating their own behaviour. Logical consequences, unlike punishments, offer an opportunity to support learners in developing these skills.

Consequences may help learners to develop a sense of ownership of their behaviour. You should engage students to help them understand *why* their behaviour is considered breaking a rule and what that implies. You might develop a set of possible consequences and, together with the student, choose the one most fitting for the behaviour, the reason it occurred and the circumstances in which it occurred. Applying equal consequences for all learners regardless of the situation is not necessarily fair and is unlikely to be effective.

Supporting to learners to take responsibility for their behaviour requires helping them to feel safe. Respect each student's dignity. This may look different depending on your and your learners' cultural context(s). You might decide, for example, to speak to a student privately rather than in a small group. You might stand close enough to the student to speak quietly so that other students do not hear, while respecting social norms about personal space. Whatever this looks like in your context, remember that you are modelling for your students how they should speak to each other. Do so with respect.

Class discussion, which involves the reflective exchange of ideas among learners and the teacher, are more easily facilitated in a class with established rules and routines but can also themselves strengthen the culture of inclusion, safety and respect.

Class discussion gives learners an opportunity to think critically about their ideas. They challenge each other, analyse their ideas alongside those of their classmates, and assess their own learning. This requires practice and support from me.

It may not be intuitive to create such space in a virtual classroom, or it may seem less productive to do so when students return to school with increased pressure to cover a large amount of material in a limited time. Nonetheless, it is important to purposefully build opportunities for dialogue and informal exchange and communication into both distance and in-person learning.

Participation in such interactions requires confidence. Even the most outgoing learners may be intimidated by the thought of speaking on camera, recording their ideas on video, or sharing reflections in an open class forum. Some ideas to help you encourage participation and discussion include:

- ☑ Emphasize thoughtful contributions, such as by asking learners to share about their thought processes rather than just their answers and by being cautious not to only reward "correct" answers.
- ☑ Allow students to discuss in small groups before asking them to share out to the whole class.
- ☑ Require each student to contribute their own ideas in a pair or small group setting but allow them to decide their roles (e.g., who within those pairs or groups will record members' responses and who will share out).
- ☑ Consider different grouping options. You might group students based on current levels of understanding to provide targeted support, or you might pair students who have mastered the content with those who need more time and support.
- ☑ Be aware of **class dynamics**. These include the influence of norms and beliefs on class interactions. They are shaped by power, privilege, identities and how they intersect, exclusion, bias, stereotypes, and even past experiences and friendship. Think carefully about and observe how these elements influence the way that you interact with your students (and vice versa) as well as how your students interact with one another. You will need to make decisions for collaborative learning and discussion that promote inclusion and equity while countering stereotypes.

I initially struggled with getting groupings right, and could feel the tension in the class, even though we were learning online. I was not aware that some of the students in my class were being bullied online and that these were the same students I was grouping together! Once I realized this by more carefully monitoring the chats from each group, I changed these groupings, but I also reviewed our rules with my class and decided on the appropriate consequences.

Other times, I realized that I was dividing my class into two smaller groups but forgetting to consider their talkativeness and home learning arrangements. Some students were dominating the conversation. Others were not comfortable turning their microphone on in front of the entire class because they had multiple siblings learning from home and parents working from home at the same time. To fix this, I tried smaller groupings and placed more talkative students with others who are equally assertive, while placing shyer students together.

Modelling, scaffolding and practice

In addition to a culture of predictability, safety and inclusion, learners require an understanding of how they are to engage in activities that support formative assessment, as well as the support and time to develop familiarity and comfort with these. Explain first how the assessment will be used, especially since formative assessment activities in distance learning, such as submitting an answer online, might appear to be higher stakes than participating in an informal class discussion. You may need to repeat multiple times that there are no consequences for missed answers and that the purpose of these activities is to better guide their learning and your teaching.

You will also need to explain clearly and in a way that is meaningful to your learners how they are expected to participate in an activity, including what options might be available to them. **Model** this for your students by demonstrating what this might look like in an authentic—or real—assessment activity. It is important to make not only your actions but also your thought processes apparent to learners. You can do this by saying aloud the thought process that you use. Take a look at the following example.

When we transitioned to distance learning, I helped my students to continue to participate in formative assessment by using a similar process to what we use in class and modelling what this looks like in online learning. First, I explained, "Just like we draw smiley faces and frowning faces to show if we agree with a statement or disagree, we are going to use the faces—the emojis—on the digital platform." I shared my screen and showed my students where the emojis were, how they could click on them, and how to make sure they only chose one at a time. Then I shared an example of a question I had asked them in class the previous week and said, "I think this statement is true. I agree with the statement. So I will click on the smiley face. I do not click the smiley face because I like what is written, but because I think it is true."

Continue to practice these routines with your students. You can **scaffold** their independent and full participation by gradually removing your support. You might move from walking learners through the activity to providing optional support—such as written steps or a video of yourself modelling this thinking to which learners can refer as needed—as students demonstrate the ability to engage in these activities on their own.

It is important to involve parents in formative assessment as well. They know so much about their learners and can provide valuable insights into what they know and what they might need! Parents may not be familiar with formative assessment, so I explain clearly that we must focus on the thinking and learning processes rather than whether students arrive at the correct answer. To model this for parents, I recorded a video of myself having a conversation with an imaginary student and asking them questions such as, "What is this problem about?" "What has worked for you in the past when solving these problems?" and "How do you know you have solved the problem?"

Parents and carers want their children to be successful; it might help to introduce this approach to them by explaining how it can help you, them, and your learners to make progress toward learning goals.

Teacher talk, presence and think-time

When oriented toward learning goals, discussion provides rich information about students' ideas, thought processes and misconceptions.[xvi] For you to elicit this information, you will need to consider if there is adequate room for these to emerge. Are discussions dominated by "**teacher talk**" or by "student talk"? Teacher talk includes everything that you say during class, as well as the manner in which you say it. You may need to adjust your contributions—such as intentionally holding back when you might normally provide an answer—to support the free-flowing exchange of ideas among students and between students and you.[xvii]

It is a common misbelief that teachers' main task in group or class discussions should be to correct students' responses or to call on the student who will give the correct answer so as to move on quickly. Instead, your role is to listen to students' discussions, encourage them to share their thought processes, and think about what their answers mean for what you will teach next. This requires adequate think-time.

Think-time refers to periods of silence and undisturbed waiting at specific moments during class interactions. Distinct moments for think-time include the following:[xviii]

- A teacher pausing after asking a question but before allowing students to respond;
- A student pausing or hesitating during a response or self-initiated question, comment or statement;
- After a student gives a response;
- As teachers pause to consider what is taking place or what students have asked; and
- During teacher presentations, such as when teachers pause to allow students to consolidate their thinking before moving on.

When think-time lasts for at least three seconds—and it is often appropriate for it to last longer—it can help you to improve the variety and quality of your questions, while helping learners to effectively process information, tasks, feelings, responses and actions.[xix] In synchronous distance learning, wait time may need to be longer or shorter than it is in the classroom to keep the momentum both accessible and engaging for students. One way to assess this quickly is considering which and how many learners are volunteering to participate.

In the classroom, I can usually tell from my students' facial expressions and body language if they want to respond, are still thinking or if they are disengaged. But in distance learning, these non-verbal cues are often not as easy to follow. I encourage non-verbal communication, such as asking them to use the chat box to share an emoji that communicates their current state: A question mark if they need clarification or a lightbulb if they have some ideas but need more time to think, for example.

In online formats, it can be tempting to re-state the question until I begin getting responses, such as when conducting a poll of the class. But be comfortable with silence; students may need it to re-read the response options and to think before responding.

Be careful when interpreting learners' quietness, especially in distance learning. It may not always indicate that a learner has not learned certain content. It may be because of difficulty or lack of comfort using the technology, competing demands in their home environment, or shyness, for example. It might also be due to communication challenges, difficulties typing, hearing impairments, or other needs for support and multiple options for participation (e.g., voice and text).

You can support learners by asking questions about the contexts in which they are learning. You might ask, for example, about what materials they have available to them, whether they feel they are in a place where they can concentrate and, if not, how they deal with distractions, the challenges and benefits that they find in distance learning, and how they are feeling physically, socially and emotionally.[xx]

Finally, stay aware of your **presence** during activities, such as discussions and independent or small group work. In in-person learning, you might show up quietly to observe a group's conversation, ask reflective questions to help students make sense of their thinking, and leave quietly. You might sense from a student's body language if your presence is making the students shy or somehow impeding open dialogue. In online, distance learning, this may be more difficult. You must keep in mind that your being present in group conversations (such as joining breakout rooms in synchronous learning to listen to conversation or facilitating discussion boards in small groups for asynchronous learning) might seem more imposing in a digital environment. Consider the following:

- How can you communicate to your students that your presence on a digital platform during a group discussion serves the same purpose as in the classroom? In other words, what might you need to say or do to let them know that you are observing and not interfering?
- How can you make your students feel comfortable with expressing themselves openly during a group discussion if they perceive that you are listening in?
- Have you tried strategies such as turning off your video, avoiding eye contact with the camera when listening to discussions, joining and leaving breakout rooms with minimal, reflective contribution to the discussion, or choosing not to record a session? Have these worked for you? What else has worked?
- If you are teaching digitally but asynchronously, could a similar approach can be used? Could you write an announcement on the discussion board, for example, that reminds students that you will only be reviewing their comments to better understand their thinking rather than to assign grades?

1.2.4 Lesson 4: Fostering learner agency

As students become more comfortable with class routines that support assessment, they should be increasingly able to assess their own learning. When teachers support students to become owners of and actors in their learning, they are supporting the development of student **agency**. This means that a student develops their identity as a learner and a member of society who has the ability to influence their own learning and the will to do so.[xxi] Learner agency is even more important when you and your students are not together face-to-face, as students must take an even more active role in their own learning.

Developing this identity as a learner who is responsible for and capable of acting on their own learning involves **self-regulation**. Self-regulation refers to the set of skills that enable learners to be aware of their strengths, areas that present challenges, and the strategies that they use to learn. Self-regulation also involves how learners motivate themselves and how they develop, implement, and hone strategies for improving their learning outcomes. It involves three essential components: cognition, metacognition and motivation. Such skills are essential for further learning.[xxii]

Box 1.2 Components of self-regulated learning[xxiii]

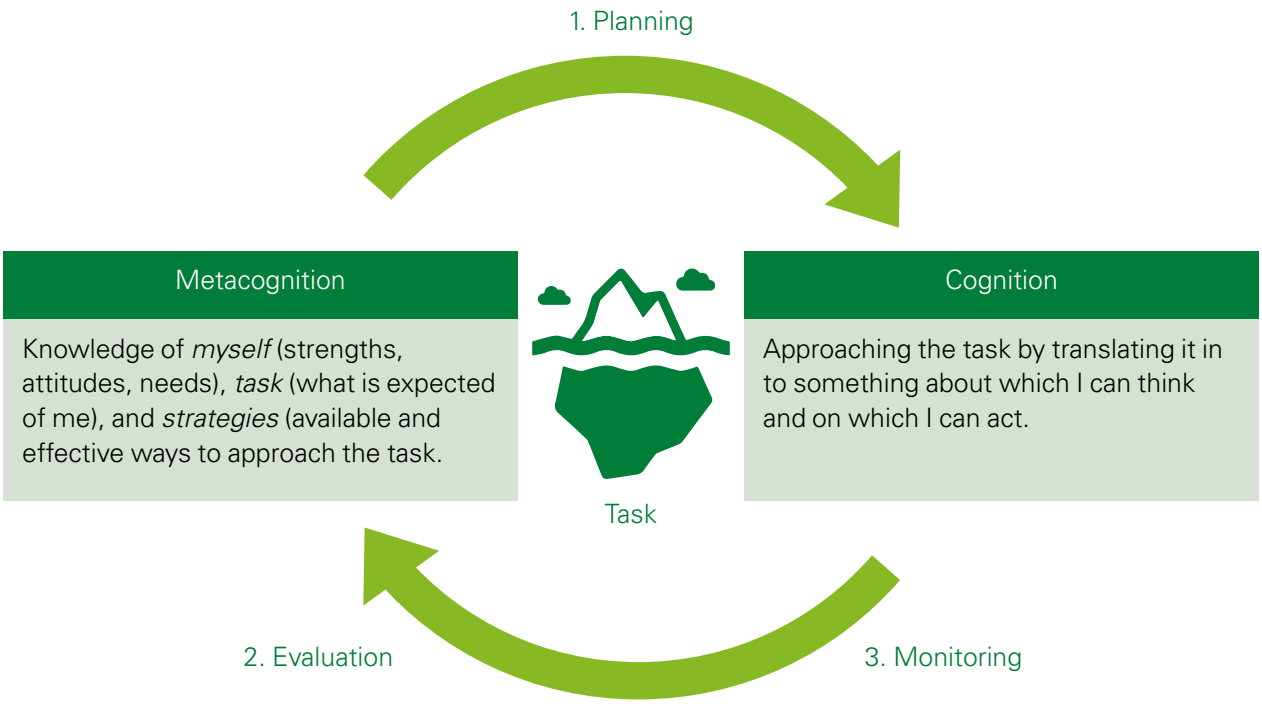
Cognition is the mental process of knowing, understanding and learning. Cognitive strategies include everything from how one memorizes facts or decides which method to use to solve a maths problem, to previous knowledge they call upon to understand a new word.

Metacognition is the process of employing different strategies to monitor or control our cognition. Metacognition involves actively thinking about which cognitive strategy might be best to approach a new challenge, checking whether that strategy was successful, and, based on that, deciding to keep, adjust or change the strategy used.

Motivation refers to one's willingness to use cognitive strategies and to employ metacognition in order to learn. Agency and motivation are closely related.

Metacognition and cognition occur in a continuous cycle of planning, monitoring and evaluating oneself, the task at hand, and the strategies used to approach it.

Figure 1.3 Metacognition-cognition cycle for self-regulated learning



These cyclical steps are demonstrated in the following example:

When we read about new topics in science class, I often find words that I do not know. So first, I think about what has helped me to learn new words in the past. Sometimes it is helpful for me to think of words that I do know that look like the new word. I try to see if a new word contains words—or parts of words!— that I do know.

Then, I think about whether this has helped me to understand what this new word might mean. I ask myself if that makes sense with what I'm reading. If not, I need to try a new strategy, like looking for the word in a dictionary or glossary. I'm very proud when I can use what I already know to help me learn new things!

While this student demonstrates strong skills in metacognition and cognition, it is important for you to support learners to develop these skills. They must be explicitly taught. More than just telling students about the steps that they can take, you should regularly model for students how they might plan, monitor, and evaluate themselves, the task at hand, and their strategies in approaching it.

I support my students' development of self-regulated learning strategies by asking them questions and modelling thinking aloud. When there is a word problem in maths, for example, I say, "Hmm…I am expected to solve this addition word problem. Have I ever solved an addition word problem in the past? How did I do it last time? Did it work? What will I do this time?"

Then as my students are working on the problem, I pause and remind them to ask themselves, "Is my approach working? How do I know? Is there something I need to do differently?" When they have finished the problem, I model asking myself the questions, "How do I think I did and why?" "What might I need to do differently next time?" and "Is there anything I need to practice or revisit so that I am even more prepared to solve a problem like this in the future?"

It is important to note that just because a strategy "feels right" to a learner does not mean it is the most effective for mastery or further learning. Distributed practice, for example, may be better for longer-term retention than long study sessions the night before an exam, even if the latter produce results—such as passing the exam—in the short term.[xxv] That is why explicitly teaching students to evaluate the *effectiveness* of their strategies can support better learning outcomes in the long run, while helping learners to take ownership over their learning process.

Repeated modelling provides guidance but should not prescribe rigid instructions. Rather, it should provide a basic structure within which learners have the room to encounter age- and developmentally-appropriate challenges that help them to take ownership of this process. With practice, learners will become more independent with these skills. Over time, explicit modelling from the teacher should transition to monitoring students' ability to use these skills on their own and providing support only when needed.[xxvi] In other words, in time, teachers can gradually remove the scaffolding as learners improve their skills in self-regulated learning.

Keep in mind that not all learners will be able to both complete a task and clearly express their thinking about the task and how they approach it at the same time. For these learners, it may be helpful to encourage pausing before the task to assess strategies and then reflecting on the process after the task.[xxvii]

Metacognition and cognition serve as the foundation for self-assessment. Ensuring that formative assessment is learner centred requires supporting them to reflect on what they know, still want to know, and where (and how) they may still need help. It involves supporting them to respectfully and constructively assess one another. It is important then that your teaching is informed by students' reflecting on their own learning while maintaining the goal of moving all learners toward mastery, no matter the support they may need to get there. Here, communication is key to success, especially when learning takes place at a distance. Clearly communicating learning goals and expectations, co-creating definitions of success, and discussing what students need to be successful provide a strong basis for effective teaching and learning. Take a moment to carefully read the following examples from teachers.

We started a new unit today on fractions. Most of my learners seemed to understand how a *whole* can be broken down into smaller parts, so I thought we were ready to move on. Each day, I save 15 minutes at the end of class for questions and ask them if there was anything they did not understand. But before I answer any questions, I encourage them to work with a partner or to look back at what we learned that day to see if they can find the answer.

I give them homework each night, but I don't have time to grade the homework the following day before starting the next lesson I always try to return their graded work before the exam at the end of the unit so they can review it. I want to make sure that my students are prepared for the exam at the end of the unit.

I was planning to move on to the next lesson about soil erosion with my science class today. But I started the class with small group discussion where I asked them to share with their small groups what they observed about the soil composition based on their independent tasks yesterday. When I listened to what they were saying, I could tell there were still some misconceptions about soil composition. So today, I will instead review the key concepts that we learned yesterday with some different activities. As we look again at the characteristics of soil, I will share with students what I notice and model my thought processes as I think about the questions we answer. I will end the class with time for students to reflect on what they learned and will check their understanding.

It is important to me that my students not only master the key concepts from each chapter but also that they develop the skills needed to support future learning as we go.

Think about the examples above and respond to the following in your learning journal. Share your responses with your peers:

- → How aware is each teacher of the needs of her students? What are some strategies that each teacher uses to understand her students' needs?
- → What does each teacher share as the key objectives of learning? How do their classroom practices reflect these objectives?
- → What would you share with these teachers based on what you learned in this module?
- → Which of these teachers' approaches be helpful for you as you think about making your classroom more formatively driven and learner centred? Why?
- → Which of their approaches would you instead leave behind and why?

1.3 Key takeaways

Recall the following key takeaways from Module 1:

- ☑ There are many different types of assessment. The way the information from assessments is used determines what type of assessment it is. While summative assessment is most often an assessment of learning, diagnostic and formative assessment are used for learning.
- ☑ Diagnostic assessment provides information on what students previously learned and did not learn, and it provides a clear idea of where to begin at the start of a new lesson, unit, or school year. Formative assessment starts with diagnostic assessment, which can be formal or informal. Formative assessment, the focus of these modules, provides insight into what students are thinking, their thought processes, their skills, abilities, and needs for additional support. This information is used collaboratively to guide the teaching and learning processes as they take place.
- ☑ All types of assessments can be for learning if they are used to help move learners toward their learning goals.
- ☑ Formative assessment should involve regular and frequent check-ins with learners to see if they are on track toward their learning goals. This information should be used in a timely manner to make adjustments to teaching and support. Doing this early on helps to prevent small misconceptions or challenges from becoming bigger learning gaps.
- ☑ Teachers should differentiate their teaching, content, activities, and even working environments for learners according to their strengths and needs while moving all students toward mastery. They should scaffold students' learning by linking it with what students already know and can do and providing temporary, flexible support. Formative assessment helps teachers to do this effectively, especially in distance and blended learning.
- ☑ Formatively-driven teaching involves continually gathering information about students' thinking, strengths and needs through formative assessment and using this information to adjust what is taught, when and how. Formatively-

driven teaching builds in time for activities such as questioning, dialogue, peer learning and assessment and self-assessment.

- ☑ Learner-centred teaching is guided by and tailored to learners' needs and sees the teacher as the facilitator of knowledge construction and skills development. It enables both the teacher and the students to be aware of what the students can do, like, and need and facilitates self-regulated learning.
- ☑ The environment in which teaching and learning take place plays a key role in the inclusiveness and effectiveness of formative assessment. As a teacher, part of your role includes fostering an environment that is predictable, safe and inclusive, such as by having established routines, class rules, and opportunities for collaborative learning and reflection.
- ☑ You must also keep in mind the need to model formative assessment with your students (and their parents and carers), to be aware of and balance your presence in formative assessment activities, and to allow adequate time for learners to think and respond.
- ☑ Self-regulated learning includes metacognition, cognition and motivation. Metacognition and cognition must be explicitly taught and modelled for learners and support or scaffolding gradually reduced as learners become increasingly autonomous in applying these skills to their learning.

1.4 Self-assessment and application

Take a moment to reflect on what you've learned and how it can be applied in your teaching. Respond to the following questions in your learning journal for this course. If you are participating in the facilitated version of this course, your instructor will guide you in how to discuss the following questions with your peers.

- → Based on what you have learned in this module, can you identify what types of assessment you typically use with your class? If your school has been closed, what types of assessment did you use during distance instruction and during periods when the school was open again?
- → Think about a lesson that you have recently taught to your class via distance instruction (or, if your school has not used distance learning, in face-to-face instruction). Would you describe it as formatively driven and learner centred? If not, what would you change to make this lesson formatively driven and learner centred?
- → What information could you gather from formative assessment in this lesson that would help you to meet your students' needs in "real-time"?
- → How might you create a class environment with your class that is conducive to formative assessment for all of your learners?
- → Which of your students do you think might need additional support to participate in the formative assessment activities and why? To develop skills in self-regulation? How might you provide this support?

1.5 Additional materials for deepening knowledge

If you would like to learn more about the foundational principles of formative assessment and self-regulated learning, the following readings may be of interest to you:

- Pages 1-11 in Klute, M., Apthorp, H., Harlacher, J., & Reale, M., *Formative assessment and elementary school student academic achievement: A review of the evidence* (REL 2017–259). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central, 2017. Available at: https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=449
- Association of Independent Schools of the Government of the Australian Capital Territory (AISACT), *Teachers' Guide to Assessment*, 2016. Available at: https://ais.act.edu.au/wp-content/uploads/Teachers-Guide-To-Assessment.pdf
- Education Endowment Foundation, *Metacognition and self-regulated learning: Guidance report*, 2018. Available at: https://educationendowmentfoundation.org.uk/public/files/Publications/Metacognition/EEF_Metacognition_and_self-regulated_learning.pdf

The following videos will help you to review and apply what we have learned in Module 1. The questions below each video link serve to guide your further reflection. Respond to them in your learning journal and share your responses with your colleagues as you learn together. If you are participating in the facilitated version of this course, you will be directed to share your responses in group discussions.

- Stenhouse Publishers, *Rick Wormeli: Formative and Summative Assessment* [Video], 2011. YouTube: https://www.youtube.com/watch?v=rJxFXjfB_B4
  - Watch the full video at the link above and respond to the following questions:
    - What distinguishes formative assessment from summative assessment in day-to-day class activities?
    - What types of checks for understanding and opportunities for feedback are there in day-to-day learning, specifically in your class context?
    - What is the importance of descriptive feedback to the instructional value of assessment activities?
    - How does formative assessment support differentiated instruction?

→ LIU12 YouTube. *Using online tools to implement formative assessment* [Video], 27 August, 2020. YouTube. https://www.youtube.com/watch?v=IuGSsoXhzkM

- Watch from 6:25 to 21:45 and respond to the following questions:
  - What does the teacher share regarding her experiences with engaging learners online?
  - How is taking time to introduce digital tools important for building relationships and digital skills?
  - What is the importance of active engagement in digital learning? How can you foster it?

In the next module, we will discuss how to implement formative assessment to support learner-centred distance and hybrid learning, particularly when they involve digital learning.

Module 2: Implementing formative assessment in digital and distance learning

2.1 Introductory content

Learning for this module should take you approximately 30-35 minutes.

2.1.1 Session's aims

The previous module introduced the types of assessment and the foundational principles of formative assessment. This module considers how formative assessment can be used in distance and digital learning, including how to adapt the formative assessment cycle for various modalities and challenges you might face in doing so.

2.1.2 Learning objectives

At the end of this module, you should be able to…

- ☑ Explain the formative assessment cycle and what this might look like in different contexts, including in-person and distance learning, as well as digital learning;
- ☑ Adapt and personalize the formative assessment cycle for your teaching contexts, whether they involve in-person, distance or digital learning;
- ☑ Describe key principles of quality formative assessment in distance and digital learning;
- ☑ Assess your own practices against these characteristics, and propose how you will adapt your practices to reflect them; and
- ☑ Identify some of the challenges and possible solutions for ensuring distance and digital learning are formatively driven and learner centred.

2.1.3 Reflect on what you already know

Record your answers to the following questions in your learning journal:

- → Based on your knowledge and experience, what do you think is the first step in implementing formative assessment with your learners?
- → What might your first step in formatively assessing your students be after a return from prolonged school closures?
- → Based on what we learned in the first module, what do you think are characteristics of quality formative assessment?

2.1.4 Essential pre-readings

Complete the following readings before exploring the core content of Module 2:

- Burns, M, Chapter 1: 'Formative Assessment 101', *#FormativeTech: Meaningful, Sustainable, and Scalable Formative Assessment with Technology*. Corwin, 2017. Available at: https://us.sagepub.com/sites/default/files/upm-assets/82741_book_item_82741.pdf
- Brookhart, S. M., *How to give effective feedback to your students*, Alexandria, ASCD, 2017. Available at: https://files.ascd.org/staticfiles/ascd/pdf/siteASCD/publications/books/How-to-Give-Effective-Feedback-to-Your-Students-2nd-Edition-sample-chapters.pdf

2.1.5 Key terms

- The **formative assessment cycle** is the continuous process of clarifying learning goals and how they will be achieved, eliciting information on what students think, know and can do, interpreting the evidence, and acting accordingly to move students toward their learning goals.
- **Rubrics** are tools that score students' work according to pre-determined set criteria, which can be developed collaboratively by the teacher and learners. Rubrics support formative assessment, including learners' self- and peer-assessment.
- **Adaptations**—also referred to as accommodations—for students, even for learners with special needs, do not change the standards against which learning is assessed but rather enable differentiated instruction, including differentiation of content, process, products or the learning environment. They can be supported by digital technology.

2.2 Core content for Module 2

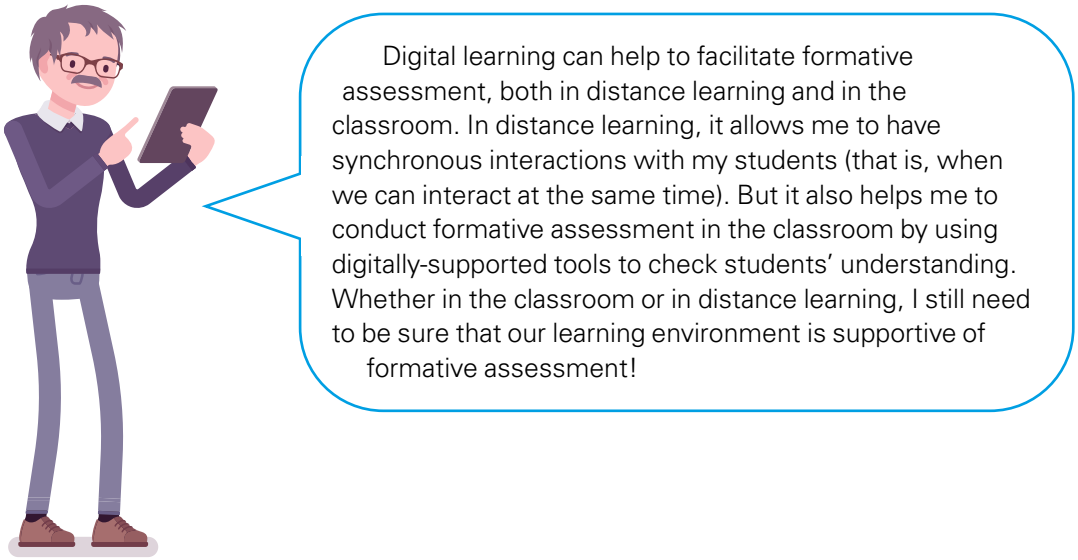
Formative assessment is a process that involves collecting information and immediately using that information to provide feedback to students and to improve teaching and learning.

As you learn throughout these modules, formative assessment involves:

- ☑ Observation;
- ☑ Communication;
- ☑ Interpretation; and
- ☑ Real-time decision-making.

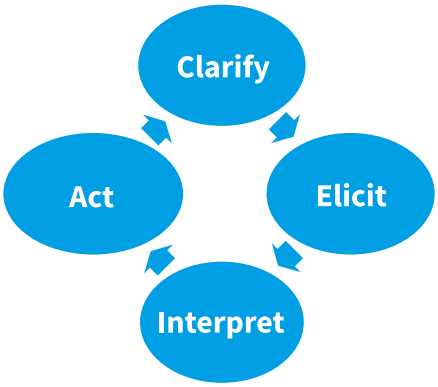
Formative assessment not only involves carefully planned activities but is also informed by seemingly small, day-to-day interactions and observations that provide valuable insights into what your students need. For example, something as simple as noticing a student's confused expression can indicate that you need to check their understanding or misconceptions more thoroughly.

Both in carefully planned activities and organic interactions, formative assessment often depends on students' and teachers' physical presence in the classroom. Classroom dynamics, relationships, and spontaneous exchanges all play a role in effective formative assessment. Traditionally, formative assessment takes place during teaching-learning episodes that are bound by space (the classroom) and time (the allotted time for the lesson and related activities). Distance and hybrid learning present challenges to formative assessment because they expand the time and space within which learning is taking place. This can make providing ongoing feedback difficult. When you are not present together with your students, classroom interactions that support formative assessment may be difficult to replicate.



2.2.1 Lesson 1: Adapting the formative assessment cycle for distance and hybrid learning

In many ways, formative assessment may seem like regular classroom activities or discussions. But remember: It is the way that information from assessments is used that determines if assessment is formative.



Formative assessment is an ongoing cycle. First, you **clarify** the learning goals and how they will be achieved. Next, you **elicit** information (that is, extract evidence) about what students think, know, and can do.[xxiv] Regardless of how this information is elicited–whether through class activities, questioning, peer or class discussions—it should guide your next steps to support learning by allowing you to **interpret** what your students think, know and can do in relation to the learning goals and to **act** accordingly, such as deciding to move on or to revisit material.

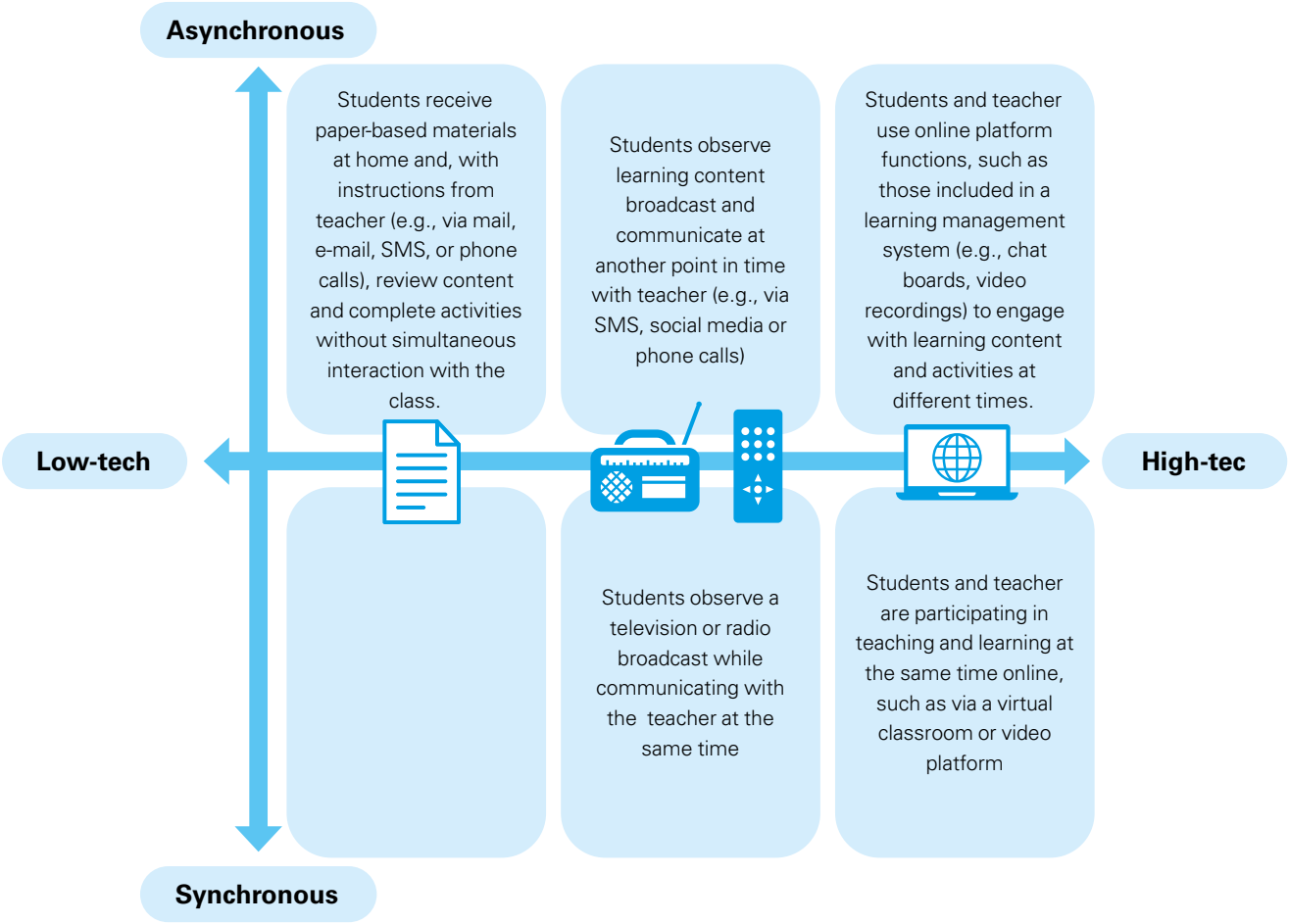
In distance and hybrid learning, these steps may look slightly different than in the classroom. But they are just as important—and perhaps even more so—because they make it possible to quickly identify and bridge any gaps that may occur in students' knowledge or skills and prevent them from becoming larger over time. First, familiarize yourself with the distance learning delivery methods, including synchronous and asynchronous, low-tech and high-tech options, in the box to the right and the figure below.

Box 2.1 Distance learning delivery

Synchronous distance learning takes place when teachers and learners are engaged with the lesson at the same (often scheduled) time. The most common example of this is learning via live sessions in virtual classrooms on digital learning platforms. It can also take place offline, such as when students and teachers communicate via SMS during a broadcast television lesson, for example.

Asynchronous distance learning takes place when teachers and learners are not engaged with the lesson at the same time. A common example is when students access pre-loaded learning content via a digital platform and participate in discussion forums on their own time. Asynchronous learning can be offline or online but does not allow for real-time communication or feedback.

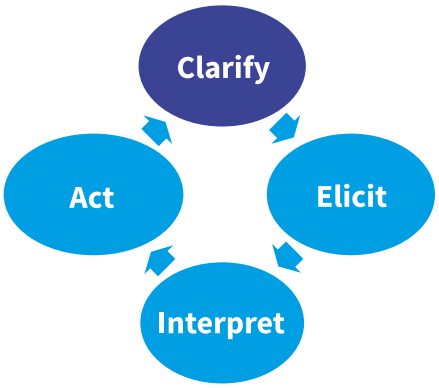
Figure 2.1 Distance learning delivery options and examples



The next section describes each step in the formative assessment cycle in more detail and provides options for adapting the formative assessment cycle to fit a variety of different education delivery methods, including in-person and both synchronous and asynchronous distance learning.

Clarify

The first step is to clarify the following:



- ☑ Goals and expectations;
- ☑ Success criteria; and
- ☑ What students need to be successful.

Clarifying offers a roadmap to both you and your students: Where are you going? How will you get there? And how will you know when you've arrived?

Let's use a metaphor. In distance or hybrid learning, the vehicle you use, the road you take, or the speed at which you travel may all be different than in in-person learning. During periods of disrupted learning, the road may have more bumps or curves to navigate. Yet the destination ultimately remains the same. Similarly, when learning is digitally supported, technology serves as a vehicle to facilitate the journey rather than as a different destination. Setting and maintaining clear goals helps to ensure that that you and your students have understood where you are going, especially if you are using a variety of means or different roads to get there.

It is important that goals are based on both curriculum standards and your students' needs. They should focus on what students will learn rather than tasks or activities. If technology is being used, clarify how the technology will help learners reach their goals, not how the activity will take place—at least for now. They should connect learning to previous and upcoming learning, as well as larger goals for the unit, term and individual learner. This is particularly important during disrupted learning or periods of transition between distance and in-person learning.

With my science class, we are learning about organism life cycles. I planned today's lesson based on the following national science standard: "Students who show understanding are able to develop models of the life cycles of diverse organisms that identify the stages of birth, growth, reproduction and death."

I know my students would get very excited if I told them, "Today we will look at insects!" But, when clarifying the goals for the lesson, it is more helpful for me to state what we will learn and what students should be able to do.

So at the start of the lesson, I share with them, "Last week, we learned about plant life cycles. Today, we will learn about how insects change over the course of their lives. By the end of the lesson, we will be able to identify the 4 key stages in insects' life cycles. We should also be able to compare these with the stages in plants' life cycles to note what is similar and what is different."

Here are some ideas for ways to help you and your learners keep clear learning goals in mind.

- In in-person learning, you might write the goals for the lesson on the board, invite students to ask questions or clarify anything they do not understand, and leave the goals visible to reference throughout the lesson.
- In synchronous distance learning, you can discuss the goals with students and write them in the chat at the beginning of the lesson. Make sure to express this information in multiple ways to meet students' diverse needs.
- In asynchronous distance learning, you might share the learning goals or record a brief video explaining how to post in the class online forum.
- In offline distance learning, students can share the learning goals with parents or carers or rewrite the learning goals in their own words in a learning journal.

Regardless of the learning modality, ask your learners to re-state the goals in their own words, such as by writing them in the chat, discussing briefly with peers in breakout rooms, posting a comment, video or voice recording in an online forum, or sending them in an email or text message. Allow time to ask questions and revisit them as a class if needed.

It is equally important to define success criteria and share this with your students so that they and you will know what it looks like when they have reached the set goals. While the goal for all students is mastery of key concepts and skills, success criteria may be differentiated for learners who have special learning needs, require additional language support, or have other needs for support. For example, the above learning objective (Students should be able to identify 4 key stages in insects' life cycles) might be differentiated in the following way, depending on learners' needs.

- **All learners** will be able to label the 4 stages in an insect life cycle in order. They will be able to categorize characteristics as belonging to plant or insect life cycles or both.
- **Most learners** will be able to illustrate, label, and correctly order the 4 stages in an insect life cycle. They will be able to generate a Venn diagram of the similarities and differences between plant and insect life cycles.
- **Some learners** will be able to illustrate, label, and correctly order the 4 stages in an insect life cycle. They will be able to generate a Venn diagram of the similarities and differences between plant and insect life cycles and to raise questions and/or pose possible explanations for the similarities and differences between insect and plant life cycles.

Further differentiation for learners with specific learning needs may be needed. While focusing on mastery for all students, you may differentiate learning content, process, products or environment.

Box 2.2 Differentiated instruction

Differentiated **content** provides different means of accessing information. You may use reading materials at different levels, for example, or include lists of key terms for students who have not yet mastered them. You might assign students to small groups with whom you reteach certain skills to learners who have fallen behind or offer extended content to those who are further advanced.

Differentiated **products** provide varied opportunities for students to demonstrate what they know. While some students may be ready to demonstrate what they learned on their own, such as writing a letter, others may be more successful working in groups, such as writing a play script. Providing the option of acting out the various stages in a process is an alternative to drawing a model, for example.

Differentiated **process** involves engaging students in different activities to support mastery. For example, you might divide students into small groups and provide some more scaffolding than others as they master key content and skills. You might offer some students additional tools or provide activities for them to complete independently for more practice. For other students, additional time may be helpful.

Differentiating the **learning environment** involves designing the classroom or the digital learning space to accommodate students' various needs for quiet time, individual work, collaboration. This should take into account not only their learning needs but also their cultures and home environments as well, especially during distance learning.

Differentiation benefits all learners. But it is important to note that **adaptations**—also referred to as accommodations—for students, even for learners with special needs, do not change the standards against which learning is assessed. Digital technology can be a valuable tool for differentiation, such as facilitating adaptations to processes, products or the learning environment while maintaining high standards for all learners. For example, assistive technology may enable learners to access content, participate in activities, or express their learning in ways that would have otherwise been difficult or impossible without technology. Digital learning, when designed with all learners' needs in mind, can support quality, inclusive education.

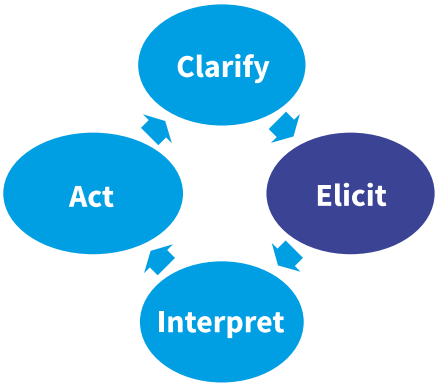
Some learners who have been identified as having certain learning disabilities may need **modifications**, which might adjust the level of content or the standards. These decisions should not be made by you alone. Your school likely has a process for making these decisions together with the team of learning and/or evaluation specialists, parents, the learner, other teachers, and representatives of the school or local education authorities.

We will discuss differentiation more throughout the modules, particularly in Module 5.

To make sure my students know what success will look like, I give them examples…and non-examples. I provide samples of past students' work (with names removed, of course!) and then give prompts in the form of questions that help them to think about what defines successful examples. When students state the success criteria in their own words, I find that it helps them to remember them, but it also helps me to identify if they have really understood or if they need more explanation.

Elicit

You might think of the next phase as the assessment itself because it involves gathering information about what students are thinking, what they have understood, what misconceptions remain, and how they might need to be supported.

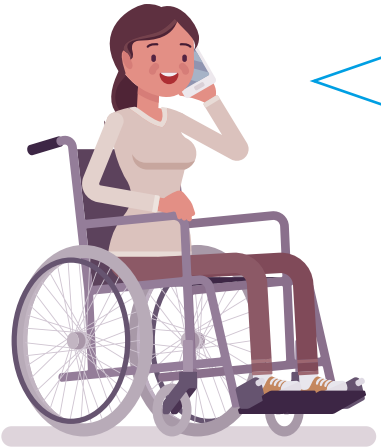


There are many ways to elicit information. For example, in in-person learning:

- You could survey answers to a multiple-choice question by asking students to give a "thumbs up" or one finger up for one response and a "thumbs down" or two fingers up for a different response.
- You could provide a multiple-choice question and ask students to respond independently, such as by writing their answers on miniature whiteboards or notecards and holding them up, before checking their answers to assess their understanding.
- Students could turn to a peer or small group to discuss a question while you listen in.
- You could ask them to explain in writing or verbally how they solved a problem or arrived at an answer.
- Students could act out or draw their thinking.

In distance learning or hybrid learning:

- You might ask your students to respond to a question using the video conferencing platform's "react" buttons, such as a thumbs up for one response or a heart for a different answer. Similarly, you might use a platform's polling feature to collect answers to a multiple-choice question.
- In a virtual classroom, you could assign pairs or small groups to breakout rooms and join different groups to listen in as your students discuss.
- In synchronous learning, whether offline or online, you could send a multiple-choice question via text message and ask students to respond with the number that corresponds to their answer.
- In asynchronous learning, you could include check-in moments throughout the material, whether online or offline, and ask your students to post their responses in a discussion forum, via text message, or in their paper-based learning log.



Before beginning digital learning, we used offline, paper-based learning for a couple of months. Every couple of weeks, I would send home a new packet of learning materials tailored to students' needs. In order to decide what to include in each one, I added a low-stakes quiz with a few questions at the end of each packet of materials. I reviewed students' responses before putting together the next packet of materials to decide which content to include and which key concepts they might need to review before moving on.

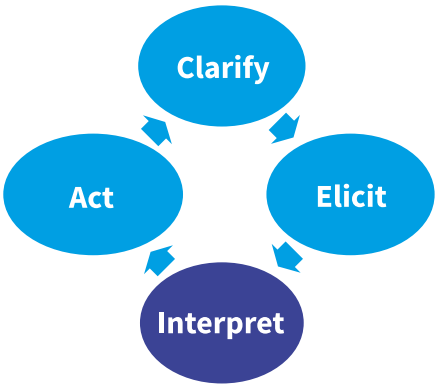
Be creative with how you assess students, but remember that your goal is to understand what your students are thinking and what they may need to reach the learning goals.

The upcoming modules will discuss additional ways to elicit information on learning. For now, it is important to keep in mind that whatever method is used, all learners must be able to participate.

Differentiation is not limited to teaching content. Allowing multiple ways for all students to express what they know and can do—while providing additional support to learners with disabilities or those who speak a different language at home, including one-to-one observation when needed—is key to eliciting quality, actionable information.

Interpret

After you have elicited this information from your students, you must interpret from it what students know and can do based on the goals and success criteria that you clarified at the beginning of the lesson, unit, or activity. You may interpret evidence immediately or at a later point in time to help you use it in the most informed way to improve your teaching.



Sometimes, I interpret evidence as I collect it during the lesson. This helps me to immediately identify students' understanding and misconceptions. I use this information in the moment to provide clarification or to adjust my plans for that lesson or activity.

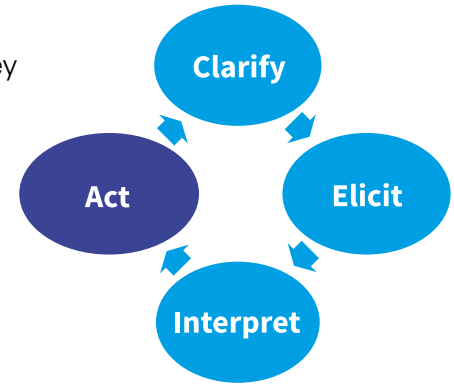
Other times, it takes a bit longer to interpret this information. I might use a rubric to compare each student's performance to the learning goals and criteria for success at the end of the lesson.

Even in distance and hybrid learning, it is important that you interpret the information that you collect from formative assessment activities in light of what you are currently teaching and plan to teach next, always keeping the learning goals in mind. Reflect carefully on whether it is best to continue with your lesson as planned, to make adjustments based on students' needs, or to pause to provide additional opportunities to review material or practice applying what has been taught.

- In in-person learning, as well as in synchronous distance learning, you must consider not only your next lesson, but also your immediate next steps. This takes careful planning to build multiple pathways for learning into each lesson and knowing in advance which criteria you will use to decide how each student will progress through the lesson.
- In asynchronous distance learning, this process is similar, but it might feel a bit delayed and require greater self-regulation from and communication with students. You might be gathering different information from students at different times. However, you might also have more time to thoughtfully and thoroughly reflect on what you have learned from students' responses, to adjust your plans for teaching accordingly, and to involve them in this decision-making. Just as in synchronous learning, it is important to prepare multiple learning paths with differentiated content and practice opportunities within each lesson in advance to allow you to easily guide students toward what they need next.

If learning is digitally-supported, keep in mind to interpret the information carefully. How does students' progress compare to their learning goals? If you identify challenges, could they be related to the technology instead of students' content knowledge and skills?

Act



Now that you and your students know where they are going (clarify) and where they currently are (elicit and interpret), you can now act on this information to help them reach their goals. You might decide to:

- Reteach certain content in a different way;
- Offer additional materials to help those students who may have remaining misconceptions or may need more support;
- Provide additional opportunities for practice;
- Show examples to highlight key concepts;
- Reorder the activities you had planned for that lesson or following lessons; or
- Decide that the class is ready to move on to the next lesson.

Whatever action you take, it must be based on what you have learned about where students are in relation to where they are going. Here are some examples of what this might look like depending on how learning is delivered.

In in-person or synchronous distance learning, acting on information from formative assessment requires making decisions in real time. Take some additional time to familiarize yourself with the tools available to you and the options they provide. For example:

- In synchronous, online learning, you might use breakout rooms in a video conferencing tool to provide differentiated activities based on students' levels of mastery.
- You might assign students in pairs or trios with one student in each group who has mastered the content to act as a peer tutor.
- In synchronous, offline learning that involves television lessons, you might communicate via SMS or a class chat, check learners' understanding with short multiple-choice questions, and send additional materials or activities to specific students to clarify any misconceptions.

To act, I need information that tells me what students know, including their misconceptions. To make sure that my questions include these misconceptions, I research what they might be in advance. I also speak with other teachers and exchange experiences on common misconceptions. I teach grade 3 science, so I speak with science teachers in grade 2 and grade 4, as well as colleagues who teach other subjects at the grade 3 level.

Once I know what common misconceptions are, I must design questions that would highlight them, such as multiple-choice questions with answer options that reflect misconceptions.

In asynchronous distance learning, you might:

- Include formative assessment activities at specific places throughout the lesson content. You can provide instructions (such as a flow chart) that guide students to different materials based on how they responded to the question.
- Open multiple threads on a discussion forum to facilitate asynchronous group discussions or activities and assign students to different threads based on their responses.
- Provide follow-up support offline, such as by assigning additional activities in a workbook or guiding students to review certain content once you have clarified certain concepts.

However you organize this, remember that it takes time and preparation to build these differentiated paths into distance learning, and students will need clear instructions on which next step to take and where to find any additional materials that have been assigned.

2.2.2 Lesson 2: Principles of quality formative assessment

In distance, hybrid, or digitally-supported learning, additional considerations may be needed to ensure that formative assessment collects information that enables you to move each student toward their learning goals, regardless of the learning modality. Keep the following principles of quality formative assessment in mind.

WHY
• **Evidence** –Formative assessment provides information on what learners have understood, their misconceptions and needs. Formative assessment practices must lead to evidence, that is factual and actionable information that continues to move them toward their learning goals, even when you are not together in person. • **Decision-making** – Using this evidence teachers can plan their next steps in students' learning pathways, including what they will teach, for whom and how. Evidence enables differentiated teaching that can meet students' diverse needs.
WHO
• **Inclusion** –Questions should be designed to assess all students' learning and abilities, regardless of their access to or familiarity with certain tools. While tools may facilitate assessment, they may also be an impediment for learners with certain disabilities, those who lack digital skills, or those without certain devices at home. You must scaffold students' use of technology, providing support and gradually removing it until learners are able to use it independently, while also designing multiple ways for assessing students' understanding, taking into account these challenges. • **Equity**: All learners must have equal opportunities to demonstrate their understanding and competence, as well as equal opportunities for communicating with the teacher about their progress and needs, including students who are not online. • **Agency**: Formative assessment is a collaborative process. Learners should be involved in self-assessment and peer assessment, both of which can increase motivation, agency, and responsibility. In distance and hybrid learning, you might capitalize on students' increased time at home to strengthen learners' skills in self-assessment, including academic and transferable skills, such as social-emotional skills. Remember that this requires adequate scaffolding and modelling.
WHAT
☑ Learning – Assessment should focus on the learning that builds on prior knowledge rather than on rote memorization. It should help you and your learners to connect what is being learned to what has already been learned and what will be learned next. To do this, you need a clear idea of what students already know. ☑ Priority – In contexts of limited time or accelerated learning, such as during or after periods of prolonged school closures, it may be necessary to focus on specific knowledge and skills. If limited time or opportunities for formative assessment are available, use these to focus on assessing students' understanding and abilities related to core content and key competencies needed to move them toward their learning goals. It is critical that assessment collects information about foundational knowledge, skills and competencies (such as fluency with key vocabulary needed to access further learning). Be careful to assess this rather than errors that might result from the use of technology.

WHEN
☑ **Regularity** – It is important that learners expect regular check-ins from you and that they are encouraged to conduct them of their own learning regularly as well. You might facilitate this as a part of class routines in synchronous learning or include written reminders to learners as part of learning content that is shared asynchronously. ☑ **Recurrence** – Although time may be even more limited in distance and blended learning, formative assessment can support teaching in different ways when it is used throughout a lesson. There is no singular moment in a lesson when it is best to conduct formative assessment. Rather, teachers use formative assessment recurrently throughout a lesson to keep teaching and learning on track. ☑ **Timing**- Timing of assessment in blended and distance learning will be different than in class. Group discussions, one type of formative assessment technique, may take longer to coordinate. Others, such as using online tools to conduct a class poll, may require additional time to navigate new technology. Time should be built into lessons for needs related to technology, communication and even lack of familiarity with new learning modalities.
WHERE
☑ **Ubiquity**– Even in asynchronous and offline learning, formative assessment must play a key role. Regardless of how teaching and learning take place, and even more when teachers and learners are not together, formative assessment is necessary for informing learning. ☑ **Coherence** – Formative assessment in distance and blended learning must take into account that these learning contexts are often dynamic. Students may alternate between learning in person and learning online. Others may learn at home using paper-based materials for a few months followed by a sudden transition to in-person learning supplemented with the use of technology in class. Nonetheless, assessment should be coherent between in-school and distance learning arrangements. You can use formative assessment to ensure coherence between learning that takes place at a distance and learning that occurs in class.

HOW
☑ **Simplicity** –Spend some time exploring what tools and activities are available, and choose those that help to check what learners know without creating additional barriers in access or expression. Choose activities and tools that are accessible, inclusive, and adaptable to learners' needs without requiring much additional effort. The focus should be on improving pedagogy and learning, so sometimes simple is best. ☑ **Familiarity** – Frequent changes can make it difficult to establish effective formative assessment routines. A lack of familiarity with an activity, tool or platform may create barriers for learners to accurately express what they know and can do. Students whose working memory capacity is limited or those with difficulty sustaining attention may need additional support to keep them on track when new tools are introduced. As you review the available tools and activities, choose a limited number of options that address your learners' diverse needs and use them consistently. ☑ **Consistency**-When moving between distance and in-person learning, or between online and offline modalities, ensure consistency in the frequency, type, and use of formative assessment. Ensure that students can still access feedback that is given in class during distance learning and vice-versa. ☑ **Alignment** –The goal of formative assessment is to support learning. Tools such as those built into learning management systems can help you to collect, analyse, interpret, and use information about students' learning. But as new technology is made available, it might be tempting to introduce new tools or activities as you discover them. First, identify what information you need to gather and choose activities and tools that enable you to do this, rather than reorienting your assessment to fit the available tools.

Figure 2.6. Principles of quality formative assessment in distance and blended learning

Why	Who	What
• Evidence • Decision-making	• Inclusion • Equity • Agency	• Learning • Priority

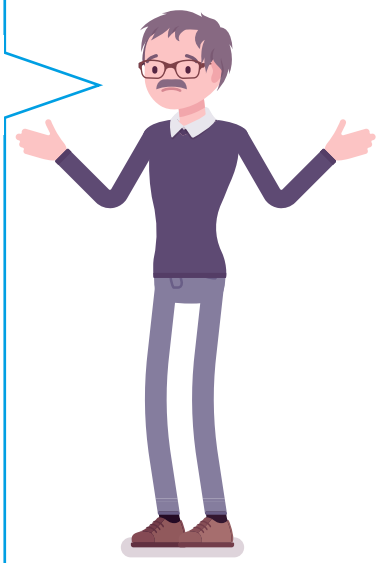
When	Where	How
• Regularity • Recurrence • Timing	• Ubiqity • Coherence	• Simplicity • Familiarity • Consistency • Alignment

One of my favorite tools to use with my learners are rubrics, which score students' work according to set success criteria. They help me to involve students in each step of assessment, even in distance learning.

I build rubrics collaboratively with my students by **clarifying** the learning goals and how we will know if they have been met. I give a copy of the rubric to my students before the assessment activity to make sure expectations are clear.

Next, I make sure that the assessment activity I will use to **elicit** information allows learners to demonstrate their knowledge or skills according to the defined criteria for success. I **interpret** learners' responses by deciding whether they meet the criteria for success. I ask learners to do the same by themselves or with a partner, but this requires explicit support such as prompts. Ask them to reflect on why they have assigned a certain score in each section of the rubric and, based on this information, what they might need to support further learning.

Provide students with multiple options to act on the information and guidance on how to decide. For example, I give students a choice between watching a video clip on the topic if they feel they have not understood it thoroughly, doing a sample problem independently if they feel they need more practice, or helping a partner if they feel they have understood it well. Support them to justify their choice by using evidence from their rubric as well as yours.



2.2.3 Lesson 3: Challenges in ensuring formatively-driven, learner-centred distance and blended learning

As distance and hybrid learning become an increasingly regular modality for teaching, it may be tempting to transfer practices and routines that you use in the classroom into different settings. However, not all of these practices and routines are as effective when students and teachers are apart as when they are together in class. Some modalities for learning delivery, such as television, radio or paper-based distance instruction, may create challenges related to communication and adjustment. As you may have already seen if you have been teaching at a distance or using digital learning in class, the use of technology – both in and out of the classroom – presents additional challenges for assessing students' learning. The following vignette demonstrates some examples of these challenges.

Ms. Popović is a third grade teacher with a class of 24 students. Her school has been closed over the past 6 months due to an earthquake that destroyed the school building. Ms. Popović has continued teaching her class via the government-supported WeLearn platform. The platform includes video conferencing, which Ms. Popović uses to conduct synchronous daily lessons with her students. The video conferencing tool has a live chat that allows for messaging between all participants in the video call, a whiteboard function and multiple "react" buttons (including a raised hand, like, smile, and clap). The platform also has a space where Ms. Popović is able to link electronic learning materials, including passages from the class's textbooks, videos and other materials she sometimes uploads to support the lessons. Students can write messages, such as in a class board or wiki, which Ms. Popović uses at the end of each week to assess students' responses to prompts. Ms. Popović and students can also communicate individually with each other outside of the video call. Not all of Ms. Popović students have access to a computer for learning at home, however. These students are receiving materials through the mail from the school so that they can continue learning. Let's see what Ms. Popović has to say about her experiences using these modalities for teaching.

For the most part, I've enjoyed using the e-platform for teaching. It's great that I can still have live classes with most of my students. When we are all online together at the same time, it is simple for me to explain to them what we are doing in each lesson and to make sure we all understand why. I think it's also important that they can see each other's face… Well, sometimes. Not all students have great internet connection, so some of them have to switch off the video cameras. This makes it difficult for me to quickly assess if they are understanding the material. In class, I would stop if I noticed that a student seemed confused, but now I can't see their faces! I also used a lot of non-verbal cues in class to communicate with my students: a thumbs up if they were making great progress or a look to acknowledge that they need help. I've had to be much more intentional about planning pauses into my lessons to briefly assess if students are on track and to communicate more clearly.

Reflect. Take a moment to think about the example above and answer the following:

- → Which of the characteristics of quality formative assessment can you identify in Ms. Popović's interactions with her students? Which ones seem to be missing?
- → What are some of the challenges that Ms. Popović has been facing during distance learning in conducting formative assessment?
- → Have you experienced any of the same challenges in distance, hybrid, or digitally-supported learning? What other challenges with formative assessment have you experienced? How have you addressed these challenges so far?
- → What suggestions might you give to Ms. Popović based on your experience to overcome these challenges?

2.3 Key takeaways

Recall the following key takeaways from Module 2:

- ☑ The formative assessment cycle includes four steps: Clarify, elicit, interpret, and act. It is important to plan for each step, whether in in-person or distance learning.
- ☑ Even in distance and digital learning, it is important to involve learners in each step of the formative assessment cycle and to plan for and provide the necessary support and accommodations for all children, including those with disabilities.
- ☑ Quality formative assessment elicits evidence that can be used for decision making, is inclusive of all learners, is equitable and develops their self-efficacy. It is focused on thinking and learning processes related to core knowledge and skills and is regular and recurring. Quality formative assessment requires adequate time to be built into lessons, including for processes associated with using formative assessment in distance and digital learning. Nonetheless, it is necessary for informing learning, no matter how that learning takes place, and should support coherence in learning across all learning delivery modalities. At the same time, formative assessment should be simple enough to focus on showing learning, familiar to be usable to students, consistent even in transitions among delivery modalities and aligned with the information that you need to gather.
- ☑ Some common challenges with formative assessment in distance and digital learning include: lack of nonverbal communication; shyness, challenges in accessing digital platforms, or lack of familiarity with using platform features; limited communication options, especially offline; and lost time to address misconceptions, especially in asynchronous learning.
- ☑ Some additional opportunities in distance and digital learning include: intentionality about building formative assessment into lessons; the opportunity to establish assessment routines and communication; and the opportunity to exchange skills among colleagues and to learn together with your students. Distance and blended learning also offer important opportunities to provide differentiated pathways for learning within a lesson based on students' needs, which requires adequate time and advance preparation.

2.4 Self-assessment and application

Take a moment to reflect on what you've learned and how it can be applied in your teaching. Respond to the following questions in your learning journal for this course. If you are participating in the facilitated version of this course, your instructor will guide you in how to discuss the following questions with your peers.

- Describe the four steps in the formative assessment cycle.
- Think of a lesson you have recently taught or one that you teach each year. Recall (or imagine) what that lesson looked like (or would look like) in distance learning. Using what you have learned in this module, how would you rewrite your lesson plans to include each step of the formative assessment cycle in this lesson if you were teaching it via distance instruction? (It may help to think of adapting this lesson for the specific modality your school is using or is likely to use for distance instruction).
- The module provided rubrics as an example of how to involve students at each step in the formative assessment cycle. Can you think of any other ways?
- At the beginning of the module, you reflected on some of the challenges that you have faced in distance and blended learning, particularly related to formative assessment. Based on what you have learned, how could you overcome these challenges?

2.5 Additional materials for deepening knowledge

If you would like to learn more about the formative assessment cycle and challenges and opportunities in implementing quality formative assessment in distance, blended and digital learning, the following readings may be of interest to you:

- Pp. 23-24 and 93-100 in Lane, R., Parrila, R., Bower, M., Bull, R., Cavanagh, M., Forbes, A., Jones, T., Leaper, D., Khosronejad, M., Pellicano, L., Powell, S., Ryan, M., and Skrebneva, I., *Formative Assessment Evidence and Practice Literature Review*, AITSL, Melbourne, 2019. Available at: https://www.ofai.edu.au/media/u5ahfia0/literature-review.pdf
- Pp. 20-29 in European Commission, Directorate-General Education, Youth, Sport and Culture, Unit B.2: Schools and multilingualism, *Blended learning in school education – guidelines for the start of the academic year 2020/21*, European Union, 2020. Available at: https://www.schooleducationgateway.eu/downloads/Blended%20learning%20in%20school%20education_European%20Commission_June%202020.pdf
- Olson, L. *Blueprint for testing: How schools should assess students during the COVID crisis*, FutureEd, Washington DC, 2020. Available at: https://www.future-ed.org/wp-content/uploads/2020/07/Future.Ed_.Testing.Blueprint.pdf

The following video will help you to review and apply what we have learned in Module 2. The questions below each video link serve to guide your further reflection. Respond to them in your learning journal and share your responses with your colleagues as you learn together. If you are participating in the facilitated version of this course, you will be directed to share your responses in group discussions.

→ Edutopia, *Building Formative Assessment into Game-Based Learning* [Video], 13 May, 2014. YouTube: https://www.youtube.com/watch?v=2c2-kYxNyMc

- Watch the full video and respond to the following questions:
  - What do you notice about the students' interaction in the video? Does this look like a classroom you are used to seeing?
  - What qualities of formatively-driven and learner-centred teaching can you identify in the classroom in the video?
  - What steps in the formative assessment cycle are present in the process?
  - How does the teacher use embedded assessment? How does the teacher assess students' depth of knowledge?

→ EDEN Secretariat, *How to design and manage assessment for online learning* [Video], 21 April, 2020. YouTube. https://www.youtube.com/watch?v=-0y1-ZMoM_s

- Watch from 17:50 – 25:40 and respond to the following questions:
  - What does the presenter mean by backward design? Where do formative assessment activities fall in the process of backward design? How can this help you to craft formative assessment activities more intentionally?
  - Think about a lesson you will teach in the next couple of weeks. Sketch how you might approach this lesson if you were to use the principles of backward design to ensure quality formative assessment as discussed in this module. Share your plan with a colleague and discuss with each other how you approached backward design for this lesson plan and why.
  - The presenter offers multiple tools for a university-level course, but many of the principles are relevant to basic education as well. How might you apply the same principles with your primary or secondary students to facilitate collaboration among students and meaningful formative assessment that produces actionable information?
  - How can this process eventually support more accurate summative assessment?

In the next module, we will discuss formative assessment techniques. The module will include a focus on writing quality, effective questions, including rich and diagnostic questions, as well as adapting assessment activities for different learning modalities.

Module 3: Formative assessment strategies for digital and distance learning

3.1 Introductory content

Learning for this module should take you approximately 25-30 minutes.

3.1.1 Session's aims

The previous module discussed the formative assessment cycle and adapting it to distance and digital learning. In this module, you will learn about formative assessment techniques, including different types of formative assessment questions.

3.1.2 Learning objectives

At the end of this module, you should be able to…

- ☑ Explain various formative assessment techniques, their purpose and when to use them;
- ☑ Explain the types of questions that can be asked for formative assessment and assess the quality and effectiveness of formative assessment questions; and
- ☑ Write effective rich and diagnostic questions for use in your lessons.

3.1.3 Reflect on what you already know

Record your answers to the following questions in your learning journal:

- → What parts of a typical lesson would you identify as important moments for using formative assessment? Why?
- → How do you think class discussion might be used for formative assessment?
- → Think about the types of questions you regularly ask your students. Do you ask open-ended or closed questions? Do the same students tend to answer frequently? What does this tell you or not tell you about how well your class has understood key concepts?

3.1.4 Essential pre-readings

Complete the following readings before exploring Module 3's core content:

- ☑ Barnes, D., Chapter 1: 'Exploratory talk for learning', N. Mercer & S. Hodgkinson (Eds.), *Exploring talk in school: Inspired by the work of Douglas Barnes*. SAGE Publications Ltd, 2008. https://us.corwin.com/sites/default/files/upm-binaries/23512_01_Mercer_Ch_01.pdf
- ☑ Simon, D. E., 'It's good to talk: Moving towards dialogic teaching', *Impact: Journal of the Chartered College of Teaching*, 2018. Available at https://impact.chartered.college/article/egan-simon-moving-towards-dialogic-teaching/
- ☑ Ljungdahl, L., & Prescott, A., 'Teachers' use of diagnostic testing to enhance students' literacy and numeracy learning', *The International Journal of Learning, 16*(2), 2009, pp461–474. Available at https://opus.lib.uts.edu.au/bitstream/10453/9923/1/2008005509.pdf

3.1.5 Key terms

- **Observation** is a formative assessment technique that involves noting what you see and hear regarding students' responses to content, questions they ask, how they respond to your questions, and how they interact with your peers.
- **Anecdotal notes** are often paired with observation. Often, they are quick notes taken during class or immediately after a lesson. The aim is to be as objective as possible and to note information that provides insight into what students know and can do.
- **Purposeful dialogue** is dialogue among learners and between you and your class that is designed to bring multiple ideas to the surface and challenge learners' understanding. It is oriented toward learning goals and provides rich information about students' understanding, ideas, and misconceptions.
- **Rich questions** require deep thought or responding to a series of smaller questions to arrive at a conclusion or response. They should challenge and encourage learners to integrate their ideas and knowledge and to build on these to arrive at new knowledge.
- **Diagnostic questions** are used to identify or diagnose students' misconceptions. Rather than being used to stimulate discussion, these provide a quick snapshot of students' current levels of understanding. Diagnostic questions can include multiple-choice and intersection questions.
- **Intersection questions** or hinge-point questions are questions used during or near the end of a lesson to help you understand at what point different learners have arrived and where they must go next to move them toward their learning goals.

3.2 Core content for Module 3

A common misconception about assessment is that it must be distinct from other classroom interactions. Instead, even the smallest of activities can provide useful information about students' learning. These formative assessment activities may seem like part of regular classroom interactions. That's because they often should be!

It is your responsibility as a teacher to make sure you are integrating formative assessment with your daily teaching and using this information to guide your next steps.

3.2.1 Lesson 1: Formative assessment techniques

There are many different techniques for formative assessment. Each one can be implemented using a variety of activities and tools. These activities and tools themselves are not the formative assessment; rather, formative assessment is the gathering of information, facilitated by these tools, that allows teachers and students together to compare their learning against learning goals and improve that learning. Both during and after instruction are appropriate times for using formative assessment, depending on what information you need to gather and how you will do so.

Observing students

It is likely that you already pay attention to how your students work and interact during a lesson. When done purposefully with the goal of identifying learning challenges and strengths, observation is a useful formative assessment technique.

Observation involves taking notes about what you see and hear, including:

- How students respond to the content;
- Questions they might ask;
- Responses they give to your questions; and
- How they interact with peers during group work or discussions.

My school is using digital, distance learning, and I find that it is more difficult for me to pick up on subtle pieces of information about my learners. So, in addition to observing them, I take anecdotal notes about what they say during breakout rooms, the types of comments they share in the chat, and if they participate in activities such as polls.

These are just quick notes. Sometimes I write them during class and other times after a lesson, but I try to be as objective as possible.

Here are some more ideas for using observation for formative assessment in distance learning:

- Before a lesson begins, you might create a checklist of behaviours that demonstrate students' understanding. Look for these behaviours throughout the lesson.
- To keep this checklist organized, you could create a spreadsheet with students' names in the rows and behaviours in the columns and mark an X for each student on the chart who demonstrates these behaviours.
- You could also create an online form, many of which produce helpful graphs for viewing data.
- Keep your notes organized in a notebook or write them in a digital log on your computer during or after each lesson.
- Be sure to analyse the data after the lesson!

Can you think of any other strategies for observation based on what works best for you and your students?

Purposeful dialogue

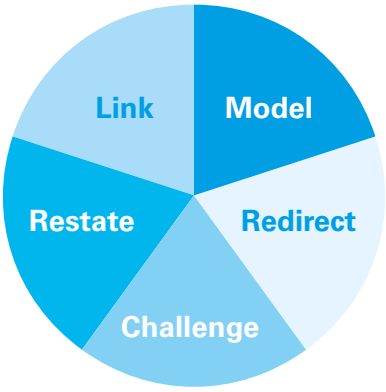
As a teacher, you have likely had students in your class who always seem to be talking. Your learners' interest in exchanging thoughts and ideas with each other can be harnessed to support assessment. In fact, it is one of the primary ways that teachers can elicit information on thinking and learning!

Purposeful dialogue is dialogue designed to reveal how students arrive at a certain response by bringing multiple ideas to the surface and challenging learners' understanding.[xxxv] Purposeful dialogue is oriented toward learning goals and provides rich information about students' understanding, ideas, opinions, inferences, thought processes and misconceptions.[xxxvi]

I use purposeful dialogue in my lessons by starting a discussion using open-ended questions, or questions that students cannot answer with just "yes" or "no". Sometimes I ask these to the whole class and other times in small groups.

Keep the following in mind for successful purposeful dialogue:

- ☑ Purposeful dialogue requires time and careful planning. Think about the objectives for these discussions, where they fit best in the lesson to provide you valuable insight on students' learning, and how much time these activities will take.
- ☑ Set a clear objective for the discussion (recall the **clarify** step in the formative assessment cycle) and clear expectations for students' participation.
- ☑ Guide conversation that **elicits** information about students' understanding and misconceptions by connecting them to the learning goals.
- ☑ Support students, such as by *modelling* how to engage in such discussions and practicing often.
- ☑ During the discussion, you can *redirect* learners with cues if they are off-track, *challenge* what they have said to help them clarify their own thinking, or restate their input as necessary, as well as *link* comments from multiple students together under common themes.[xxxvii]



In distance learning, dialogue might be synchronous, such as conversations during a live video lesson or voice messaging or chats via a messaging app during a televised lesson at a set time. Or it might be asynchronous, such as contributions to a discussion forum as learners pace themselves through a lesson. Provide clear directions to your students, prompts to keep them focused on the goals of the discussion, and opportunities for all students to participate in the discussion. Still, learners will need adequate time to think about their ideas and make meaningful contributions.

How have you used purposeful dialogue with your students? What might you do to make it more effective?

Questions

In addition to supporting students' participation in discussions, asking the right questions in the right way plays an important role in ensuring that whole-class and group dialogue is purposeful. We will learn more about the types of questions you can ask in the upcoming lesson. First, take a moment to reflect on the following:

- How often and when do you ask questions in a typical lesson?
- What happens when you think carefully about why you ask each question?
- Think about whether the majority of your questions are open-ended or closed.
- Describe the strategies you use to ask questions. For example, do you ask your questions aloud or provide students a list of questions to answer during class?
- What do students' answers tell you about their learning and your teaching?

In addition to questions about what students are thinking, I also use questions to address students' beliefs about their own learning, which can be limiting. For example:

- If a learner shares that they cannot do a certain task or that they "do not know," I first ask them, "What makes you think that?" or "Why do you think that is so?"
- I encourage learners to pay attention to their own self-talk and to ask themselves why they think things like "always," "never," "everyone," or "no one". I encourage them to ask themselves, "Is this thought helpful right now?"
- I ask learners to tell me about a time when they felt stuck during a lesson or an activity. What happened in that moment: How did you feel? What did you think? What did you do?
- Especially, I encourage learners to have "proof" for their thoughts: How can you be certain? Is that the only way to interpret this situation?

3.2.2 Lesson 2: Types of Questions

You must carefully consider the following when using any formative assessment techniques, including questioning:

- ☑ Frequency,
- ☑ Objective,
- ☑ Design,
- ☑ Delivery, and
- ☑ Use.

This lesson explores multiple types of questioning that can be used for formative assessment and how these can be implemented in distance and blended learning.

Rich Questions

Rich questions require deep thought or answering smaller questions to arrive at a conclusion or response. They should be challenging and encourage learners to integrate multiple ideas. This often initiates a multiple-step process that includes modelling, experimentation, trial and error, or testing of ideas, typically in a group. Consider the following when designing rich questions:

- ☑ Ensure that adequate time and direction are given to invite reflective, detailed responses.
- ☑ Support learners' metacognition and awareness of their own strengths and needs
- ☑ Keep learners' discussions oriented toward learning goals, such as with a rubric (see Module 2).

I use rich questions with my maths students often. Here is an example:

You and 4 friends ordered a pizza. When it arrived, it was cut into 4 slices. How might you and your friends share the pizza so you each eat the same amount?

This question is open-ended, requires multiple steps, and has more than one possible solution. Learners must think about the right strategy for setting this problem up, such as deciding to draw a picture or to use an equation. As they work together in small groups, they challenge each other's ideas and explain why they agree or disagree. As they propose different solutions, I support them to test their answers (trial and error) and to reflect on whether they make sense and why.

While it may seem difficult, rich questions can and should still be used in distance learning. You must carefully consider the following:

- If learning is synchronous, discussions can be facilitated in real time; if asynchronous, can learners contribute at different times?
- If learning is asynchronous, will it be helpful to reduce the number of steps required to arrive at a response?
- How might you enable collaboration? Could you ask individuals or groups to share notes or chat conversations that demonstrate their discussions? To draw mind maps to show their thinking?
- How will you ensure that all learners have a chance to share their original contribution without pressure or influence from their peers' answers? Is using email or private messages an option before sharing more widely with the class?
- Alternatively, could you invite the whole class to participate in a discussion, even if it is asynchronous? How can you still emphasize that the focus for each learner is on explaining or showing their thinking?
- How will you provide opportunities for deep reflection through rich questions to learners with whom you have minimal contact, such as those learning with paper-based materials at home?

Involving parents or carers can be a useful way to engage learners in rich questions when they are learning offline at home. I make sure to provide guidance to their parents on the types of questions to ask their children to elicit deep thinking. I am careful to emphasize that rather than arriving at the correct answer, the goal is to encourage deeper reflection and discussion on the thought process. I even leave space in the paper-based materials that I send home to invite learners to respond to rich questions by journaling or drawing mind maps.

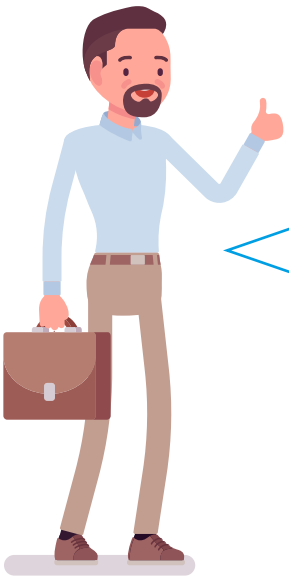
If a question requires experimentation, keep in mind students' access to the required materials at home. You might pair students who do not have these materials with those who do and encourage collaboration over the platform or messaging. Alternatively, you might provide a demonstration or diagrams yourself and ask them to comment on what they notice and what questions they have at each step.

Especially when some learners have access to the internet at their fingertips, it is important to focus on the process of arriving at a thoughtful response rather than sharing a correct answer.

Diagnostic questions

Diagnostic questions are used to identify or diagnose students' misconceptions. Rather than being used to stimulate discussion, these provide a quick snapshot of students' current levels of understanding. Diagnostic questions should be purposefully designed to help both you and your students assess what steps to take next. This includes:

- ☑ Whether students are ready to move on;
- ☑ If not, what they and you can do to bridge misconceptions; or
- ☑ If so, what you can teach next to move them toward their learning goals.



Here is an example of a diagnostic question I use with my class:

When you go outside, you can see the sun because it _____ light.

a. reflects b. absorbs c. produces

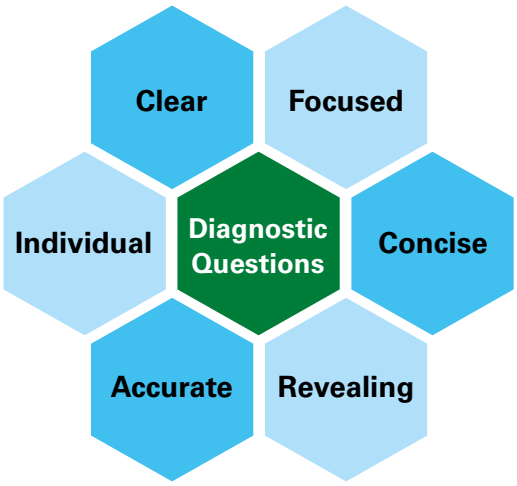
You can see flowers because they _____ light.

a. reflect b. absorb c. produce

Questions like these help me to quickly understand which misconceptions students have.

Diagnostic questions may seem straightforward. But designing meaningful and useful diagnostic questions requires careful planning and knowledge about common misconceptions to accurately diagnose students' need for further support.

An effective diagnostic question[xxxix] is:



- **Clear**: Students must understand the question. Response options should be distinct. If not, even students who have understood a concept may have to guess which answer is correct.
- **Focused**: A diagnostic question aims to assess a single concept or skill to effectively diagnosis misconceptions. You should not have to guess at which step a student made an error or what knowledge is missing.
- **Concise**: These questions should be brief so as to be used quickly for targeted decision-making. Remember, however, that in distance learning, response time may need to be extended for a variety of reasons unrelated to students' mastery of concepts and skills.
- **Revealing**: Students' answers alone should provide the information needed for you to make a decision. They should tell you what students have not understood without requiring further questioning or explanation, although you may wish to follow up with the question "why?" Answer options in multiple-choice questions, for example, are not random but match students' misconceptions (see the example below).
- **Accurate**: Students' responses pinpoint whether they have misconceptions and what these are. A student should not be able to answer a diagnostic question correctly if they have misunderstood key concepts.
- **Individual**: You should ask diagnostic questions to all students but require individual responses. Partner or small group work may be useful afterward to address misconceptions, but it is important to know how to assign each student to these groups.

Diagnostic questions may be used at the start, during or at the end of a lesson and include **multiple-choice** or **intersection questions**, as well as question series. Let's take a closer look at each.

Intersection questions

Intersection questions, also referred to as **hinge-point questions**,[xli] are a type of diagnostic question used during or near the end of a lesson rather than when beginning new material. Like all diagnostic questions, they tell you what your students will need next and what you should do to support this.

Intersections are where multiple paths or roads converge and diverge again in multiple directions. There are different combinations of paths that lead to an intersection (where my students are coming from) and multiple paths they can take once they arrive at the intersection (where my students must go next), along their journey toward their learning goals. Learners take diverse paths, personalized according to their needs. Intersection questions help to assess what steps students will need to take next to continue to make progress.

Multiple-choice questions can be used as intersection questions. They are typically limited to four possible responses. Beside the correct response, the other options should be answers at which students would arrive if they have common misconceptions. Here is an example of a multiple-choice question that can be used to assess if students have understood circumference.

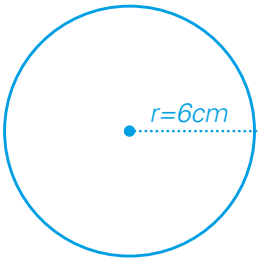
What is the circumference of the circle?

A. 113.04 cm2

B. 12 cm

C. 6.28 cm

D. 37.68 cm



Can you identify the common misconceptions in the options above?

The circumference of a circle is calculated using the formula C=2πr. Option A is the answer students would get if they were to incorrectly use the formula for a circle's area (A=πr2). Option B is the answer students would get if they were to double the length of the radius, as when calculating diameter. Option C is the answer students would get if they only multiplied 2π, and Option D is the correct answer.

Based on the answers that students give, I can determine whether they have mixed up circumference and area (option A), incorrectly calculated the diameter (option B), forgotten the whole formula for circumference (option C), or correctly used the formula for circumference. In other words, I can quickly see whether students are able to integrate what they have learned so far about circles to arrive at the correct answer. I plan ahead of time what I would do in each of these cases to use diagnostic assessment quickly and to efficiently and accurately make decisions of what type of support to provide.

Question series

In addition to single questions, you might choose to use a series of questions that are progressively more challenging. These could include multiple-choice or closed questions (single-word responses). Each should focus on a key concept or skill. These are commonly used by asking students to complete as many items as possible until they feel they no longer are able to answer.

If you choose to use question series, it is important that you include options for all learners' levels, especially for those who may have fallen behind. Your goal is to pinpoint where students' may have knowledge or skills gaps and what knowledge and skills they do have that can be built upon for further learning.

After prolonged school closures, I need a way to know where my students had learning gaps and where they needed support. I use question series. Rather than including only new concepts in question series, I include progressively challenging questions that address foundational skills and key concepts which are critical for students to know in order to move on. Importantly, these are skills they may have forgotten or missed during these periods of disruption. I find it helpful to coordinate with teachers from grades lower than the one I teach to identify what students should know and be able to do by the time they reach my class.

Remember that the results are to be used formatively! If quizzes or exams are used, they should not be used to assign grades but rather to help you decide what to teach, how to teach it, or what kinds of support to provide to which students according to their needs. The same tool can be given back to students at a later point in time for you to assess if they are able to answer questions with which they previously struggled or for them to self-assess what they would have done differently.

Planning questions for assessment in distance and blended learning

As you can see, purposeful questions take time and careful planning, whether they are rich questions to stimulate deep discussion or diagnostic questions for identifying misconceptions and how to address them in your immediate next steps. Here are some additional considerations and guidance for efficiently and effectively using these questions in distance and blended learning:

- ☑ **Practice, practice, practice**. Writing these questions takes time and can be guided by your experience teaching these lessons with past classes.
- ☑ **Collaborate**. Work with other teachers from your school, including those who teach your same subject or grade, to develop a common question bank and provide feedback on each other's questions.
- ☑ **Make it digital**. As you gain experience writing effective questions, these can be stored as a virtual list, organized by topic and type of question. These can then be easily imported into virtual polls, discussion boards, text messages, or included in students' printed learning materials.
- ☑ **Mitigate copying** or looking up the answer. You might set time limits within which students must share a response (care is needed to not exclude students who may have challenges using the technology expediently), keep responses hidden until all students have responded, or ask students to include a brief explanation or drawing of their thought process.
- ☑ **Focus on value**. Although it may be tempting to use single recall questions (yes/no or simple facts) in distance learning because these are quick and simple, these have little value in gathering useful information on students' misconceptions for further planning and targeted support.

You may also have to adjust for different scenarios. For example:

- For rich questions:
  - In asynchronous, distance learning, you might provide questions via writing or short audio or video recordings to guide students' further reflection.
  - In paper-based distance learning, you may include written questions with plenty of working space that encourages children to draw or write about their thought process.
- For diagnostic questions:
  - In asynchronous learning, students may need additional support in pacing themselves. You might include the recommended time to spend on each question with clear directions for where to go next in the lesson content or activities depending on their answers.
  - In paper-based distance learning, students can be directed to certain sections of their textbook or workbook for additional reading or practice based on their answers. Additional questions can be included to encourage further thinking if students gave an incorrect response.
  - In synchronous learning, you can support this verbally by directing learners to successive content or offering additional review and practice in breakout rooms based on answers that they submitted.

3.3 Key takeaways

Recall the following key takeaways from Module 3:

- ☑ Student observation, anecdotal notes, purposeful dialogue, and questioning are four common techniques for formative assessment.
- ☑ Questioning can include rich questions, which require students to think deeply and integrate multiple ideas to arrive at an answer. It is important to remember that the focus should be on how students arrive at their answers. You may need to elicit this thinking more intentionally in distance learning, such as by providing clear instructions for students to explain, narrate or draw their thinking.
- ☑ Questioning can also occur in the form of diagnostic questions, including intersection questions, which help you to decide what steps to take next in your teaching and students to decide what they may need to do next in their learning. These questions should be clear, focused, concise, revealing, accurate and individual. You should be able to identify students' misconceptions and should think carefully about how to include these misconceptions as multiple-choice options.

3.4 Self-assessment and application

Take a moment to reflect on what you've learned and how it can be applied in your teaching. Respond to the following questions in your learning journal for this course. If you are participating in the facilitated version of this course, your instructor will guide you in how to discuss the following questions with your peers.

- → Think about a group discussion that you have recently or could soon use with your students. Carefully plan the discussion to include purposeful dialogue. How will you structure this? What type of support will you offer students to ensure that this dialogue focuses on their thinking processes and learning?
- → Think about a lesson that you will teach soon. Based on your past experience teaching this topic, what are students' common misconceptions? With this in mind, design a diagnostic question that can help you to identify your learners' misconceptions for the start, middle, and end of that lesson.

3.5 Additional materials for deepening knowledge

If you would like to learn more about formative assessment techniques, the following readings may be of interest to you:

- → Alexander, R., 'Developing dialogic teaching: Genesis, process, trial', *Research Papers in Education, 33*(5), 2018, pp561-598. Available at: http://robinalexander.org.uk/wp-content/uploads/2019/12/RPIE-2018-Alexander-dialogic-teaching.pdf
- → Bond, J., B., & Ellis, A. K., 'The effects of metacognitive reflective assessment on fifth and sixth graders' mathematics achievement', *School Science and Mathematics, 113*(5), 2013, pp227-234. Available at: https://www.researchgate.net/publication/260748229_The_Effects_of_Metacognitive_Reflective_Assessment_on_Fifth_and_Sixth_Graders'_Mathematics_Achievement

The following videos will help you to review and apply what we have learned in Module 3. The questions below each video link serve to guide your further reflection. Respond to them in your learning journal and share your responses with your colleagues as you learn together. If you are participating in the facilitated version of this course, you will be directed to share your responses in group discussions.

→ Robin Alexander, *Towards Dialogic Teaching* [Videos], 2017. Available at: http://robinalexander.org.uk/dialogic-teaching/video/towards-dialogic-teaching/

- Watch the multiple videos at the above-mentioned site. Each video is only a few minutes long. After each video, pause and reflect on the following questions:
  - What principles from Module 3 did you notice in the dialogue?
  - Was questioning used? If so, what type of questioning was used? Did it follow the principles from Module 3 of effective questioning?
  - Did you notice purposeful dialogue? If so, describe what this looked like.
  - Approximately what ratio of teacher-talk to student-talk did you notice in the videos? Comment on whether you think this was appropriate and effective, and why or why not.
  - What objectives do you think the teachers aimed to achieve by using dialogue in their classes? Do you think they achieved these objectives with the techniques they used? Why or why not?

→ Tim Macdonald, *The Classroom Experiment – formative assessment techniques* [Video], 31 July, 2015. YouTube. https://www.youtube.com/watch?v=b0TTgeSn7ys

- Watch the full clip of the video above. Reflect on the following questions:
  - Based on this video, think about if you often call on the same students to answer questions. Why? How might you change your process of selecting students?
  - What worked and didn't work for these teachers in randomly selecting students for questioning?
  - What were the different strategies used in the video for engaging students in questioning and dialogue and what was the purpose of each? What worked well and what challenges did teachers face with each technique?
  - Have you tried these techniques with your class, particularly in distance or digital learning, and if so, what worked well and what challenges did you face? How did you solve these challenges?

In the next module, we will discuss in more detail how you can implement formative assessment activities with your class. We will explore various tools that can support formative assessment, especially during distance and digital learning. We will also discuss considerations that must be made when deciding between synchronous and asynchronous assessment methods.

Module 4: Carrying out formative assessment in distance and digital learning: Activities and tools

3.1 Introductory content

Learning for this module should take you approximately 20-25 minutes.

4.1.1 Session's aims

In this module you will learn about activities that can be used for formative assessment, no matter how learning takes place. You will also look carefully at how to decide between synchronous and asynchronous options for assessment.

4.1.2 Learning objectives

At the end of this module, you should be able to…

- ☑ Describe common formative assessment activities;
- ☑ Adapt these formative assessment activities for both synchronous and asynchronous distance and digital learning contexts; and
- ☑ Compare the asynchronous and synchronous use of formative assessment and describe some benefits and limitations of each.

4.1.3 Reflect on what you already know

Record your answers to the following questions in your learning journal:

- → Think about the course of a typical lesson that you teach in the classroom and how you have modified this for distance and/or digital learning. Based on what you have learned so far, what formative assessment practices do you most often use in your classroom?
- → What activities have you adapted or new ones have you introduced during distance learning to elicit information about what students understand or can do?
- → How often and when do you intentionally use formative assessment during synchronous learning? What influences your decision in different learning contexts?

4.1.4 Essential pre-readings

Complete the following readings before exploring Module 4's core content:

- ☑ Abrami, P. C., Venkatesh, V., Meyer, E. J., & Wade, C. A., 'Using electronic portfolios to foster literacy and self-regulated learning skills in elementary students', *Journal of Educational Psychology, 105* (4), 2013, pp1188-1209. Available at: https://eric.ed.gov/?id=EJ1054427
- ☑ Burns, M., 'Tech-based formative assessment' [blog post], *Edutopia*, 2 May, 2017. Available at: https://www.edutopia.org/blog/tech-based-formative-assessment-monica-burns

4.1.5 Key terms

- **Formative assessment activities** refer to teaching and learning activities that enable you to integrate formative assessment naturally as part of class routines. They should support the regular implementation of the formative assessment cycle as part of the teaching and learning process rather than as a separate set of activities.
- **Formative assessment tools** refer to something that you and your students use, whether analogue (such as manipulatives, whiteboards, or index cards) or digital (such as polls in a digital classroom or video recording technology) that supports you to carry out formative assessment activities. It is not the tool nor the activity that determine whether assessment is formative, but rather tools and activities support the formative use of assessment.
- **Asynchronous formative assessment** takes place at a different time (and possibly in a different environment) than the delivery of learning content, regardless of whether that delivery takes place synchronously or asynchronously.
- **Synchronous formative assessment** takes place alongside—that is, integrated with—the delivery of learning content.

4.2 Core content

Now that we have a better understanding of the techniques used for formative assessment, including asking questions, we will take a closer look at how a variety of activities and tools can support you in implementing these techniques. You must make important decisions not only among the many options available, but also when and how to implement them in a way that supports your learners best. As you progress through this module, keep the four steps of the formative cycle—clarify, elicit, interpret, and act—in mind, as well as the purpose of formative assessment.

4.2.1 Lesson 1: Tools and activities for formative assessment

Having a menu of formative assessment activities and tools from which to choose can support you to integrate formative assessment effectively and efficiently as a natural part of classroom routines. It can also support learners' autonomy by providing them with choices, which must be carefully balanced with not overwhelming them with options. This lesson aims to familiarize you with a sampling of these and how they can be used in distance and blended learning.

For rich questions and purposeful dialogue
• **Brainstorming sessions** can assess what students already know about a topic. They can be hosted synchronously or asynchronously by inviting students to contribute to an online document or virtual whiteboard. Many virtual platforms allow you to capture an image of the whiteboard if you are the host so that you can review it later or share it again with learners as you progress through the content.
• **I Notice / I Wonder statements** stimulate thinking about what students already know on a topic. Share an image or diagram related to the topic you plan to cover. Synchronously, invite students to comment in the chat, verbally in a large group, or in small breakout rooms about what they notice and what they wonder about the image. Asynchronously, create a discussion board and ask students to write their thoughts to be shared with the class. Give students an opportunity to ask each other questions about their comments and encourage them to connect it to previous learning.
• **KWL charts** include three columns: what students KNOW, what they WANT to know, and what they LEARNED. Similarly, to I notice/I wonder, you can use a KWL chart at the beginning of a lesson to assess what students already know and what misconceptions they might have. At the end of the lesson, students return to complete the chart's final column and self-assess whether what they learned challenged or confirmed what they knew at the beginning, and to ask any remaining questions. You might share a paper-based KWL chart with the materials of offline learners, which they can complete on their own as they go through the lesson, and through which they can share their initial and final thoughts with you. You might use a KWL chart in synchronous learning by annotating it on a shared screen as students share their comments or asynchronously by including a link to the lesson's KWL chart at the beginning of the learning material and another link at the end for them to return to the chart.

- As it may be difficult to observe and listen to students' group or pair conversations as you would in class, consider other ways that you might be able to "listen" to what they say. You could create **shared documents** for each group in which learners can contribute their comments or take notes on their conversations. These can be monitored during class or checked afterward to give insight into students' thinking. If a whole class discussion is facilitated, keep a copy of the chat and annotate it to assess progress at a later stage. After misconceptions have been addressed, you could provide an unannotated copy to each group and ask each learner to assess their own conversations in light of what they now know, leaving comments in response to what they previously said in the chat or document. This can be done asynchronously and offline as well.
- Invite students to create a **blog post** or a **video blog (vlog)** on a specified topic and share it on a class website or discussion forum. Assign students to pairs to read or watch these videos and to ask further questions on what they might not have understood.
- Develop a **class wiki** on a certain topic, or a page where students collaboratively contribute to a written record of the class's collective knowledge on the subject. Ensure that each student has adequate time and space to make a thorough and thoughtful contribution. Consider assigning sections not based on what groups of students already know but on what you want them to learn as they move through the lesson content. This can be adapted for offline distance learning by assigning each learner a brief section based on their learning needs and asking them to contribute on paper. Then, you can compile their contributions into a paper booklet, scan and print copies to be shared with them the next time that you assign paper-based materials.
- Design a **collective scrapbook**. Ask students to take 4 to 5 photographs of something in their environment that demonstrates a key concept (such as fractions, for example, or gravity) and write brief captions that explain why the photograph demonstrates what they have learned. Students may also draw something that they see or experience in their environment and similarly caption these drawings. The scrapbook can be a physical compilation or a digital one, and students can be invited to ask each other questions about the photographs or drawings and their relationship to what was learned.
- Host a **debate**. These can be synchronous or asynchronous and can be done online or over messaging using voice recordings, for example. In an asynchronous format, you might need to set strict time limits on each students' contribution to ensure it is fair and accessible for all learners.
- For students learning without digital technology, you can engage them in **rich reflection** by asking a series of progressively challenging, open-ended questions and leaving them space to **journal** about each one. You might also assign a topic for students to write a reflective journal. Be sure that the topic is aligned with the learning goals while being broad enough to allow students to show their unique ideas and thought processes.

- Build individual or collective **mind maps**. Similar to a wiki, this product can demonstrate the construction of knowledge but focuses more explicitly on the thought processes that build and connect ideas and concepts. There are multiple tools available online for building these and which can then be shared with students or your whole class. Or you can draw one simply on paper to share with learners offline. You might pair students who have given similar answers in class or online or those who have given different answers to share with each other and draw how they arrived at their answers.

- **Reverse questions and answers** can be useful in certain subjects for students to design questions that would lead to an answer you have provided. These should not be closed. In other words, a recall question may be unsuited for such an activity. Rather, focus on answers which could be given in response to more than one question or after a series of steps in a thought process and invite students to share not just their questions but also their thinking aloud, in writing, in a drawing, a short voice recording or brief video.

For diagnostic questions

- **Notecards or finger voting** can help you to quickly gather students' answers to multiple-choice questions. Consider making copies of 4 notecards (labelled A, B, C and D) and giving each student a copy. These can be used in class or during synchronous learning in virtual classrooms by asking students to hold up the card that corresponds with their response. Or, they can hold up 1, 2, 3 or 4 fingers for the number of the answer they have chosen. Thumbs up or thumbs down (including the corresponding emojis) work similarly.

- Alternatively, since it might be difficult to see each student's card in a virtual setting, share the question in the chat as you read it aloud and ask students to respond to the question by **choosing an emoji** from the virtual platform (such as a thumbs up, heart, clapping hands or smiling face) that corresponds to their answer. You can then see which students gave which answers. Make sure that your answer choices reflect these symbols instead of letters to avoid confusion. Reduce the number of options as is needed depending on students' ages and development.

- **Class polls** can be used synchronously or asynchronously online or via messaging for responses to brief multiple-choice or intersection questions. Certain polling applications allow students to answer via phone or mobile device and allow you to project the answers in real time, making the assessment process engaging for learners. Consider students' reluctance to participate if their names are to be shared with their responses, but be sure that the results are not anonymous to you so that you can identify which students gave which answers.

- **Sticky notes** can be a helpful way to add brief questions to printed learning materials. Include these in your learners' packets of printed materials to mark intersections or other locations in the material where you wish to formatively assess their learning. After they record their answer on the sticky note, ask them to include the note (or a picture of it) in what they submit to you and provide guidance on what steps they should take next based on their responses. This process should be structured and as immediate as possible to ensure coherence between their needs and the material or activities they review or complete next.

- **Video pauses** can be used in a similar way to sticky notes in online learning materials. Record a brief video with you asking a question for students to answer when they reach a certain point in the material; direct them to share their answers with you so that you may guide them on next steps.

- **Virtual whiteboards** can be used alternatively in online learning. You can use these in a similar way to polls by asking students to place a sticker or write their name next to the choice they think is correct, to add a pin to the part of the image they think corresponds to the correct answer, to add a label to part of a diagram they have been assigned, and so on. The opportunities are many.

- If you choose to use closed questions (with single-word answers), you can ask students to hold up their answers on small **whiteboards** in class. In synchronous, online learning, you could use a **virtual whiteboard** built into many platforms (or find another whiteboard application online) and invite students to annotate it by drawing or writing their work in a clean space near the question. Make sure they share their name if you want to assess which students may need more help.

- **Diagrams or models** can be provided by uploading an image to a virtual platform for synchronous or asynchronous online learning, sending an image of the diagram or model via messaging, or providing a hard copy of the image for offline learners. You can label the diagram or model with options (e.g., A, B, C, or D) to use for multiple-choice questions during class.

- **Exit tickets** allow students to answer a brief question prior to the end of class. These may make the most sense in synchronous learning by saving the last few minutes of a session to give students an intersection question to which they can respond via a poll or by using the **annotate** feature of a virtual platform. Exit tickets at the end of a lesson might require the integration of multiple ideas and be open-ended, rich questions that teachers review more thoroughly before deciding how to proceed. Use the information to design the next lessons in online learning or to decide which materials to share with students or parents in offline learning. In paper-based learning where you have less frequent communication with learners, you might include exit tickets as decision trees (e.g., if they choose option A, send them to page x to review certain content; if they choose option B, send them to page x to complete a certain practice activity; if they choose the correct answer, send them to the next lesson, and so on). Include directions as needed to support parents in assisting their learners.

Other formative tools to assess students' understanding

- Sharing copies of past **students' work** (with the names and identifying information removed) is one way to identify common misconceptions that your current students have. Label steps in the demonstrated thought process, and ask students to identify errors, provide comments, or note what they would have done differently. This can be done online or offline, asynchronously or synchronously.

- A **traffic light system** may work in a similar way to notecards but can help students to be aware of and monitor their own learning. Give each student a red, yellow and green card with the words ("I don't understand," "I'm not sure," and "I fully understand"). Although this does not diagnose the exact misconception or point of confusion, it can help you to scan the room for which students may need extra support. For example, you might choose to pair students who fully understand with those who are not sure to additional peer tutoring or support while you work with a smaller group of those who do not understand.

- **Checklists** can be created and shared privately with each student for them to assess their progress during a lesson or between lessons. This can be done synchronously, as you both contribute comments to the checklist in real time, or asynchronously, with students completing the checklist online or offline and sharing it with you for additional input. Pay attention to what students note about their thinking and understanding. For students learning offline, you might also organize a brief call with them on a regular basis to discuss their input to the checklist with them and/or their parents or carers.

- **Assignments or projects**, though often used to assign grades (or for summative assessment), can be used formatively. Break the assignment or project into smaller pieces to be submitted individually and provide feedback on each one. Invite students to think about what they are showing about their learning in each submission and provide clear guidance on what they can do to bridge gaps in their knowledge or skills. These submissions along the way should not be used to assign grades but to guide students in their learning throughout the process of the project. In distance and blended learning, this can be done through brief phone or video conferences, asynchronous messaging (such as emails or text messages), or comments left directly on digital or paper submissions. You might also engage students in a similar process with their classmates to provide **peer feedback**.

- Keep a learning **portfolio** or **e-portfolio** for each student, which is a collection of their assignments, exams, quizzes, journal entries, online blogs or discussion forum contributions, and any other materials that you can use over time to assess students' progress. Adding notes (such as sticky notes in a paper-based portfolio or comments in an e-portfolio) with brief comments of students' misconceptions, needs, and strengths as you add their work to the portfolio. You can refer to these throughout the unit or the year to efficiently assess progress and remaining gaps.

- Invite students to develop a **self-portfolio** using their paper-based or digital work. Invite them to also include the results of assessments, such as feedback you have given. Encourage them to comment on their work by providing prompts to help them think about their strengths, needs and progress and guide them to reflect on why a certain piece of their work demonstrates a strength or need in a certain area. Over time, you can together benchmark their progress against their set learning goals to help you design targeted follow-up measures or to adapt your instruction.

- **Learning logs** can be used in high-tech, low-tech and no-tech environments. They can be synchronous or asynchronous, online or offline, and shared among you, your students, and their parents. You might ask students to keep a record of their responses to questions such as: "What did you know when we started this lesson?" "What did you learn?" "What gave you difficulty during the lesson?" "What confused you?" "How did you solve these challenges?" or "What strategies did you use throughout the lesson to help you understand better?" and "What did you enjoy most about the lesson?" You can discuss these questions with students via a weekly email to them and/or to their parents, weekly phone calls, or by sharing comments directly in the learning log that gets passed between you and your students.

4.2.2 Lesson 2: Choosing among asynchronous and synchronous assessment options

Just like learning delivery, the use of formative assessment can be asynchronous or synchronous.

Box 4.1 Asynchronous and synchronous formative assessment

Asynchronous formative assessment takes place at a different time (and possibly in a different environment) than the delivery of learning content.

For example, you might introduce foundational concepts during the first lesson in a unit. You then assign activities for homework and use student responses to decide how you will structure the upcoming lessons to address any misconceptions students may have about the foundational ideas.

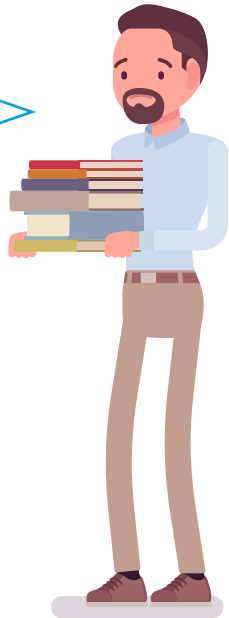
Synchronous formative assessment, on the other hand, takes place alongside—that is, integrated with—the delivery of learning content.

For example, after assessing students' misconceptions previously, you might include moments throughout the following lesson where you pause to check understanding and to make sure these have been addressed.

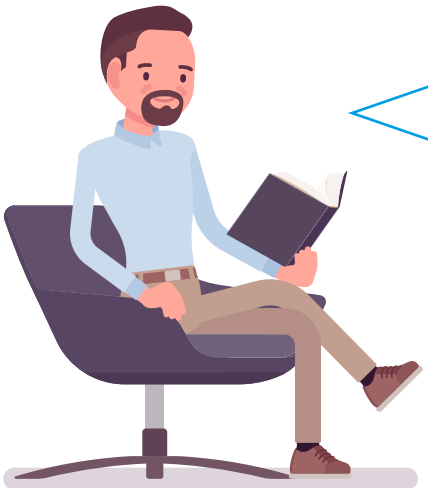
As a teacher, you should consider how and where assessment fits into the combination of delivery options being used for your class. A combination of assessment approaches may be needed to ensure that formative assessment is a central part of distance and digital learning for all children.

Using asynchronous formative assessment allows more time for students' ideas and misconceptions to come to the surface. I make sure to include activities that take advantage of the additional time to engage them with each other's ideas and thought processes and to expect them to respond thoughtfully and informedly.

I have also found that asynchronous assessment supports inclusion by allowing all learners the time and space to be thoughtful and reflective, eliminating the pressure to speak during class, and allowing for the integration of various forms of support (such as e-readers or captioning on videos for my students who use them).



It is particularly important to provide clear guidelines on how learners should make contributions and when their contributions are due. If not, they may lose interest, be disengaged, or may not remember content from the lesson. It is also important, in any format used for formative assessment but especially in asynchronous formats, that clear connections are drawn between previous learning and current learning, as well as with the decisions that are made for future learning based on the results of the formative assessment. We will discuss this more in the final module.



It is important to not only assess students asynchronously, however. Synchronous formative assessment has its benefits! I like that it allows students to express themselves more dynamically and to clarify immediately and easily if they do not understand something. If we are learning online, it allows me to see students' expressions and gather more information than is available from their verbal or written responses alone. I can see, for example, if students appear to be confused or struggling. If we are learning offline but at a distance, I can still check in with them, such as via SMS, to immediately take a "pulse check" of how students are feeling while listening to a lesson broadcast on television, for example.

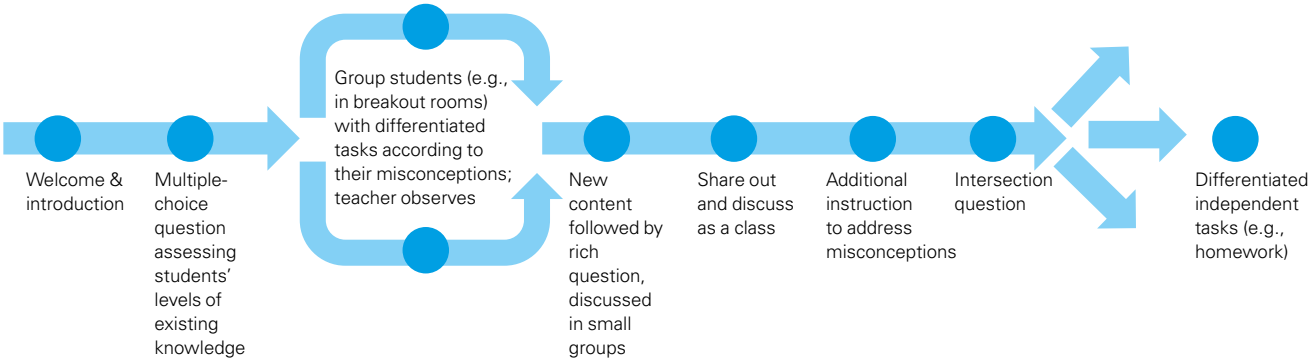
As a teacher, you can decide how best to structure synchronous and asynchronous formative assessment based on the subject you teach, learners' ages and levels of development, their access to technology or other materials for learning, their familiarity with assessment processes, their need for scaffolding to build metacognitive skills, special learning needs and other factors.

Now, here is an example of how a teacher uses a combination of approaches.

I use formative assessment asynchronously prior to the lesson by providing a list of increasingly challenging questions to understand my students' levels of prior knowledge. Then, we spend our time together in synchronous learning addressing misconceptions and building key concepts needed for further learning. Of course, as I do this, I also use intersection questions to determine when and whether my students are ready to move on.

Regardless of the combination of approaches I choose for each lesson, you must ensure that they are aligned with students' learning needs and help to move them toward their learning goals.

Figure 4.1. Formative assessment to guide differentiated instruction in synchronous digital learning



Having a range of different and differentiated formative assessment questions and techniques available helps you to clearly identify what your students understand and what they do not so that you can teach at the right level according to their strengths and needs.

4.3 Key takeaways

Recall the following key takeaways from Module 4:

- ☑ There are many formative assessment activities available to choose from to implement the techniques of observation, purposeful dialogue and questioning. Having a concise menu of activities and tools that you commonly choose can help to make formative assessment a regular part of class routines, offer greater autonomy to learners, and support the inclusion of learners with diverse needs and interests.
- ☑ Despite the many options available, you should choose the ones that are most fitting for your class context and needs.
- ☑ Using a combination of assessment approaches can help to ensure that formative assessment is a part of all students' learning experience, especially during distance learning. It can also help you to pinpoint what students understand and their misconceptions.

4.4 Self-assessment and application

Take a moment to reflect on what you've learned and how it can be applied in your teaching. Respond to the following questions in your learning journal for this course. If you are participating in the facilitated version of this course, your instructor will guide you in how to discuss the following questions with your peers.

- → Briefly sketch an outline of a lesson that you will soon teach. Is this lesson being conducted synchronously or asynchronously, online or offline? Identify moments in the lesson where you will use formative assessment and explain why it is important to do so at these moments.
- → What type of assessment activities will you use at these moments and why? Explain how you will adapt these assessment activities for students who are learning via a different modality.

4.5 Additional materials for deepening knowledge

If you would like to learn more about the formative assessment activities and tools, particularly for distance, blended and digital learning, the following readings may be of interest to you:

- → Brookhart, S. M., 'Address learning loss: Classroom formative assessment tools aid in remote learning' Learning Sciences International, 23 October, 2020. Available at: https://www.learningsciences.com/blog/classroom-formative-assessment-tools-address-learning-loss/
- → Ysseldyke, J., & Bolt, D. M., 'Effect of technology-enhanced continuous progress monitoring on math achievement', *School Psychology Review, 36*(3), 2007, pp453-467. Available at: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.583.3800&rep=rep1&type=pdf

The following videos will help you to review and apply what we have learned in Module 4. The questions below each video link serve to guide your further reflection. Respond to them in your learning journal and share your responses with

your colleagues as you learn together. If you are participating in the facilitated version of this course, you will be directed to share your responses in group discussions.

→ Disal Livraria e Distibuidora de Conhecimento, *Formative Assessment in Online Learning – Alexandre Koch* [Video], 2 October 2020. YouTube. https://www.youtube.com/watch?v=DXv1PnAbzak

- Watch from 8:32-30:50 and 40:30-52:00. Reflect on the following questions:
  - Why is formative assessment even more important in the context of COVID-19 crisis and distance learning?
  - The speaker uses tests when speaking about formative assessment. In your opinion and based on what you know, can tests be used formatively? If so, how?
  - Identify two skills that you are supporting your learners to develop right now. What type of assessment task will you design to assess their progress in developing these skills? How will you ensure validity, reliability and absence of bias in these assessment tasks?
  - Identify 3 or 4 techniques and tools that the presenter shared during the video that you think might work for your classroom. Compare and contrast the purposes, formats and characteristics of these tools. How might you integrate a range of these tools purposefully with your digital instruction to support differentiated learning?
  - Some of the examples the teacher shares are specific for language learning. Would you adapt any of these for the subjects you teach? How?

→ EDEN Secretariat, *How to design and manage assessment for online learning* [Video], 21 April 2020. YouTube. https://www.youtube.com/watch?v=-0y1-ZMoM_s

- Watch from 35:30-39:05 of the above video and reflect on the following:
  - What are some of the ways that you can incorporate the alternative assessment ideas to support formative assessment with your class for both synchronous and asynchronous distance learning?
  - What are some of the benefits of reflective journals and collaborative wikis? How can they be used formatively? Think of a topic you are currently teaching or will teach soon and how this topic is part of a larger unit. How might you use reflective journals and/or collaborative wikis as ongoing formative assessment both for this specific topic and to monitor progress throughout the unit?
  - Explain how you could implement an asynchronous online debate with your class? How do you build in interaction among your students? How will you scaffold the skills that students need to engage meaningfully and respectfully in such an activity?

In the next module, we will discuss how you can interpret information from formative assessment to provide feedback, to communicate with learners and their parents, and to act on the results to move learners closer toward their goals.

Module 5: Using the results of formative assessment to promote quality, inclusive learning

5.1 Introductory content

Learning for this module should take you approximately 40-45 minutes.

5.1.1 Session's aims

In the previous module, you learned about a variety of activities and tools that can support formative assessment, depending on the needs of your learners and class contexts. You also learned about implementing formative assessment asynchronously and synchronously and how each can help you to support learners' progress toward their learning goals. Now, we will consider the final two steps in the formative assessment cycle—interpret and act—to help you make decisions about how to support this progress.

5.1.2 Learning objectives

At the end of this module, you should be able to…

- ☑ Communicate clearly with learners' parents or carers to improve your knowledge about students' learning needs and to engage parents or carers in supporting their children's learning;
- ☑ Facilitate feedback that addresses both strengths and needs, and elicit feedback that can help you to improve your teaching;
- ☑ Analyse information gathered from formative assessment to determine why students gave certain responses, the misconceptions they reveal, and students' progress and needs;
- ☑ Interpret the results of formative assessment to identify next steps that you and your students should take to move them toward their learning goals;
- ☑ Plan for the use of information gathered from formative assessment during and after a lesson and analyse patterns in formative assessment results over time to design differentiated instruction and identify students who need further support; and
- ☑ Explain how diagnostic assessment can be used to support planning and decision-making at the class and school levels after periods of education disruption.

5.1.3 Reflect on what you already know

Record your answers to the following questions in your learning journal:

- → Think of a formative assessment activity that you have recently implemented with your class. Did you communicate about this assessment with your learners? How? What did you focus on in this communication?
- → How often do you communicate with parents or carers? How has distance or digital learning changed the frequency, mode, or content of this communication?
- → Think of the process that you followed when you planned your most recent lesson. What decisions did you make in this planning process related to formative assessment and its use?
- → What efforts has your school implemented or planned to implement, to diagnose and address key learning gaps among students after periods of extended learning disruption?

5.1.4 Essential pre-readings

Complete the following readings before exploring Module 5's core content:

- ☑ Southern New Hampshire University, *'A synopsis of The Power of Feedback'*, (n.d.). Available at: https://www.snhu.edu/-/media/files/pdfs/learning-resources/the-power-of-feedback.ashx?modified=20200513134308
- ☑ Australian Institute for Teaching and School Leadership. *Spotlight – Reframing feedback to improve teaching and learning*, (n.d.). Available at: https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlight-feedback.pdf
- ☑ Masters, G., 'Towards a growth mindset in assessment', *ACER Occasional Essays*, 2013. Available at: https://research.acer.edu.au/cgi/viewcontent.cgi?article=1017&context=ar_misc

5.1.5 Key terms

- **Communication** refers to the process of exchanging information about teaching and learning among teachers, learners and their parents/carers.
- **Feedback** is constructive communication that allows teachers and learners to interpret information from formative assessment by focusing on progress toward learning goals, and how to bridge the gaps.
- **Universal Design for Learning (UDL)** is an approach to teaching and learning that designs learning content and its delivery to be accessible to all learners from the outset, no matter how they learn, by providing multiple means of engagement, representation, action and expression.

5.2 Core content

Whether you are engaged in in-person, distance or hybrid learning, whether it is supported by digital technology or not, you have many opportunities to embed formative assessment as a regular part of instruction. As we saw in the previous module, digital platforms can even facilitate a range of formative assessment techniques through the use of various activities and tools. But recall that it is how the information gathered from assessment is used that makes it formative.

5.2.1 Lesson 1: Communication and feedback

To use the information from formative assessment, you must first understand what it tells you about students' learning. Keeping in mind the learning goals and success criteria that you clarified together with your students, you must now interpret the information that you elicited. An accurate and holistic interpretation of this information requires strong communication among you, your learners and their parents/carers, including feedback.

Box 5.1 Communication and feedback

Communication refers to the process of exchanging information about teaching and learning among teachers, learners and their parents/carers.	**Feedback** is a specific type of constructive communication about teaching and learning. It is information received rather than given and focuses on students' progress toward their learning goals, their strengths, further support needs, and your teaching strategies. Feedback provides actionable guidance on what you and your students can do next to help them reach their goals.

Communication

We have learned previously that a learning environment must be predictable, safe and inclusive to be conducive to formative assessment. Regular communication is central to a cooperative relationship among you, your learners and their parents/carers, and it must be built from the very first moments that their child is in your class. This can foster ongoing support for learning and help to ensure that learners are successful, even when learning takes place at a distance. Communication may cover various topics, including:

- Learners' strengths, talents, interests, challenges, needs and behaviour;
- The contexts in which they are learning, such as the home environment or class culture;
- Results of assessment (both formative and summative);
- Effectiveness of specific interventions;
- Feedback on teaching and learning; and
- Decisions made about teaching and learning to help learners reach their goals.

It may also take various forms,[xlii] such as:

- Informal, in-person communication, such as when parents come to pick their children up from school. Keep in mind that these may not be appropriate moments for sharing sensitive information about learners;
- Informal, remote communication, such as phone calls, emails, or SMS messages;
- Formal communication, such as parent-teacher conferences (whether in person or remote such as through video conferencing), open days at schools, and parent-teacher association meetings; and
- Group communication, such as class newsletters, handouts, group messages, or class websites or forums.

When you mark a student's assignment or assign grades, this is also a form of communication. However, this transmits a message about the student's performance rather than the learning process itself. Check in with yourself to make sure that the way you communicate most often with your learners and their parents/carers is focused on moving learners toward their goals. Feedback (discussed below) is an important way to do this.

During distance and hybrid learning, it is essential to maintain regular communication with learners and their parents/carers. But you likely spend less time with learners than in in-person learning, while parents and carers likely spend much more time with their children than before. In this context, you might need to reconsider what your communication with learners and their parents should look like. Think about the following:

→ Does your communication focus on processes rather than outcomes alone? On successes in additions to challenges? If not, what might you need to adjust?

→ Do your strategies for communicating with learners and their parents/carers ensure that your communication is bi-directional and not only teacher-initiated? Do they allow parents/carers and learners alike to feel comfortable communicating with you?

→ Are the strategies that you use for communicating with parents/carers and learners appropriate for distance learning when you do not have regular, in-person contact with learners?

→ What might you need to adjust in terms of strategies to reach all learners and their parents/carers, especially those who might need the most support?

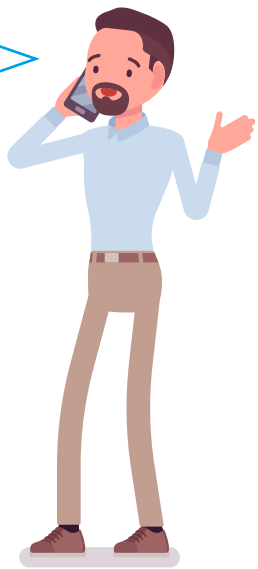
→ How do you respect parents' time, busy schedules and competing responsibilities? You might send an email or message to schedule a time to talk that is convenient for their schedules, for example.

→ Are there students in your class for whom more frequent communication with them or their parents/carers might be needed? For whom *less* frequent communication might be appropriate?

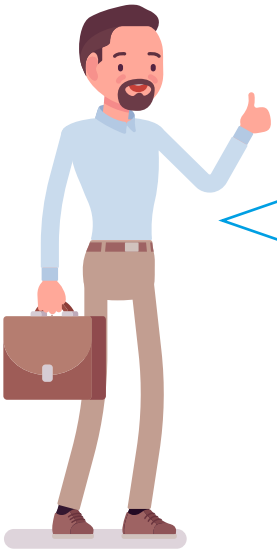
- What new topics—such as learners' well-being, their home learning context, and parents' needs for support—might you need to cover in your communication?
- How might you best communicate with parents about any diagnostic assessment that will take place in your school or class and how assessment will be used to support learning and guide targeted decisions? How will you make sure that parents and carers have access to the results of the assessment?[xliii]
- How can you harness the valuable information that parents/carers could share with you about their learners to make your teaching more effective, while also emphasizing the value of cooperation and the critical role parents/carers play in their children's learning?
- What language(s) is (are) spoken in your learners' homes? If you do not speak these languages, where might you find support to ensure that you can communicate meaningfully with all families and include them actively in the learning process?
- How do you make sure that you use a professional and respectful tone with parents/carers and parent-friendly language when communicating with parents? For example, do you explain any jargon used in the education context in a way that parents—including those with low levels of literacy, digital literacy or education—can understand? You might use images to reinforce key messages, give preference to verbal communication, and keep your word choice clear and concise, for example.
- How do you keep both learners' and parents'/carers' data safe, especially if learning takes place online?

Parents have had so many competing demands during the recent pandemic. When I communicate with my learners' parents, I focus on how they can support learning at home. I share a plan for learning at the beginning of each week with clear explanations of where and how parents should be involved, what they should do, and any deadlines that there might be. I make checklists for parents with action points, explain or illustrate how this learning connects to previous and future learning, and provide easily accessible links (and directions on how to use them) for any additional learning materials that might be needed.

It is important for me to clearly explain parents' role in supporting their children. Most often, they are not expected to help teach the material but to support rich discussions and focus on thinking rather than correct answers. I need to provide clear instructions and sample prompts for them to use, and I check in often with them to see if they need more support. My learners' parents are very much interested in supporting their children's learning; sometimes they have simply not received the proper support to learn how to do so.



It is important not to take for granted that parents are involved in their children's learning. However, little or no parental support does not mean that they do not care! Many parents require both support and flexibility in order to support their children's learning in a meaningful way. Provide appropriate scaffolding for parents as they develop the skills to do so, and be empathetic to their concerns, anxiety, and stress.



Parents do not need to be subject experts to support their children's learning. In fact, I remind them that their role is not to give their children the answers but to help their children develop the ability to reflect on their learning and the learning process. I advise parents to ask their children what questions they might have based on what they are learning, what they want to know and why, and prompt children to make connections between the text and their daily lives. I also encourage them to ask children questions that support metacognition, such as "How will you approach this new content?" or "What will you do when you come to something you do not understand?" Even the question "Why?" can help learners to explain their thinking. By communicating with their children about learning, parents might be able to more easily identify where learners need support.

Communication with parents and learners must also regularly enable feedback on current learning, progress toward learning goals and next steps in order to reach them.

Feedback

Feedback is constructive. It is information that allows teachers and learners to interpret information from formative assessment by focusing on progress toward learning goals, and how to bridge the gaps. It provides actionable guidance on what you and your students can do next to help them reach their goals.

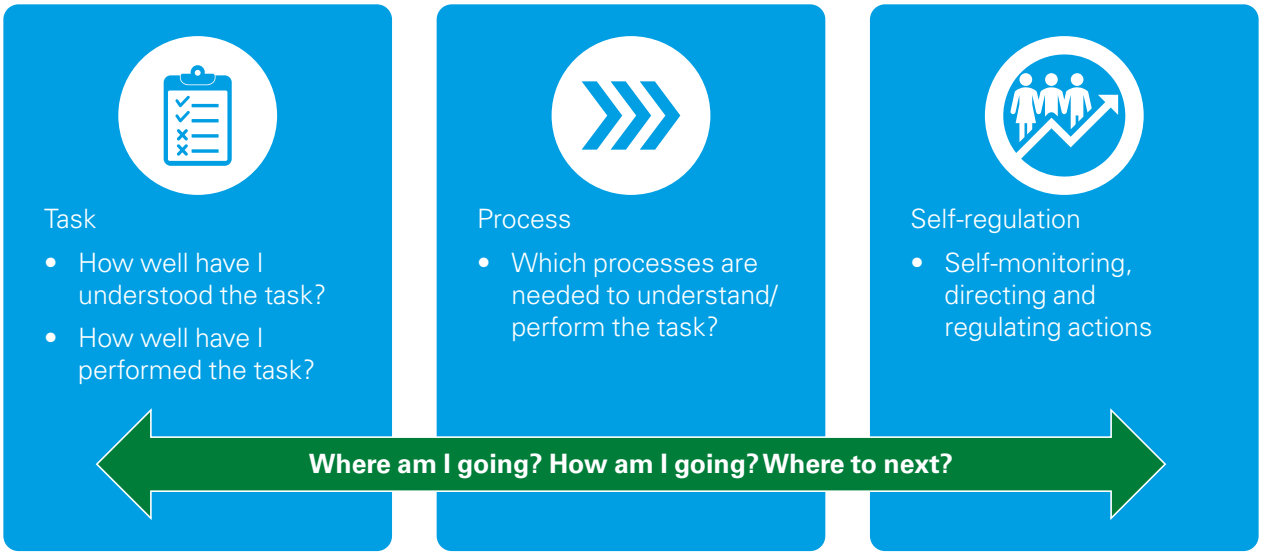
Feedback is often thought of as information that is given. However, effective feedback is more appropriately thought of as information that is received to reduce discrepancies between where learners currently are and where they need to go.

Researchers Brooks, Carroll, Gillies, and Hattie's (2019) Matrix of Feedback for Learning offers a valuable foundation for understanding how feedback looks in the context of learning. According to their model, feedback answers three questions from the learner's perspective:[xlv]

- ☑ Where am I going?
- ☑ How am I going?
- ☑ Where to next?

Each of these questions operates at three levels[xlvi], as shown in the figure below:

Figure 5.1 Feedback questions across three different levels



You might be tempted to facilitate feedback about the learners themselves, that is, evaluations about their personality or affect. You might even call certain students "bright" or "intelligent." However, research has shown that feedback at the level of self, most often in the form of praise, can be detrimental to learning![xlvii]

Feedback that learners receive should be:

- ☑ Focused on learning. Task-focused feedback is important because it helps to clarify expectations for learning and success criteria.[xlviii] But rather than focusing on the task alone, or on achievement, feedback should focus especially on the learning process: where students are going, their progress in reaching there, and where to go next in order to reach there.

- ☑ Ongoing and regular. It should start at an early stage in the formative assessment cycle and from the beginning of the teaching and learning process (e.g., the first lesson in a unit). Feedback should be regular, at multiple points throughout the learning process so that you can immediately course correct and provide needed support. Regular feedback plays a part in establishing routines, which is particularly needed in periods of unpredictability, such as prolonged school closures and shifting between in-class and distance learning.
- ☑ Specific. It should be based on the task at hand, learning goals and evidence gathered.
- ☑ Complete. Be sure that information in response to "How am I going?" is paired with answers to "Where to next?" Clear guidance should be given on where exactly a learner must go next and how to get there.[xlix] This does not need to be simply stated by the teacher. Rather, teachers should communicate with students to co-construct these decisions.
- ☑ Differentiated and inclusive. It should be unique to each learner's current level of learning, their progress and learning needs. You must also carefully consider learners' diverse communication needs, such as how visuals, cue cards, manipulatives or other multimedia can make feedback accessible, engaging, meaningful and actionable.
- ☑ Collaborative. Engaging students as owners and key actors in this process is critical to help them to become self-regulated learners.

Learners require different levels of feedback depending upon how proficient they are with the task, knowledge or skill. While novice learners may require specific task-based feedback, learners with higher levels of proficiency may benefit from process-based or self-regulatory feedback to support deeper learning.[l] The following matrix, adapted from Brooks et al. (2019), offers practical examples of how to facilitate feedback with your learners.

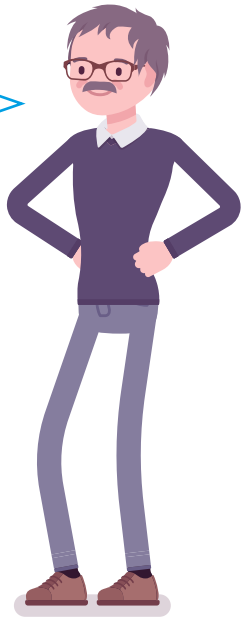
Table 5.1 Matrix of Feedback for Learning adapted from Brooks et al. (2019)[li]

Learning level	Feedback level	Where am I going?	How am I going?	What do I have to do next?
Novice	**Task**	**Prompts:** Today we are learning… Success in this task will look like… **Strategies:** Reduce complexity Use exemplars/models Identify misconceptions	**Prompts:** You have/have not met the learning goals by… You have/have not met the success criteria by… **Strategies:** Avoid overemphasis of error analysis Immediate feedback matched to success criteria	**Prompts:** To fully meet the learning goal, you could… You could improve your work by addressing the following success criteria… **Strategies:** Match language to success criteria Challenge learners
Proficient	**Process**	**Prompts:** Key ideas/concepts in this task are… These ideas/concepts are related by… Key questions you could ask about this task are… **Strategies:** Use graphical organizers Increase complexity Use mastery-oriented goals	**Prompts:** Your understanding of our focus goals/ concepts is… You demonstrated ___ (skills) to a ___ level. You used ___ (strategies) to a ___ level. **Strategies:** Increasing amount and complexity of feedback Use prompts or cues	**Prompts:** You could improve your understanding of ___ (concepts) by… You could improve your work by thinking more about… **Strategies:** Increasing amount and complexity of feedback Challenge learners
Advanced	**Self-regulatory**	**Prompts:** How could you use the learning goals and success criteria? Which other ways could you monitor your work? **Strategies:** Reduce emphasis of exemplars Mastery and performance goals	**Prompts:** Are you on track? How do you know? To which level are you meeting the success criteria? **Strategies:** Delay feedback May only require verification	**Prompts:** How could you deepen your understanding?... Improve your work? What is the next step? How do you know? **Strategies:** Delay and/or reduce feedback

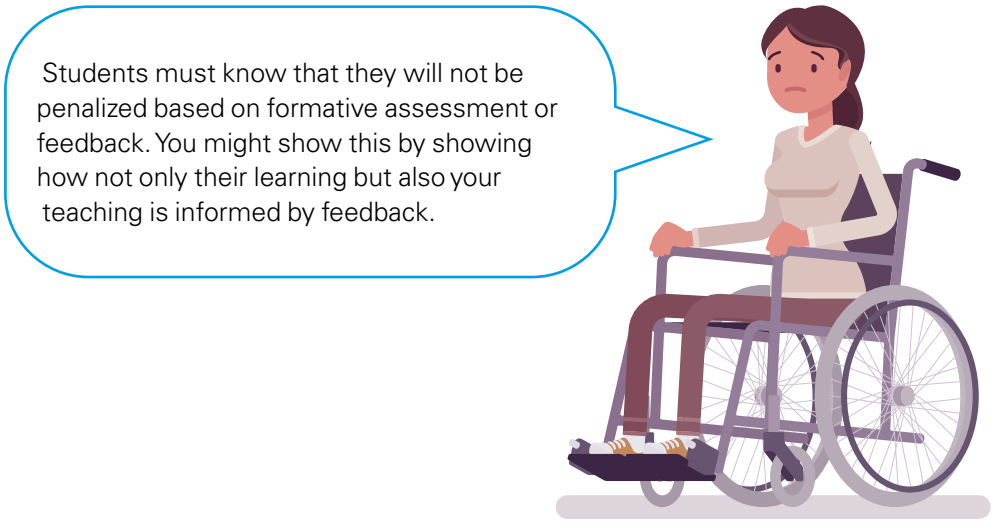
Many of these questions ask learners to self-reflect. Recall that you must support all students to understand the learning goals and define success criteria in their own terms, while scaffolding their skills in self-assessment. It is equally important to scaffold students' ability to interpret the evidence collected against these success criteria and to participate in the feedback process, such as responding to the prompts above. Take a look at the following example of how one teacher does this using rubrics.

When I use rubrics, I model for my learners the type of questions I ask when looking at the results and how I might interpret the results against these questions. For example, I ask aloud the following questions: "What did we define as success on this task?" "Was I successful according to this definition?" "What information on this rubric helps me to know that I was successful?" "Are there areas where I was not successful?" "How do I know according to this rubric?" I use a sample of work from previous years to give an example of how I might answer these questions. I then meet with students in small groups and ask them the same prompts for them to use with samples of work and, eventually, their own work. We practice this often and, as my learners become more comfortable with this process, I provide fewer prompts until they are able to do this independently.

Not all of my learners reach independence with this at the same time. Some of my students with special learning needs benefit from additional support. For example, I might include pictures in addition to words on the rubrics, eliminate my prompts more gradually or check in more frequently to provide guidance as needed. Still, I allow room for students to take ownership of the process.

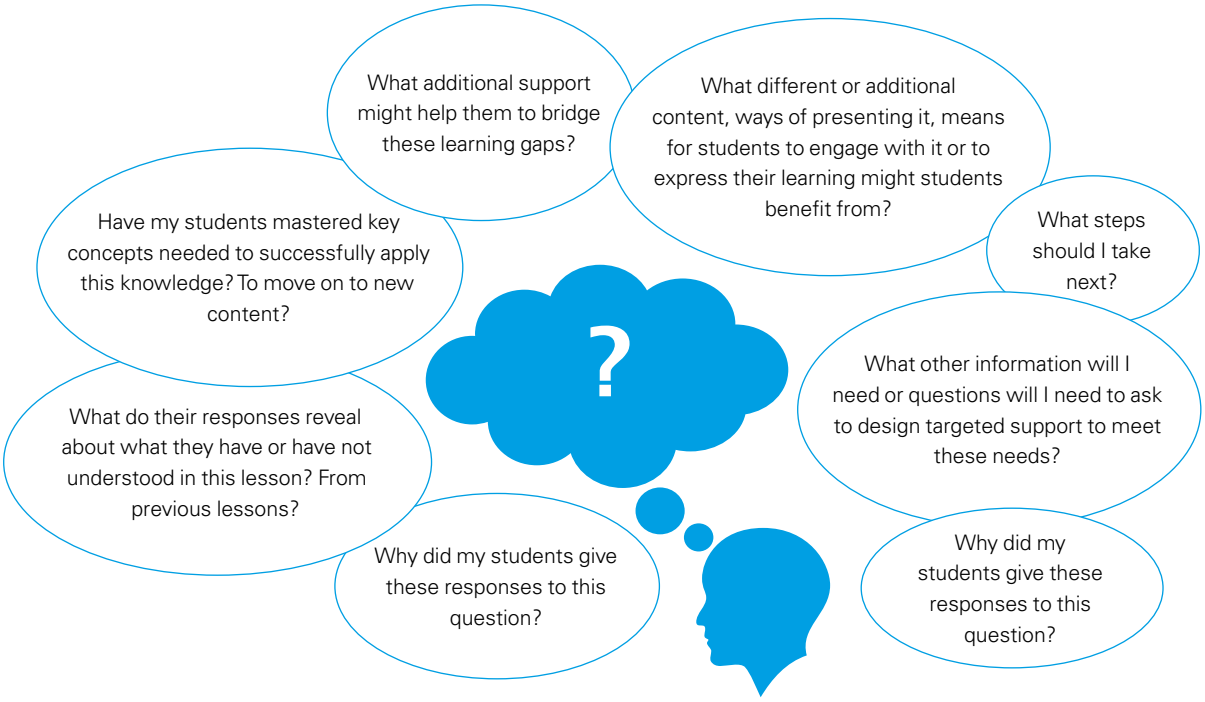


You might also support learners to keep a written or visual, offline or online journal for reflecting on what they have learned through the assessment process. During distance learning, you might include some of the prompts from the Matrix of Feedback for Learning at the top of pages in such a journal, send them via SMS or post them on a discussion board for your class and direct students to them. To make this process meaningful and inclusive, a variety of options should be available for students. For example, students might choose to respond by writing, drawing, or making a video recording of them answering the questions verbally or acting out the answers.



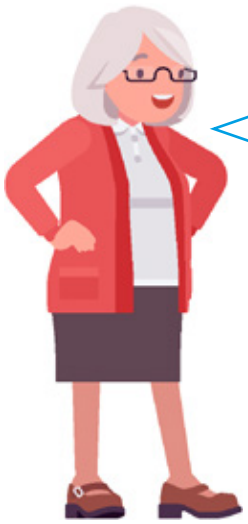
Keep in mind that an essential element of feedback is your consideration about what students' responses, work samples, behaviours, and self-assessment tells you about not just their learning but also your teaching. The questions in the figure below are helpful to consider to provide feedback on your teaching.

Figure 5.2. Questions for interpreting information from formative assessment



5.2.2 Lesson 2: Using results of formative assessment for decision-making

As you interpret the information and engage in feedback with your leaners, you consider what steps you and your learners must take next to continue moving toward their learning goals. That is why it is important to plan each lesson with a clear idea of where formative assessment activities will be used. You should build time for questions and discussions into the lesson in advance. You should also consider in advance how you will use the information that you elicit.



I try to prepare in advance for multiple scenarios that might occur as I conduct formative assessment. I use if-then statements (such as "If students choose option A, then I will place them in small groups and provide additional practice," and "If students choose option B, then I will assign them to a small group to help their peers with the practice activity"). I also plan in advance what this additional practice will look like.

These scenarios are flexible and include various options for next steps that can be personalized to resolve any misconceptions and further needs for support that emerge. This allows me to use information gathered from formative assessment in real time during a lesson. It also supports me to reflect more deeply on what my learners might need after the lesson.

As this teacher has shared, information from formative assessments can be used to make decisions during and after a lesson, as well as over time. **During the course of a lesson**, you might use the results of your observations of students' behaviour or discussions or their responses to questions to:

- **Address misconceptions**: Diagnostic assessment at the beginning of a lesson can reveal misconceptions. The lesson content will likely cover some of these, but you should also be intentional about addressing these misconceptions as you teach. Misconceptions might also emerge from assessment throughout a lesson, requiring you to spend a few minutes to reteach a key concept or explain it in a different way.
- **Adjust your teaching**: Based on what you learn about students' understanding as you progress through the lesson, you may also need to adjust the lesson content, such as by focusing on strengthening key concepts and skills before moving on. You might also need to adjust your method of delivery or remove barriers by providing multiple ways for students to engage with the content.
- **Assign practice activities**: You might provide additional practice activities for certain groups of students or the whole class depending on who demonstrated which misconceptions. You might also monitor students' progress on formative assessment tasks throughout the course of the lesson to assign differentiated homework tasks for students based on their remaining misconceptions and needs.

- **Adjust student groupings**: You may choose to group students who share a certain misconception together. Or you might group students who have learning gaps with those who have mastered that content or skill. By allowing your groupings to be dynamic rather than fixed, you can adjust them in response to needs that emerge during the lesson. Always make sure that decisions about how to group students are based on evidence of their needs and strengths from formative assessment.
- **Provide further support**: During the course of the lesson, it may also become clear that some students are struggling to understand key concepts or to integrate this knowledge with what they already know. You may need to take some time to rotate students among stations (such as using breakout rooms or assigning different activities in distance learning). In one of those stations, students could be given more targeted support from you while the rest of the class works on independent or collaborative tasks.

After the lesson, you will likely have the opportunity to reflect on all that you have learned about students' understanding, ideas, thinking, misconceptions, strengths and needs, as well as information from intersection questions at the end of the lesson. You should consider:

- **What to teach next**: With the information you have gathered, reflect on whether it makes sense to teach what you had planned to teach next. Is there something you must teach first? Are there misconceptions that must be addressed before you move on? If you do decide to move on as planned, how will you teach new content knowing what you now know about students' strengths, knowledge, skills, misconceptions and needs?
- **What to reteach**: Sometimes, what you gather from formative assessment during the course of a lesson indicates that your students would benefit from another lesson on the topic. You might break complex concepts down into smaller blocks and offer opportunities to practice at the beginning of the lesson. You might notice that your class could benefit from another means of representation of the learning material that helps them to interact with the content in a way that is more suited for their needs and strengths (See box below on Universal Design for Learning).
- **How you will plan for addressing other misconceptions in your class**: Based on what you have learned, can you predict which misconceptions students may have with new material? How might you need to structure the planned lesson differently to ensure that these are addressed? Students will likely have misconceptions that you did not predict, and many may not have the misconceptions that you expected. Still, thinking about what might arise during the class ahead of time can help you better plan for a differentiated lesson.
- **How you will assess if misconceptions have been addressed**: As you continue to practice using formative assessment in your lessons to drive your teaching, you will learn how to design questions that elicit specific information about students' understanding. As you reflect on the information you gather, also reflect on whether the types of formative assessment you are using are allowing you to pinpoint misconceptions and address them effectively. How might you improve or change your techniques to more clearly assess learners' understanding?

- **How you will provide feedback**: It is critical that you plan opportunities into a lesson to facilitate both student and teacher feedback. If you are engaged in distance teaching, include obvious moments for reflection and feedback in the material that you share. This is important to do not only for learners who are learning online but also those who are learning offline, such as with paper-based materials.
- **Plan for differentiation**: It is important to plan in advance for the different opportunities from which students could best benefit depending on their strengths and needs. As you design your lessons, ensure that each activity has options for helping those who need more support while providing opportunities for students who have already mastered the key content to develop higher-level understanding. If students are learning asynchronously, clearly plan how you will assign students to these activities or to groups. For those learning offline, regular communication is key. Include a range of options for interacting with content and practice activities along with clear guidance of how students will know which content to access or which activities to do.

Especially in distance learning that is asynchronous or offline, students engage at different times and different paces with the learning material. So, it is necessary to plan in advance for decisions about how I will use this information. Not all students need to follow the same path through the lessons that I plan. I build different pathways for engagement with the material into the content that I provide so that I can direct students toward the appropriate next step as they need it, even if they reach these steps at different times.

Using the principles of Universal Design for Learning helps me to do this in a way that is inclusive of all learners.

Universal Design for Learning (UDL) is an approach to teaching and learning that designs learning content and its delivery to be accessible to all learners, no matter how they learn. It shifts the thinking away from what students are not able to do. Instead, the UDL framework focuses on teaching and learning in a scientifically valid way that reduces barriers to quality, inclusive learning.[liii] It does this by providing appropriate support, maintaining high expectations for all learners (including learners with disabilities and those who speak a different language at home), and providing flexibility[liv] in:

☑ How content is delivered (Multiple means of representation);

☑ The ways students interact with it, respond to it, and demonstrate what they know and can do (Multiple means of action and expression); and

☑ How students are engaged with learning (Multiple means of engagement).

Figure 5.3. Universal Design for Learning principles

Multiple means of engagement	Multiple means of representation	Multiple means of action & expression
• **Recruit interest** (individual choice; optimized relevance and value to learners; minimized threats and distractions) • **Sustain effort & persistence** (prominent learning goals; varied demands and resources; collaboration & community; mastery-oriented feedback • **Self-regulation** (promote expectations that optimize motivation; coping skills; self-assessment)	• **Options for perception** (how information is displayed; customization; alternatives for auditory & visual information) • **Options for language & symbols** (clarify vocabulary & symbols; clarify syntax & structure; support decoding; promote understanding; use multimedia) • **Options for comprehension** (activate background knowledge; highlight patterns, big ideas & relationships; model information processing & visualization; support transfer of knowledge)	• **Options for physical action** (vary response methods; integrate tools and assistive technology) • **Options for expression & communication** (multiple media and tools for communication and construction) • **Options for executive functions** (goal setting; planning & strategizing; managing information & resources; monitoring& self-monitoring progress)

Source: CAST (2018)

Many teachers are familiar with the concept of learning styles: students learn best when content is provided in their preferred way (e.g., visually or auditorily). While students may have a preferred way of learning, it is a myth that they learn better when teaching matches these preferences. In fact, there is no scientific evidence to support this hypothesis.[lvi] Rather, alternating how you deliver content and providing multiple means of engagement, representation, action and expression can support learners' development of knowledge of skills and self-awareness, while respecting their various backgrounds[lvii] and learning contexts.

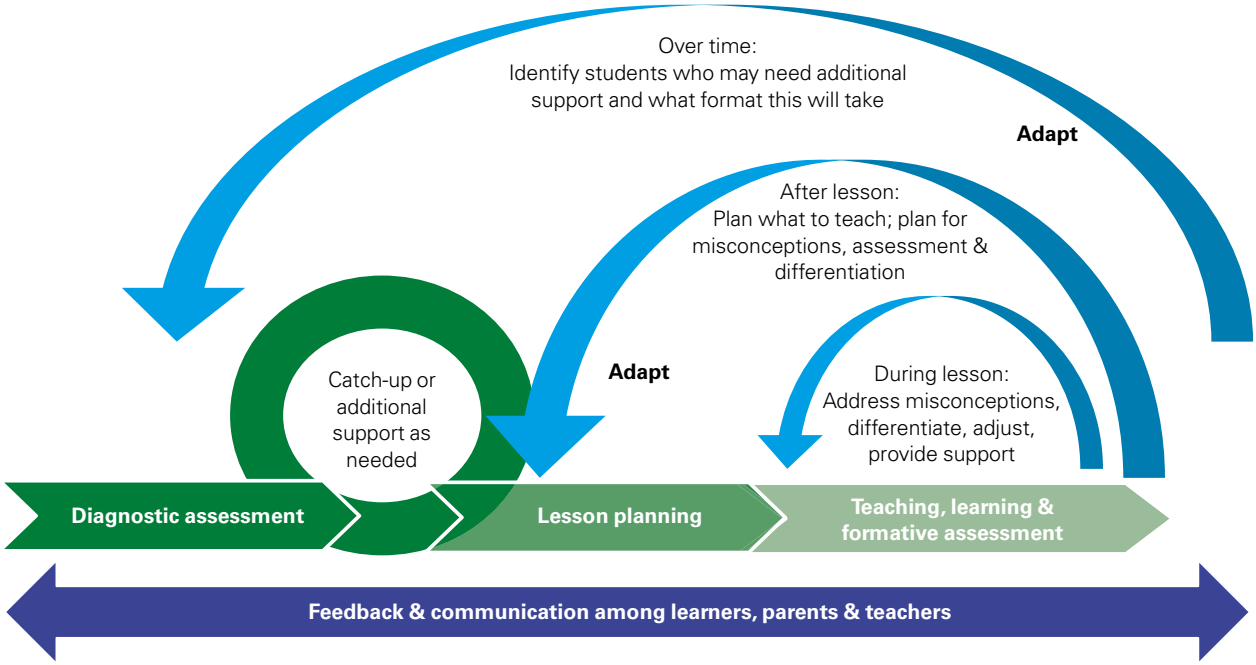
Rather than catering to so-called learning styles, you can support all students' learning by helping them to monitor their progress, supporting them to be reflective on the learning process (how they learn), and providing multiple and varying modalities for learning. For example, providing words and visuals may help students to learn more than words alone.

In addition to using information from formative assessments to make decisions during or immediately after a lesson, you can use the information to support your teaching decisions **over time**. For example:

- Patterns in formative assessment results over time can reveal challenges that will need to be addressed with additional support. This is why it is critical to reflect on the results of formative assessment as you go, to take notes on your thinking and to monitor students' progress.
- Misconceptions that remain unaddressed can become large gaps in foundational knowledge that impede further learning as they continue through the curriculum. Similarly, skills gaps related to foundational skills can limit the ability of learners to integrate what they learn and to put it into practice.
- Information from formative assessment can tell you which students may have large gaps in their knowledge or skills due to prolonged school closures, frequent absences, or other challenges. These may need to be addressed through additional class-based support, for example, or through catch-up efforts organized by your school. It is important for you to be aware of how your school identifies these learners, how you can recommend learners for such support, and how to ensure that they and their families are aware of how this support will be offered.
- Formative assessment information is important to share with other teachers who teach at your grade level, as well as teachers at prior and subsequent grade levels, to ensure that this valuable insight about students' learning gaps and strengths is informed by and used to inform the whole of their learning rather than just the subject that you teach.

These decisions are shown in the following figure.

Figure 5.4 Ongoing decision-making in teaching, learning and formative assessment



5.2.3 Lesson 3: Identifying and addressing strengths and learning gaps after education disruption

When students fall behind, they are more likely to develop larger learning gaps. You have probably seen this during and after periods of school closure. Combined with possible mismatches between the curricula and students' actual learning levels, these factors can lead to even larger gaps in students' learning in the long term. But schools can mitigate this by re-starting where students are rather than where they *are expected to be*.

To be able to start where students are, you, your fellow teachers and your school must accurately identify where they are. While it may be tempting for schools to conduct a summative assessment to assign marks after periods of distance learning and move on to new content, such an approach does not support the targeted meeting of students' needs.

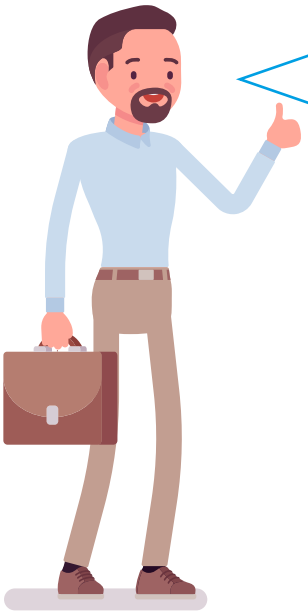
We previously discussed that diagnostic assessment, which typically occurs at the beginning of a new unit, a new academic year, or a new academic cycle, is an important first step in formatively assessing your students' learning to understand what they did and did not learn in previous lessons or terms, as well as what misconceptions they have at the outset.[lviii] For this reason, diagnostic assessment is also critical after periods of education disruption, such as during the transition back to in-person learning or at the outset of well-planned digital learning to replace emergency remote teaching.

Recall that formative assessment does not refer to the type of tools but rather how they are used: to support learning. Even if your school administers a tool that looks similar to an exam when you return to the classroom or when you start a new term in distance learning, the information can be used formatively to:

- ☑ Provide timely and actionable data on where students are in terms of their learning goals;
- ☑ Provide a clear idea of where to start when deciding how to address gaps and misconceptions;
- ☑ Be used to design evidence-based, targeted, personalized plans and actions for bridging learning gaps. If necessary, diagnostic assessment should also inform which content to prioritize;
- ☑ Define groups of students—even across classes and grade levels—who would benefit from similar types of interventions, such as those who share similar skills or knowledge gaps; and
- ☑ Provide a school-level picture of learning levels and gaps to help decision-makers adjust learning plans for the upcoming term or year.

Keep the following in mind, whether diagnostic assessment happens at the school level, classroom level, or both:

- ☑ Students, parents and carers should be made aware of how the information will be used and how it is relevant to students' own learning.
- ☑ Priority should be given to measuring key concepts that children need to understand and skills they need to have developed before the beginning of new instruction. The connection between what content was covered and what is being assessed should be clear.
- ☑ Questions should progress in a logical sequence. A question or set of questions should build on the knowledge and skills needed for the previous question or set. This will allow teachers to design targeted interventions to scaffold students' learning as they build on and move beyond what students already know.
- ☑ Assessment should enable students to demonstrate their knowledge and abilities, and those designing the assessment should be clear on what skills each question assesses. For example, if students are asked to draw the life cycle of a plant, did they learn about this topic in the same way it is being assessed? Is the question unknowingly assessing certain academic vocabulary or skills—such as illustrating a cycle—that were not taught? Is it clear from each question which knowledge and skills a student has and has not developed?
- ☑ Assessment must be relevant and accessible. Recall the principles of Universal Design for Learning and ensure that it is available in formats that allow all students to participate. Is it available online and offline, synchronously and asynchronously? Does it also include questions to assess the learning levels of students who may have been entirely unable to participate in distance learning?
- ☑ Learners' self-regulation can be supported even through diagnostic assessment of learning levels and gaps. For example, you might provide a list of key concepts, skills, and their application from the previous unit, academic year or cycle and ask them to assess their levels of confidence in using this knowledge and these skills.



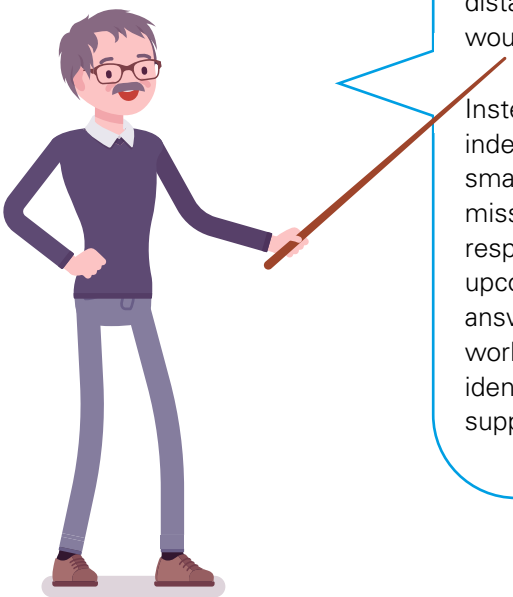
To engage learners as owners in the process of diagnosing learning levels and gaps, I gave them a list of key ideas and skills. We were still learning online at the time, so I displayed these on a virtual white board and asked learners to place green, yellow, or red dots next to statements to indicate the following:

Green = I could explain this to someone or teach them how to do this.

Yellow = I think I understand but am not sure that I could teach a friend.

Red = I do not yet understand this.

My school decided not to conduct a diagnostic assessment when we returned to in-person learning. But I was still able to use what I know about formative assessment to effectively diagnose my students' levels of learning and persistent gaps. I started the new term by providing a series of progressively more challenging questions based on key concepts that they were expected to have mastered by this level. I spoke to their teacher from last year and looked at work samples from during distance learning. I also observed my students in the first few weeks of the new school year, spoke with their parents, and had one-to-one conversations with each of my students themselves. This helped me to get a clear idea not only of what they did not yet master but also what they did learn during distance learning. Together, this information helped me to draw up a clear map of where I will go with my teaching in the coming weeks. I will revisit this map as we go based on the results from ongoing formative assessment.



When we transitioned back to in-person learning, I knew my students would have learning gaps. So, to diagnose students' learning levels and gaps, I used a test with questions on the key knowledge and skills that they should have learned during the period of distance learning. I made sure to tell students that I would not be assigning a grade on the test!

Instead, after students completed the test independently and I collected it, I assigned students to small groups to discuss the items that they think they missed. The next day, after I had assessed their responses to adjust my teaching plans for the upcoming weeks, I returned the test with the correct answers to students. I allowed time for students to work in small groups to review the answers and identify areas in which they felt they might need more support.

Building on strengths and bridging learning gaps

After you have identified students' learning levels and any learning gaps, students may need additional support to help them get back on track toward meeting their learning goals. Recall from Module 1 that programmes for bridging learning gaps may take various forms. In the context of formal education, these might include (but are not limited to):[lix]

- School-wide catch-up programmes, which are short-term, transitional programmes focused on missed content for learners who had been attending school prior to a disruption;
- Remedial programmes for certain learners or groups to offer additional, targeted learning support alongside regular classes. These focus on the skills and content needed to be successful in regular, formal education and can help to bridge persistent learning gaps for those who have fallen the farthest behind;
- Accelerated learning in all classes, which provides engaged, proficient and faster development of knowledge and skills to make up for lost time.

Schools might provide high dosage one-on-one tutoring directly linked with core content or intensive, high-quality instruction targeting key competencies. They might use double periods for students who have fallen behind or build collaborative teaching across grades and classrooms into the schedule.[lx] It is essential that any efforts to bridge learning gaps focus on the most foundational and critical knowledge and skills—often reflected in the core curriculum and standards—that students must know to engage in further learning. However, keep in mind that students might be below or above grade level. Their acquisition of key knowledge and skills—rather than their grade level—should determine what support they receive.[lxi]

While you may or may not be closely involved in the decision-making process at your school level, it might be helpful to reflect on the following:

→ Does your school offer opportunities for you to meet with staff and administrators to discuss any changes to the curriculum or syllabus?

→ How else might you communicate with other teachers to help you prepare for, review, discuss and enact any changes?

→ Have you discussed with other teachers and school personnel how you will balance the need for ongoing assessment with your learners' psychosocial well-being needs?

→ Even if there are no school-wide efforts currently in place to bridge learning gaps, how might you group students differently in your class to provide targeted support, including using what you have learned in these modules?

→ Can you discuss with school administrators and teachers whether there might be the opportunity to group students by their learning levels rather than their grade levels, even for limited periods of time during the day, to provide targeted needs-based support? Or are there other opportunities for flexible learning approaches across subjects and/or grade levels?

→ How is equity—and especially support for the learners who are the farthest behind and most excluded—being considered in school-wide and class-level efforts to bridge learning gaps?

→ Are there other opportunities that you might be able to seek to advocate for what your learners need?

5.3 Key takeaways

Recall the following key takeaways from Module 5:

☑ Feedback is constructive, actionable communication about where students are going, how they are going, and where they must go next.

☑ Feedback should be information received by both teachers and learners and focus on students' strengths, progress and where they need further support.

☑ Communication with parents is a valuable way to learn more about students' strengths and needs. Regular communication is critical, especially during distance learning, about these strengths and needs, supporting children's learning, the use and results of assessment, and the decisions made based on this information. Communication with parents or carers should be open, regular, understandable, and available in parent-friendly terms in languages that they speak.

☑ It is important to plan in advance for how you will use the results of formative assessment but to keep these plans flexible enough to respond to the results of assessment as it is implemented.

☑ Over time, patterns that emerge from formative assessment can help to identify students who may need additional support to close learning gaps. Communication with your students' other teachers and parents/carers can support this process.

☑ Diagnostic assessment is an important first step in formative assessment but is especially important after periods of disrupted learning. It should be used to identify strengths and learning gaps and then to design evidence-based efforts to bridge learning gaps.

☑ These efforts, whether at the school or class level, should focus on key competencies needed for further learning, including for students who are above or below grade level. You should consider not only students' grade levels but especially their learning levels, their access to, participation in and experiences with distance, digital or blended learning.

5.4 Self-assessment and application

Take a moment to reflect on what you've learned and how it can be applied in your teaching. Respond to the following questions in your learning journal for this course. If you are participating in the facilitated version of this course, your instructor will guide you in how to discuss the following questions with your peers.

→ What information is important for feedback received by learners? By you? What

methods will you use with your learners to elicit feedback from them about their learning and needs?

→ Recall the formative assessment activity that you thought of at the beginning of this module and how you communicated the results to your students. Using what you have learned in this module, how might you provide feedback to your learners differently during your next lesson? How will you focus on both strengths and needs? How might you encourage feedback from your learners related to your teaching methods?

→ Think about the last lesson that you taught your learners and the information that you gathered on students' learning during that lesson, ideally from formative assessment activities. Now, use that information to answer the following questions:

- Based on what I know about students' current learning levels, is there something I must review or teach them before I can teach the next lesson?
- Based on what I know about my learners and this upcoming content, what are misconceptions that learners are likely to have?
- What types of formative assessment activities will I use during the upcoming lesson to identify these?
- What type of feedback will I ensure that my learners receive and how?
- How will I differentiate my next lesson for learners based on what I know about their strengths and needs?

→ Spend some time communicating with your fellow teachers and school administrators to understand whether school-wide, diagnostic assessment efforts are planned to identify learners who may need additional support. Are there opportunities for you to conduct this assessment at the classroom level? What support will be offered to learners who may be significantly behind after periods of prolonged school closure? If this support is not planned, what might you do with your class to identify and address learning gaps?

5.5 Additional materials for deepening knowledge

If you would like to learn more about using formative assessment to provide feedback and make decisions for improving learning, the following readings may be of interest to you:

→ Hattie, J., & Timperley, H., 'The power of feedback', *Review of Educational Research, 2007*. Available at: https://doi.org/10.3102%2F003465430298487

→ Shepard, L. A., 'Linking formative assessment to scaffolding', *Educational Leadership, 63*(3), 2005, pp66-70. Available at: https://learnline.cdu.edu.au/commonunits/documents/Scaffolding%20and%20formative%20assessment.pdf

→ CAST, *Key questions to consider when planning lessons*, Wakefield, MA: Author, 2020. (Reprinted from Universal design for learning: theory and practice, by Meyer, A., Rose, D.H., & Gordon, D., Author, 2014). Available at: http://www.cast.org/products-services/resources/2020/udl-guidelines-key-questions-planning-lessons

The following videos will help you to review and apply what we have learned in Module 5. The questions below each video link serve to guide your further reflection. Respond to them in your learning journal and share your responses with your colleagues as you learn together. If you are participating in the facilitated version of this course, you will be directed to share your responses in group discussions.

→ SanBdoCitySchools, *Formative Assessments: Using Feedback to Guide Instruction* [Video], 3 December, 2015. YouTube. https://www.youtube.com/watch?v=Ecp5tFwXA_M

- Watch the full video at the above link the reflect on the following:
  - What types of formative assessment does the teacher use and why? What information does each type of assessment provide him?
  - What decisions does the teacher make using the results of formative assessment?
  - How did the teacher use digital technology to support in-person formative assessment processes? How might you use similar processes in either in-person or distance learning?
  - How did the teacher help students to understand what comprehension looks like? Would you do the same or something different (and if so, what) to help clarify expectations?
  - How did the teacher support students to monitor and assess their own learning? Would you use the same or different techniques with your class? Why?
  - What was the purpose of peer discussion in the example observed?
  - How did the teacher use information gathered throughout the week from performance tasks to design the lab (experiential learning opportunity) at the end of the week? Describe the differentiated opportunities that the teacher included for various students and what information these were based on.
  - Think of a sequence of lessons that you will soon teach. How can you use formative assessment throughout the sequence of lessons to design targeted and differentiated experiential learning opportunities or task-based learning at the end of the sequence of lessons? What will you do similar to the teacher in the video and what will you do differently?

→ Hand2Mind, *Everyday Formative Assessment Strategies to Transform Teaching and Learning* [Video], 17 March 2021. YouTube. https://www.youtube.com/watch?v=CuLzBJIS9c4 –

- Watch the above video from 17:00-54:00. Reflect on the following:
  - How does observation of students change from in-person to distance and hybrid learning?

- Take a few moments to identify a student of yours whose learning and progress you would like to observe more closely (pick a student who might be struggling with a certain concept or skill, for example). Design a brief (no more than a couple of minutes) interview framework to interview this student. Check to make sure each question is purposefully chosen to assist you in making decisions about how to move this student closer toward their learning goals. Questions should be problem- or task-oriented (e.g., Show me… How did you solve… Why did you… Can you tell me more about…). Practice interviewing a peer and assessing each other's interview questions.
- Implement this brief interview with the student identified and record the responses. Reflect on what the information tells you about what the student knows and can do, what additional support they might need, and what decisions you will make based on this information. What feedback does the interview provide you as a teacher? Is it implicit or explicit? How will you use this feedback?
- After you have recorded your reflections on these questions, share them with your colleague. Ask for their input on the interview and your reflections.
- Repeat this exercise in both synchronous and asynchronous environments for additional practice.

Final self-assessment

Record responses to the following reflections in your learning journal and then share them with your peers:

- Take a moment to look back at your responses to the questions at the beginning of each module under Reflect on what you already know. Given what you have just learned about formative assessment, would you change your responses? If so, how?
- What else would you like to learn about how formative assessment can be used to support your teaching and students' learning? How might you continue to strengthen your knowledge of and skills for formative assessment?
- Design a sample lesson plan or revise a lesson plan you have already written to incorporate formative assessment. Exchange your lesson plan with another teacher and discuss how else you might be able to reflect the principles of formative assessment that we have learned in these modules.
- Are any of the challenges to implementing formative assessment with your class related to barriers that you cannot overcome on your own? If so, who might you ask to help you overcome these challenges?

Congratulations! You have reached the end of the modules. Thank you for participating in this course and learning about formative assessment in digital and distance learning with UNICEF. Continue to practice, apply and reflect on the learnings from this course in your teaching to support quality, inclusive learning for each of your students.

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