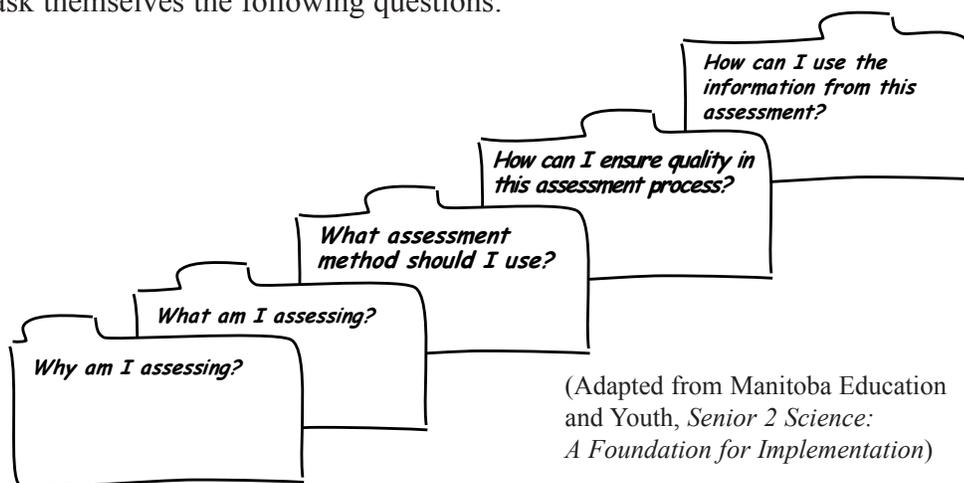# Three Purposes of Assessment

Thinking about assessment from the perspective of purpose rather than method puts the emphasis on the intended end result. The chapters in this section describe in detail three different assessment purposes: assessment *for* learning (Chapter 3); assessment *as* learning (Chapter 4); and assessment *of* learning (Chapter 5). The order (*for, as, of*) is intentional, indicating the importance of assessment *for* learning and assessment *as* learning in enhancing student learning. Assessment *of* learning should be reserved for circumstances when it is necessary to make summative decisions.

In planning, developing, and using assessment methods that are "fit for purpose," teachers think about curriculum and about their students as they ask themselves the following questions:

How can I use the information from this assessment?

How can I ensure quality in this assessment process?

What assessment method should I use?

What am I assessing?

Why am I assessing?

(Adapted from Manitoba Education and Youth, *Senior 2 Science: A Foundation for Implementation*)

Section II

These questions are used throughout Section II to show the key planning considerations in designing assessment.

Key Ideas in Section II

- Classroom assessment is used for various purposes: assessment *for* learning, assessment *as* learning, and assessment *of* learning.
- Each of these purposes requires a different role for teachers, different planning, and raises different quality issues.
- The most important part of assessment is the interpretation and use of the information that is gleaned for its intended purpose.

Chapter 3

Assessment *for* Learning

What Is Assessment *for* Learning?

Assessment *for* learning occurs throughout the learning process. It is designed to make each student's understanding visible, so that teachers can decide what they can do to help students progress. Students learn in individual and idiosyncratic ways, yet, at the same time, there are predictable patterns of connections and preconceptions that some students may experience as they move along the continuum from emergent to proficient. In assessment *for* learning, teachers use assessment as an investigative tool to find out as much as they can about what their students know and can do, and what confusions, preconceptions, or gaps they might have.

The wide variety of information that teachers collect about their students' learning processes provides the basis for determining what they need to do next to move student learning forward. It provides the basis for providing descriptive feedback for students and deciding on groupings, instructional strategies, and resources.

Teachers' Roles in Assessment *for* Learning

Assessment *for* learning occurs throughout the learning process. It is interactive, with teachers

- aligning instruction with the targeted outcomes
- identifying particular learning needs of students or groups
- selecting and adapting materials and resources
- creating differentiated teaching strategies and learning opportunities for helping individual students move forward in their learning
- providing immediate feedback and direction to students

Resource:

Assessment Reform Group, *Assessment for Learning Beyond the Black Box*

Teachers also use assessment *for* learning to enhance students' motivation and commitment to learning. When teachers commit to learning as the focus of assessment, they change the classroom culture to one of student success. They make visible what students believe to be true, and use that information to help students move forward in manageable, efficient, and respectful ways.

Using Questioning in Class to Expose Learning

In a study done in England, Black and Harrison (1991) worked with teachers to change their questioning in ways that could help students learn. By structuring the questioning to include a longer wait time and by expecting every student to be prepared to answer at any time (even if it was to say "I don't know"), the teachers found that more students were involved in the discussion, there was an increase in the sophistication of their contributions, and teachers were able to create a climate of inquiry in which all members of the group, not just the eager responders, were working together to explore ideas and alternatives, not merely to find the "right" answer.

By carefully framing questions to challenge students' thinking and to examine issues that are critical to the development of students' understanding of complex ideas, teachers could gather detailed information about student beliefs, preconceptions, and alternative perspectives, and more students were engaged. They found that questioning can be a powerful tool in assessment for learning. Some examples of "questions worth asking" are:

- What would a penny tell future generations about our civilization?
- Is gravity a fact or a theory? What evidence supports your answer?
- In what ways are the animals in the story like humans? In what ways are they not like humans?
- If plants need sunlight to make food, do you think the biggest plants would grow in the desert? Why?
- Describe what you think is the temperature of the poem.
- What do you suspect happened to the slain knight? Why?

Students' understanding can be exposed not only through their responses to the teacher's questions, but also through the questions they formulate to advance their understanding.

Planning Assessment *for* Learning

Why am I assessing?

When the intent is to enhance student learning, teachers use assessment *for* learning to uncover what students believe to be true and to learn more about the connections students are making, their prior knowledge, preconceptions, gaps, and learning styles. Teachers use this information to structure and differentiate instruction and learning opportunities in order to reinforce and build on productive learning, and to challenge beliefs or ideas that are creating problems or inhibiting the next stage of learning. And they use this information to provide their students with descriptive feedback that will further their learning.

What am I assessing?

Teachers use the curriculum as the starting point in deciding what to assess, and to focus on why and how students gain their understanding. Assessment *for* learning requires ongoing assessment of the curriculum outcomes that comprise the intended learning. Teachers create assessments that will expose students' thinking and skills in relation to the intended learning, and the common preconceptions.

What assessment method should I use?

Teachers use focussed observations, questioning, conversations, quizzes, computer-based assessments, learning logs, or whatever other methods are likely to give them information that will be useful for their planning and their teaching (see Fig. 2.2, Assessment Tool Kit, page 17). Each time a teacher plans an assessment *for* learning, he or she needs to think about what information the assessment is designed to expose, and must decide which assessment approaches are most likely to give detailed information about what each student is thinking and learning.

The methods need to incorporate a variety of ways for students to demonstrate their learning. For example, opportunities for students to complete tasks orally or through visual representation are important for those who are struggling with reading, or for those who are new English-language learners.

How can I ensure quality in this assessment process?

Assessment *for* learning is of high quality when a teacher can use it to make decisions about students' learning with enough specificity to be able to provide descriptive feedback, and to design the next stage of learning.

Reliability

Because assessment *for* learning focusses on the nature of students' thinking and learning at any given point in time, and is used to determine the next phase of teaching and learning, reliability depends on the accuracy and consistency of teachers' descriptions of the learning. Teachers will want to be sure that they are

actually getting a clear picture of how the students are thinking and what it is that they understand or find confusing. A single assessment is rarely sufficient to produce detailed insights into students' learning. Instead, teachers use a range of assessments in different modes (e.g., oral, visual, active, written), and do them at different times to develop a rolling picture of the student's progress and development. Teachers are always looking for evidence and descriptions of each student's way of understanding the concepts.

One of the best ways for teachers to gain reliable insights into how students are thinking is to work with other teachers. When teachers share their views about students' work and the nature and quality of the learning in relation to curriculum outcomes, they gain consistency and coherence in their descriptive accounts, and they can feel more confident about the final decisions and next steps in teaching.

Resource:

Gipps, *Beyond Testing: Toward a Theory of Educational Assessment*

Reference Points

Curriculum learning outcomes or, for some students, learning outcomes of an individualized learning plan, are the reference points for assessment *for* learning. They serve as guides in providing feedback and in planning instruction. Learning expectations that are clear and detailed, with exemplars and criteria that differentiate the quality and the changes along the learning continuum, enable teachers to accurately consider each student's work in relation to these expectations.

Validity

Validity in assessment *for* learning is all about how well assessment can shed light on students' understanding of the ideas that are contained in the learning outcomes and in the effectiveness of the choices and the guidance that the teacher provides for the next stage of learning. Teachers can judge the validity of their assessment processes by monitoring how well their assessment shows the progress of students' learning along the continuum of the curriculum.

Record-Keeping

Record-keeping is an important part of ensuring quality in assessment *for* learning. Teachers keep detailed notes, not for making comparative judgements among the students, but to provide each student with individualized descriptive feedback that will help further that student's learning. Good record-keeping will show whether the student work is on track and, when it is not, raise questions about the instruction and ways it could be adjusted. The focus of record-keeping in assessment *for* learning is on documenting individual student learning and annotating it in relation to the continuum of learning. The focus is also on identifying groups of students with similar learning patterns so that instruction can be efficiently differentiated. Teachers' records need to be based on the curriculum learning outcomes, and need to give detailed accounts of student accomplishments in relation to these outcomes, with evidence to support these accounts.

> How can I use the information from this assessment?

Feedback to Students

Evaluative and Descriptive Feedback
Evaluative Feedback
- judgements of value or appropriateness of responses
- judgements of correctness or incorrectness

Descriptive Feedback
- descriptions of why a response is appropriate
- descriptions of what students have achieved
- suggestions of a better way of doing something
- prompts to suggest ways students can improve

(Adapted from Gipps et al., *What Makes a Good Primary School Teacher? Expert Classroom Strategies*)

Descriptive feedback is the key to successful assessment *for* learning. Students learn from assessment when the teacher provides specific, detailed feedback and direction to each student to guide his or her learning. Feedback for learning is part of the teaching process; the part that comes after the initial instruction takes place, when information is provided about the way that the student has processed and interpreted the original material. It is the vital link between the teacher's assessment of a student's learning and the action following that assessment.

To be successful, feedback needs to be immediate and identify the way forward. It should not simply tell learners whether their answers are right or wrong, or simply provide evaluative feedback in the form of grades and short, non-specific comments of praise or censure. This latter kind of feedback affects students' senses of themselves and tells them how they stand in relation to others, but it offers very little direction for moving forward. Feedback for learning, on the other hand,

Feedback for Learning
Ten of Winnipeg's inner-city schools have adopted Feedback for Learning strategies with the goal of improving achievement and meta-cognitive development. The strategies highlight the need to pay attention to learning styles, whatever the age of the learner. School staff are encouraged to use simple scaffolding to support and sustain changes in teaching habits. Scaffolding starts with the clarification of teachers' learning expectations, moves on to students' self- and peer critique, and culminates in students presenting their progress and achievement. The scaffolding is applicable in all content areas, and is as relevant to adult learning and leadership as it is in the classroom.

An Example of "Closing the Gap" Feedback Prompts
In introducing a character for a story (written or oral), let's assume that a student has described someone he knows from a summer camp. After highlighting several phrases that give information about this person, the teacher highlights the student's phrase "This person is a good friend" and considers a closing-the-gap prompt. The prompt could take any of the following forms:

- A reminder prompt: E.g., "Say more about how you feel about this person." (A reminder prompt is most suitable for a student who has good command of figurative language but has not used it here, for whatever reason.)

- A scaffolding prompt: E.g, "Can you describe how this person is a good friend"?; "Describe something that happened that showed you what a good friend this person is"; "He showed me he was a good friend when...". (Scaffolding prompts work well with students who need more structure or some direction but are likely to carry on from here.)

- An example prompt: E.g., "Choose one of these statements to tell me more about your friend. "He is a good friend because he never says unkind things about me." Or, "My friend helps me do things." (When a student is struggling or doesn't appear to understand the concept, example prompts can provide them with actual models of the learning intention.)

(Adapted from Earl, *Assessment as Learning: Using Classroom Assessment to Maximise Student Learning*)

is descriptive and specific. Descriptive feedback makes explicit connections between students' thinking and the learning that is expected. It addresses faulty interpretations and lack of understanding. It provides the student with manageable next steps and an example of what good work looks like.

Feedback for learning provides evidence that confirms or challenges an idea that a student holds. It gives recognition for achievement and growth, and it includes clear directions for improvement. It encourages students to think about, and respond to, the suggestions. And it focusses on both quality and learning.

Differentiating Learning

Assessment *for* learning provides information about what students already know and can do, so that teachers can design the most appropriate next steps in instruction. When teachers are focussed on assessment for learning, they are continually making comparisons between the curriculum expectations and the continuum of learning for individual students, and adjusting their instruction, grouping practices, and resources. Each student can then receive the material, support, and guidance that he or she needs to progress, without experiencing unnecessary confusion and frustration. By carefully planning and targeting what they do to help each student, teachers can reduce the misunderstandings and provide just-in-time support for the next stage of learning, and streamline and speed up the learning process.

The Pool Table Task

At the beginning of the school year, a Middle Years mathematics teacher used a series of games that he had devised to give him insights into his students' knowledge and depth of understanding. One of these games used a modified pool table to help him ascertain the students' conceptions of algebraic relationships, either formally or intuitively.

He gave the students a graphic of a four-pocket pool table and told them that the ball always leaves pocket A at a 45° angle, rebounds off a wall at an equal angle to that at which the wall was struck, and continues until it ends up in a pocket. Students counted the number of squares the ball passed through as well as the number of hits the ball made, the first and last hit being the starting and finishing pockets. They experimented with tables of various dimensions and recorded their observations on a chart formatted as follows:

Length	Width	Number of Hits	Number of Squares
6	4	5	12
3	5	8	15
5	4		

As the students gathered data, they began to make predictions based on the patterns they observed. Some made general statements like "You can tell the number of hits by adding the width and the length together and dividing by their greatest common factor." Or "The number of squares that the ball goes through is always the lowest common multiple of the width and the length." Others continued to count to find the answers without seeing the relationships that existed.

During this task, the teacher observed and made notes about the thinking of individual students. He stopped and asked questions about the process that they were using, and prompted them to think about patterns and to take a chance at making predictions based on the patterns they observed. From the information gathered during this process, he made decisions about how to teach the next series of lessons and how to group the students for the various instructional elements to come. Some students were quickly able to understand an algebraic equation that symbolized the general patterns that they had identified. For others, he used a number of exercises that helped them identify the patterns and formulate them in concrete ways. It was essential that they be guided through the concrete experience before moving to the abstract representation. The pool table task gave him a window into the students' thinking and a starting point for planning instruction, resources, grouping, timing, and pacing.

(Adapted from Earl, *Assessment as Learning: Using Classroom Assessment to Maximize Student Learning*)

Reporting

Reporting in assessment *for* learning is based on open, frequent, and ongoing communication with students and their parents about progress in learning, methods that the teacher is using to ensure ongoing progress, and ways that students, teachers, and parents might help move learning forward with minimal misunderstanding and confusion for the student. The reports might focus on a single outcome but more often on a series, or cluster, of outcomes. Reporting should take into account what learning is expected, provide good models of what students can achieve, and identify strategies for supporting students.

Reading and Writing in Geography: An Example of Keeping Parents Informed

Dear parents:

Because we believe that it is important for students to become good readers and writers, in geography class we are highlighting reading and writing. We are emphasizing finding information in diverse non-fiction materials related to the geography topics that we are studying. We're also focussing on organizing material and ideas and presenting this clearly for audiences who may not necessarily be familiar with the topic.

During class, I read material to the students, they read material on their own, and they participate in discussions about the ideas. Students are expected to identify the main ideas, analyze the ideas from a range of perspectives, offer interpretations based on evidence from their reading, draw conclusions, and write a summary of their conclusions, with supporting evidence and arguments.

During this process, they share their opinions, ask questions, add new information, create pictures in their mind based on their reading and the discussions, and make judgements about the ideas.

You can help by reading non-fiction (magazines, newspapers, textbooks) with them at home and talking about key ideas, why the author might think the way he or she does, and what ideas might be missing.

After each class, students will be bringing home reading material that they are working on at school. This is meant to show you how they are progressing on their reading in this course, as well as their learning about geography.

If you have any questions or want more information, feel free to contact me at any time.

An Example of Assessment *for* Learning

Karen, an experienced primary-grade teacher, reflected upon her students' growth in language arts over the term just completed. She had focussed her instruction on constructing meaning from texts, and her students were immersed in a wide variety of quality literature that was chosen to develop students' comprehension skills before, during, and after reading and listening. She observed that there was a wide distribution along the continuum of learning among the students in her classroom. For example, some students were noticing various authors' writing techniques, some were requiring much guidance in responding to texts, and some were showing interest in fairy tales. With this in mind, and to challenge the proficient writers and provide guided practice for those who were just emerging as writers, Karen decided to focus on the process of writing. She used differentiated instruction through assessment *for* learning to address the needs of all students in her classroom.

Why am I assessing?

I want to determine ways to differentiate instruction in order to help each student progress in his or her writing and make connections to his or her reading.

Karen was interested in how her students expressed their ideas in writing, and how they made connections between the strategies that established authors use and their own writing. By assessing their thinking and writing processes, she was able to determine what specific instructional strategies would best advance each student's learning.

What am I assessing?

I am assessing my students' abilities to express their own ideas in writing and to appraise their own and other's writing.

Karen targeted the following curriculum outcomes to focus her instruction and assessment *for* learning:

- Create Original Texts (to communicate and demonstrate understanding of forms)

- Generate Ideas (focus a topic for oral, written, and visual texts using a variety of strategies)

- Appraise Own and Others' Work (share own stories and creations in various ways with peers; give support and offer feedback to peers using pre-established criteria when responding to own and others' creations)

- Appreciate Diversity (connect the insights of individuals in oral, print, and other media text to personal experiences)

What assessment method should I use?

I need an ongoing and focussed observation approach during regular classroom instruction and practice in which students share and reflect throughout the writing process, making their thinking and skills visible.

With the goal in mind of having her students make connections between reading and writing, Karen focussed on a genre study of fairy tales and the process of writing. She gathered information about her students' learning by observing them and having conversations with them. She used the curriculum learning outcomes as the focus for her observations and her record-keeping.

Karen used a writers' workshop format so that she could balance whole-class instruction and work in flexible groupings. In the whole-class context, she used read-aloud and brainstorming methods to chart the strategies that established authors use to write fairy tales, modelled the writing process, and had students share their writing and self-assessments.

During these whole-class strategies, Karen identified dynamic flexible groupings, which allowed students to progress in various rhythms and at various rates toward independence. She determined which students would need to be guided through interactive writing, which learning centres would be appropriate for which students, and which students would move quickly into independent writing and the Author's Chair. The centres included a drama centre, with puppets and props, and a visual arts centre. The centres provided a forum in which emergent writers could generate and focus their ideas, and the more proficient writers could hone their skills in using imagery, description, and dialogue.

How can I ensure quality in this assessment for learning process?

I can focus my observations on the targeted outcomes and criteria.
I can observe my students in a variety of contexts and tasks over time, and guide their portfolio choices.
I can keep accurate, effective, and manageable records that show each student's learning path.

Karen knew that in order to guide her students toward the desired outcomes, she needed to provide clear criteria for high-quality work. Therefore, at the close of each workshop, she worked with the whole class to generate, revise, and refine a set of criteria. As her students gained more experience with the writing process and fairy tales, their reflections about and revisions of the criteria became more focussed. Based on the question, What does a quality fairy tale look and sound like?, the students decided that there are three elements in a good fairy tale: (1) it has an idea about wishes, magic objects, or trickery; (2) it has a problem to be solved; (3) it makes a connection to our community.

In order to manage her anecdotal records in an efficient and focussed way, Karen used a clipboard and notepaper formatted as follows.

Targeted Outcomes	Criteria (student-generated)			
• Create Original Texts • Generate Ideas • Appraise Own and Others' Work • Appreciate Diversity	A quality fairy tale • has an idea about wishes, magic objects, trickery • has a problem to be solved • makes a connection to our community			
Student Names	**Date**	**Assessment Context, Task, Product**		
		Read Aloud	Interactive Writing	Centres: visual art, drama (puppets, props), writing	Portfolio Reflections and Conversations

How can I use the information from this assessment?

I can provide descriptive feedback to students and parents about students' development as writers.

I can guide students in setting new and increasingly challenging goals.

The process of sharing and reflection on the part of the students provided Karen with the opportunity to identify specific areas of need, which she then addressed through strategic instruction to the whole class, and to flexible groups, pairs, and individuals, to ensure that all students were experiencing success. She saw that the emergent writers experienced success as they developed their fairy tales through visual representations and drama performances. Karen highlighted these students' strengths in art and drama to help build their confidence, and to scaffold their writing skills while she modelled and guided them to write a group fairy tale. Another group of students began using descriptive language to add interest to their fairy tales, and she used the opportunity to teach a mini-lesson on using words to make "language pictures." Yet another group was experimenting with the use of dialogue in their first drafts, so she gave a mini-lesson on the use of quotation marks.

At the end of the unit, Karen and her students reflected upon their criteria for high-quality work and assessed the students' portfolios. They noticed that, with their successes, they were now ready to set new and more challenging learning goals. Karen and her students used the assessment information that she had gathered to share with parents, and to plan the next instruction to once again meet the various needs of her students along the continuum of learning.

Summary of Planning Assessment *for* Learning

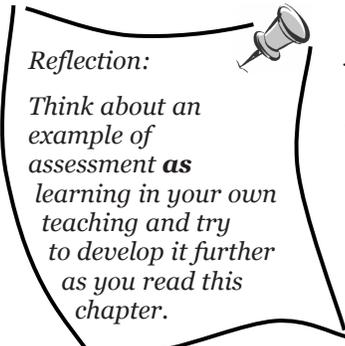| Why Assess?	to enable teachers to determine next steps in advancing student learning
Assess What?	each student's progress and learning needs in relation to the curricular outcomes
What Methods?	a range of methods in different modes that make students' skills and understanding visible
Ensuring Quality	• accuracy and consistency of observations and interpretations of student learning • clear, detailed learning expectations • accurate, detailed notes for descriptive feedback to each student
Using the Information	• provide each student with accurate descriptive feedback to further his or her learning • differentiate instruction by continually checking where each student is in relation to the curricular outcomes • provide parents or guardians with descriptive feedback about student learning and ideas for support

Chapter 4

Assessment *as* Learning

We must constantly remind ourselves that the ultimate purpose of evaluation is to enable students to evaluate themselves.

(Costa, "Reassessing Assessment")

What Is Assessment *as* Learning?

Assessment *as* learning focusses on students and emphasizes assessment as a process of metacognition (knowledge of one's own thought processes) for students. Assessment *as* learning emerges from the idea that learning is not just a matter of transferring ideas from someone who is knowledgeable to someone who is not, but is an active process of cognitive restructuring that occurs when individuals interact with new ideas. Within this view of learning, students are the critical connectors between assessment and learning. For students to be actively engaged in creating their own understanding, they must learn to be critical assessors who make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition; that is, students become adept at personally monitoring what they are learning, and use what they discover from the monitoring to make adjustments, adaptations, and even major changes in their thinking.

Reflection:

*Think about an example of assessment **as** learning in your own teaching and try to develop it further as you read this chapter.*

Assessment *as* learning is based in research about how learning happens, and is characterized by students reflecting on their own learning and making adjustments so that they achieve deeper understanding. P. Afflerbach (2002) notes (in the context of reading assessment):

Dimensions of Metacognition

Knowledge of Cognition

- knowledge about ourselves as learners and what influences our performance
- knowledge about learning strategies
- knowledge about when and why to use a strategy

Regulation of Cognition

- planning: setting goals and activating relevant background knowledge
- regulation: monitoring and self-testing
- evaluation: appraising the products and regulatory processes of learning

(Adapted from Brown, "Metacognition, Executive Control, Self-Regulation, and Other More Mysterious Mechanisms")

Too many students have reading assessment done *to* them, or *for* them. Only reading assessment that is done *with* students and eventually *by* students can foster true independence and success in reading. Accomplished readers are flexible in their routines of metacognition and comprehension monitoring, as demanded by the particular act of reading. The ability to self-assess is multifaceted, and good readers apply their self-assessment strategies on demand (p. 99, emphasis added).

Although Afflerbach's comment is specifically about reading, it is applicable to many other areas of learning as well. Students become productive learners when they see that the results of their work are part of critical and constructive decision-making. If young people are to engage in continuous learning in environments where knowledge is always changing, they need to internalize the needing-to-know and challenging-of-assumptions as habits of mind.

The ultimate goal in assessment *as* learning is for students to acquire the skills and the habits of mind to be metacognitively aware with increasing independence. Assessment *as* learning focusses on the explicit fostering of students' capacity over time to be their own best assessors, but teachers need to start by presenting and modelling external, structured opportunities for students to assess themselves.

Monitoring Metacognition

- What is the purpose of learning these concepts and skills?
- What do I know about this topic?
- What strategies do I know that will help me learn this?
- Am I understanding these concepts?
- What are the criteria for improving my work?
- Have I accomplished the goals I set for myself?

(Adapted from Schraw, "Promoting General Metacognitive Awareness")

Teachers' Roles in Assessment *as* Learning

A high level of student participation in the assessment process does not diminish teachers' responsibilities. Rather, assessment *as* learning extends the role of teachers to include designing instruction and assessment that allows all students to think about, and monitor, their own learning.

Assessment *as* learning is based on the conviction that students are capable of becoming adaptable, flexible, and independent in their learning and decision-making. When teachers involve students and promote their independence, they are giving them the tools to undertake their own learning wisely and well.

For students to be able to improve, they must develop the capacity to monitor the quality of their own work during actual production. This in turn requires that students possess an appreciation of what high-quality work is, that they have the evaluative skills necessary for them to compare with some objectivity the quality of what they are producing in relation to the higher standard, and that they develop a store of tactics or moves which can be drawn upon to modify their own work.

(Sadler, "Formative Assessment and the Design of Instructional Systems")

To become independent learners, students must develop sophisticated combinations of skills, attitudes, and dispositions. Self-monitoring and

evaluation are complex and difficult skills that do not develop quickly or spontaneously. Like any other complex set of skills, becoming metacognitively aware requires modelling and teaching on the part of the teacher, and practice on the part of the student.

The teacher's role in promoting the development of independent learners through assessment *as* learning is to

- model and teach the skills of self-assessment
- guide students in setting goals, and monitoring their progress toward them
- provide exemplars and models of good practice and quality work that reflect curriculum outcomes
- work with students to develop clear criteria of good practice
- guide students in developing internal feedback or self-monitoring mechanisms to validate and question their own thinking, and to become comfortable with the ambiguity and uncertainty that is inevitable in learning anything new
- provide regular and challenging opportunities to practise, so that students can become confident, competent self-assessors
- monitor students' metacognitive processes as well as their learning, and provide descriptive feedback
- create an environment where it is safe for students to take chances and where support is readily available

Students need to experience continuous and genuine success. This does not mean that students should not experience failure but, rather, that they need to become comfortable with identifying different perspectives and challenge these perspectives; they need to learn to look for misconceptions and inaccuracies and work with them toward a more complete and coherent understanding.

> Wise teachers use the classroom assessment process as an instructional intervention to teach the lesson that failure is acceptable at first but that it cannot continue. Improvement must follow. Success is defined as continual improvement. To teach these lessons, we can use student involvement in the assessment, record-keeping, and communication process.
> (Stiggins, "Assessment, Student Confidence, and School Success")

Students (both those who have been successful—in a system that rewards safe answers—and those who are accustomed to failure) are often unwilling to confront challenges and take the risks associated with making their thinking visible. Teachers have the responsibility of creating environments in which students can become confident, competent self-assessors by providing emotional security and genuine opportunities for involvement, independence, and responsibility.

> Our students must understand that, when we try to grow, we sometimes fail at first, and that failure is all right. The trick is to help students understand that failure holds the seeds of later success.
> (Stiggins, "Assessment, Student Confidence, and School Success")

A Nunavut Example of Reflection and Decision-Making

In Nunavut, cultural sensitivity is required on the part of teachers in almost every aspect of program planning. As part of a secondary wellness module, students work together on a class project related to the traditional Inuit principle of *Avatimik Kamattiarniq* (environmental stewardship). Keeping the environment clean, using every part of what was killed, and conserving energy were essential attitudes and survival skills of Inuit culture, taught by Elders to young children and maintained, refined, and elaborated upon throughout their lives.

The class project requires that students collaborate to select an activity that demonstrates an understanding of *Avatimik Kamattiarniq* and take a step toward it. After completing a community mapping activity that focusses on this principle, students explore what their community does in relation to this principle and what ideas they might have to improve the quality of life and their stewardship of the environment.

In selecting the class project, the students may bring in Elders to provide ideas. They discuss their options so that everyone understands what is involved in making a decision together. Decision-making by consensus is a difficult undertaking, requiring participants to pay close attention to the ideas shared and to show an understanding of who and what can influence decisions.

Students are encouraged to think about their individual understanding of the process of collaboration and decision-making by consensus and how these principles relate to *Avatimik Kamattiarniq*. The students are instructed to reflect individually on the conceptual, social, and personal aspects of what they are learning. The conceptual aspect is based on the principle of environmental stewardship; the social aspect includes an analysis of the group's ability to use collaboration and consensus decision-making to accomplish the task; and the personal aspect prompts each student to assess his or her own learning and role in the process.

Planning Assessment *as* Learning

> Why am I assessing?

In order to know what steps to take to support students' independence in learning, teachers use assessment *as* learning to obtain rich and detailed information about how students are progressing in developing the habits of mind and skills to monitor, challenge, and adjust their own learning. For their part, students learn to monitor and challenge their own understanding, predict the outcomes of their current level of understanding, make reasoned decisions about their progress and difficulties, decide what else they need to know, organize and reorganize ideas, check for consistency between different pieces of information, draw analogies that help them advance their understanding, and set personal goals.

> What am I assessing?

In assessment *as* learning, teachers are interested in how students understand concepts, and in how they use metacognitive analysis to make adjustments to their understanding. Teachers monitor students' goal-setting process and their

thinking about their learning, and the strategies students use to support or challenge, adjust, and advance their learning.

Mathematics Portfolio Letter

At the beginning of the term, the students in a Senior Years mathematics class write a letter to the teacher about their past experiences with mathematics, their expectations, how best they learn in mathematics, and how best the teacher can help them.

First they are asked to discuss their previous mathematics experiences, with attention to

- how they learn mathematics best (working alone, working with others, using concrete materials, reading about the solutions)
- what they like and don't like about mathematics

Then they are asked to describe their expectations for learning in this class by identifying

- what they want to learn
- what they need from the teacher as support to help them learn

This initial self-reflection provides the teacher with insight into students' learning styles, their engagement with learning, and their ability to analyze their own learning.

Periodically during the course, students review their initial letters and write follow-up letters to the teacher that include

- a description of the extent to which their expectations for this class have so far been met
- feedback on the kinds of teaching and resources that helped them learn mathematics
- a description of what they have learned about themselves as learners

What assessment method should I use?

Teachers can use a range of methods in assessment *as* learning (see Fig. 2.2, Assessment Tool Kit, page 17), as long as the methods are constructed to elicit detailed information both about students' learning and about their metacognitive processes. Teachers teach students how to use the methods so that they can monitor their own learning, think about where they feel secure in their learning and where they feel confused or uncertain, and decide about a learning plan.

Although many assessment methods have the potential to encourage reflection and review, what matters in assessment *as* learning is that the methods allow students to consider their own learning in relation to models, exemplars, criteria, rubrics, frameworks, and checklists that provide images of successful learning.

How can I ensure quality in this assessment process?

Quality in assessment *as* learning depends on how well the assessment engages students in considering and challenging their thinking, and in making judgements about their views and understanding. Teachers establish high quality by ensuring

that students have the right tools and are accumulating the evidence needed to make reasonable decisions about what it is that they understand or find confusing, and what else they need to do to deepen their understanding.

Reliability

Reliability in assessment *as* learning is related to consistency and confidence in students' self-reflection, self-monitoring, and self-adjustment. As students practise monitoring their own learning and analyzing it in relation to what is expected, they eventually develop the skills to make consistent and reliable interpretations of their learning. In the short term, however, teachers have the responsibility of engaging students in the metacognitive processes. They do this by scaffolding students' understanding; providing criteria, exemplars, and resources to help them analyze their own work; teaching them the necessary skills to think about their own learning in relation to their prior understanding and the curricular learning outcomes; and gathering evidence about how well they are learning.

Resource:

Gregory, Cameron, and Davies, *Setting and Using Criteria: For Use in Middle and Secondary School Classrooms*

Reference Points

The reference points in assessment as learning are a blend of curricular expectations and the individual student's understanding at an earlier point in time. Students compare their own learning over time with descriptions and examples of expected learning.

Validity

Students are able to assess themselves only when they have a clear picture of proficient learning and the various steps that need to be taken to attain the desired expertise. Students need clear criteria and many varied examples of what good work looks like, as well as opportunities to compare their work to examples of good work. They need to reflect on their own and others' work in the context of teacher feedback and advice about what to do next.

The student knows more than the teacher about what and how he has learned—even if he knows less about what was taught. (Elbow, *Writing without Teachers*)

Record-Keeping

Students are the key players in record-keeping, as they are in all the other components of assessment *as* learning. They need to develop skills and attitudes that allow them to keep systematic records of their learning, and these records need to include reflections and insights as they occur. Their individual records become the evidence of their progress in learning and in becoming independent learners.
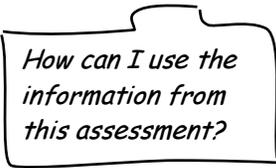
Nutrition Notes: An Example of Students as Record Keepers

A unit on healthy living is integrated into Grade 9 health classes throughout the year. Each student keeps a journal of data, hypotheses, conclusions, goals for improvement, questions for further inquiry, and interesting ideas that arise from class discussions about healthy living.

During a class discussion about nutrition, the students decide that they will each keep a record chart of everything that they eat each day for a week and use tables from a nutrition magazine to determine their weekly intake of calories, fats, carbohydrates, and so on.

At the next class discussion, they review their charts and decide what else they need to know about the ways diet affects their health. They agree that exercise is an important factor that has bearing on the amount and kinds of food a person requires. They decide to also keep a record of their patterns of exercise then estimate the kilojoules of energy expended in their weekly exercise.

During discussions throughout the term, they use the information they have gathered to make predictions, challenge hypotheses, and add new ideas, new data, and new questions to the discussion. Near the end of the term, the students each review their journals and design a poster, video clip, or short presentation to show the key dimensions of healthy living and the relationships among them. They also create a chart of their personal health goals, their milestones, their greatest challenges in progressing toward their goals, and their insights on what they learned about themselves.

How can I use the information from this assessment?

Students use assessment *as* learning to gain knowledge about their progress, show milestones of success that are worthy of celebration, adjust their goals, make choices about what they need to do next to move their learning forward, and advocate for themselves.

Metacognition in Action

A technology teacher starts each new piece of work by explaining how it connects with what students have done before, and what, specifically, she wants the students to be able to do when they've finished the unit.

At the end of the unit, each student completes an assessment record that lists the criteria, trying to be specific about what they have learned and with what they have had trouble. The teacher adds comments to reinforce and extend the student's views. The teacher and the student together suggest a specific next step. The records are kept in the students' folders so that they are accessible to the teacher and to the students.

(Adapted from Sutton, *Assessment for Learning*)

Feedback to Students

Feedback is particularly important in assessment *as* learning. Learning is enhanced when students see the effects of what they have tried, and can envision alternative strategies to understand the material. When feedback enhances understanding and provides models for independent learning, students tend to be diligent and more engaged. Although assessment *as* learning is designed to develop independent learning, students cannot accomplish it without the guidance and direction that comes from detailed and relevant feedback. Students need feedback to help them develop autonomy and competence. Complex skills, such as monitoring and self-regulation, become routine only when there is constant feedback and practice using the skills. Effective feedback challenges ideas, introduces additional information, offers alternative interpretations, and creates conditions for self-reflection and review of ideas. It provides students with information about their performance on a task, and how they could come to the conclusions on their own.

Looking for Language Clues

Jean, a Grade 2 teacher, teaches a balanced literacy program based on a concept of learning to read that includes attention to word, sentence, and text features. He integrates these various dimensions of reading into the work that his students do during the entire day.

Jean tells the students that they are all part of an investigation of a mystery: The Mystery of the English Language. Throughout the day, Jean provides the students with "clues" (checklists and rubrics) that he (as the "lead investigator") uses in order to learn more about how the English language works. There are predictable clues and there are "doozies" (places where the rules don't work).

Every morning, Jean's class plays a game called Looking for Language Clues. Each student has a small, coloured plastic "language box." Before the school day begins, Jean puts an assignment in each box, based on the previous day's work, and hides the boxes in various places around the room. When the students arrive, they search for their boxes and use the evidence and the clues to rethink their work from the day before. The box contains material that they produced during the previous day, along with a set of clues that they can use to analyze their work and develop a plan for the current day's language investigation. The students can work on their own or they can call on their "investigation team" to help them.

This strategy allows Jean to prepare specific assessment tasks for each student (although a number of students may get the same clues) and use the clues to provide feedback and scaffold ideas for the student. Before embarking on an action plan, each student takes his or her plan to the lead investigator for discussion, refinement, and approval. This discussion leads to assignments for the day. The process of feedback and reflection continues the next day.

If all feedback does is provide direction for what students need to do—that is, if the feedback doesn't refer to students' own roles in moving forward to the next stage of learning—they will be perpetually asking questions like Is this right? Is this what you want? Rather, feedback in assessment *as* learning encourages students to focus their attention on the task, rather than on getting the answer right. It provides them with ideas for adjusting, rethinking, and articulating their understanding, which will lead to another round of feedback and another extension of learning.

Although teachers are the main providers of feedback, they are not the only ones. Peers, family, and community members also are important players. Students learn a great deal within their families and their communities. When students encounter new information, they filter it through their existing beliefs and ideas and those of their community and culture. They compare the new information to the beliefs and ideas held by the people around them.

Thinking about Composition

The students in a Senior Years art class have been learning about principles of composition using various painting techniques. One of the main themes of the unit is that these principles are not rules but, rather, guidelines for thinking about what works and what doesn't.

One of the students, Joanne, is reflecting on the various watercolour paintings that she completed in the class and has drafted the following reflection questions:

- Colour and technique: Are the colours I've used consistent with the mood I want to create? Where is the colour climax, or focus, in this painting? Where is the colour value most intense? How does the technique influence the mood?

- Unity, dominance, and conflict: What mood do I want to project? What is the focal point? Where is the tension? What creates the tension? Should there be a resolution?

- Repetition, balance, and harmony: Does this painting need symmetry or asymmetry? How does the eye move? Is there a sense of completion?

As Joanne reviews her portfolio, she not only answers the questions that she has posed, but also adds new questions.

Differentiating Learning

When assessment lies in the hands of students as well as teachers, students are practising their own metacognitive skills of self-reflection, self-analysis, interpretation, and reorganization of knowledge. When these skills become well-developed, students will be able to direct their own learning. They will have

learned to ask for support, search out new information, and reinforce or challenge their decisions by reviewing and discussing them with others. Assessment *as* learning provides the conditions under which students and teachers can discuss what the students are learning, what it means to do it well, what the alternatives might be for each student to advance his or her learning, what personal goals have been reached, and what more challenging goals can be set.

Reporting

Resource:

Davies, Cameron, Politano, and Gregory, *Together Is Better: Collaborative Assessment, Evaluation, and Reporting*

Reporting in assessment *as* learning is the responsibility of students, who must learn to articulate and defend the nature and quality of their learning. When students reflect on their own learning and must communicate it to others, they are intensifying their understanding about a topic, their own learning strengths, and the areas in which they need to develop further.

Student-led parent-teacher conferences have become a popular reporting forum that fits with assessment *as* learning. However, the success of these conferences depends on how well they are structured and how well the students prepare. The students need to have been deeply involved in assessment *as* learning throughout the instructional process, and be able to provide their parents with evidence of their learning. The evidence needs to include an analysis of their learning progress and what they need to do to move it forward.

Conferences for Learning

For several years, the students in George's Grade 6 class have used student-led conferences to communicate with parents. George was not completely happy with the conferences, even though the parents seemed to like them. He decided to meet with groups of students and parents about improving the conferences, and the discussions led to some significant changes:

- They shifted the focus from a student's accomplishment at one point in time to a combination of accomplishments and progress. The students kept detailed records of their progress in relation to key outcomes, and attached evidence that supported their statements. Part of the conference was dedicated to a review of the evidence and the student's decision-making process about what to do next.

- The parents asked for more information about what the students were doing in class throughout the term and about the criteria that they and the teachers were using to evaluate their work, so George began preparing a short weekly Internet newsletter that gave parents information about what was expected and included various examples of what good work looks like.

- George asked that each student conduct an in-class "dress rehearsal" in the final weeks before the conference as an opportunity for the students to explain what they were trying to communicate, to get feedback from peers and from George, and to ask questions designed to refine their presentations.

- On conference night, George was able to take the time to meet with each parent and his or her child because he had already seen all of the presentations. The students led the discussions, talked about what would come next at school and at home, and, together with the teacher and parent, completed the term report card with an attachment that contained more detailed notes about what had emerged from the conference.

An Example of Assessment *as* Learning

Sheila recently began working with her students on solving complex problems in various subject areas. She knew that one of the key factors for success in solving problems independently is persistence. She also knew that students must learn to think explicitly about their own approaches to problems, and become comfortable with trying a range of possibilities.

Why am I assessing?

I want to help my students develop increased awareness of their approaches to problem-solving and their level of persistence so that they can advance their learning in a variety of contexts.

Solving complex problems requires students to take risks in their thinking, and to explore different options. Ultimately, when faced with new situations, they need to be able to develop solutions on their own.

What am I assessing?

I am assessing my students' abilities to monitor their own thinking processes and their strategies for persisting when solving complex problems.

Sheila wanted to help her students understand how to approach a problem, and to recognize the kinds of thinking they need to do before finding a solution (or giving up). She knew that, if the students increased their self-awareness, they would be able to draw on more strategies for enhancing their learning and independence in problem-solving.

What assessment method should I use?

Students need frequent opportunities to think about and monitor their level of persistence when faced with difficult problems. They also need the tools to articulate their efforts. The method will need to elicit evidence of their learning and metacognitive processes. I will need to observe the students working and sharing their reflections, and converse with them about their learning.

Sheila realized that she needed to create a safe and supportive environment for open dialogue and self-assessment. She knew that developing metacognition and persistence in problem-solving strategies is complex, and needed to be developed over the course of the school year. To help students monitor their progress, she had each keep an ongoing record in a learning log of his/her reflections, and she kept her own record of conversations and focussed observations as the students worked in small groups and whole-class settings. In order to make her observations and conversations manageable, she focussed on three students at a time.

To initiate the exploration of persistence in problem-solving, Sheila discussed with the students her expectations and the value of persistence in problem-solving. She provided some examples of what persistence looks like and how students would know when they had given up too soon on a problem. She had students list in their learning logs how they recognized when they were persisting and when they were not. Here is a sample from one student's log.

I know that I am persisting when I do these things:

1. If I don't know how to start, I reread the question and look for things that I know.
2. I try to find parts of the problem that I think I can do.
3. I check my notes for other problems that are similar.
4. I read the textbook section that explains how to solve the same kinds of problems.
5. I ask the teacher to help me figure out how to find the things that I know about the problem.
6. I ask the teacher to help me figure out where I can look next.
7. I think about how many times and different things I tried when solving other problems.
8. If I still don't feel I can persist, I think about why.

> **How can I ensure quality in this assessment process?**
> I need to be sure that the students recognize what persistence looks like when solving a complex problem, and that they are making reasonable and consistent judgements about their own persistence.
> I need to ensure that my students keep a relevant record of the self-assessment of their persistence when solving complex problems. This record needs to be kept over time to show change.

Sheila engaged the students in a discussion about the characteristics of persistence that they had listed in their logs, and how these play out in a range of problem-solving situations, in school and outside school. During the discussions, she recorded these characteristics in a long list. Together, they refined the list by sorting and grouping. They ended up with a few succinct criteria that they all agreed described what persistence looks like in any problem-solving situation. Here are the criteria they developed together.

Our Criteria for Persistence in Problem-Solving

- I reread the problem carefully and several times in order to fully understand it.
- I break the problem into parts to find out what I know, and what information I need to find.
- I check notes, books, and other resources to find ideas that might be useful in solving the problem.
- I ask other people focussed questions to try to find helpful ideas (but I do not ask for the solution).
- I draw diagrams or use objects as models to think about the problem in many ways.

The students used these criteria as a guide when problem-solving and reflecting on the problem-solving processes. Sheila used the criteria to guide her observations of the students as they worked at solving complex problems and shared their reflections. When observing the students, she noted, for example, whether they reread the problem carefully, what information sources they referred to and, if they asked for help, if their request for help was an attempt to be given the solution or to get hints about how to generate their own solution. To follow up on her observations of each student, Sheila had a brief conversation based on the following questions:

- How did you know you were persisting?
- What was your thinking as you worked through the problem?
- What decisions did you make along the way?
- Can you tell me more about the decisions?
- How does your thinking and decision-making fit with your goal for persistence?

Sheila related each student's self-assessment to her observation notes and the student-developed criteria. She focussed on the student's own determination of which strategies increased his or her level of persistence and generated successful problem-solving, and how the student saw his or her level of persistence in comparison to her observations.

Sheila thought about how to ensure the validity of her interpretations of her students' persistence. She also needed to understand the validity of their interpretations. As time went on, Sheila recognized that, although her students had changed their level of persistence in approaching a complex problem, there remained a group of students who didn't seem to have a

good sense of their own persistence. A few of them thought they were persisting when, actually, they were simply skipping difficult questions or seeking help from peers without attempting to solve the problems on their own. Others thought they were not persisting enough, yet Sheila's notes showed that they were requesting hints only after they expended great effort and time. The majority of her students, however, were accurate in their estimation of their own persistence.

How can I (and the students) use the information from this assessment?

By understanding and valuing the students' thinking, I can scaffold their growth and provide direction for further developing the habits of mind that will promote persistence in any learning situation. (Students will be able to use their increased awareness of their own persistence and skills to enhance their learning in various contexts.)

Based on what they learned from their self-assessments and Sheila's observations, the students reviewed what persistence in solving problems looks like. Together they revised and refined their criteria.

Sheila arranged the students in pairs: one who was proficient at monitoring his or her own persistence, and the other who was still moving toward this awareness. Over the next several weeks, the pairs were called upon periodically to use their criteria to review their persistence in whatever activity they were engaged in. Over the course of the year, the students became their own best assessors, learning with increasing independence to monitor, adjust, and take charge of their own learning.

Summary of Planning Assessment *as* Learning

	Assessment *for* Learning	Assessment *as* Learning
Why Assess?	to enable teachers to determine next steps in advancing student learning	to guide and provide opportunities for each student to monitor and critically reflect on his or her learning and identify next steps
Assess What?	each student's progress and learning needs in relation to the curricular outcomes	each student's thinking about his or her learning, what strategies he or she uses to support or challenge that learning, and the mechanisms he or she uses to adjust and advance his or her learning
What Methods?	a range of methods in different modes that make students' skills and understanding visible	a range of methods in different modes that elicit students' learning and metacognitive processes
Ensuring Quality	• accuracy and consistency of observations and interpretations of student learning • clear, detailed learning expectations • accurate, detailed notes for descriptive feedback to each student	• accuracy and consistency of student's self-reflection, self-monitoring, and self-adjustment • engagement of the student in considering and challenging his or her thinking • students record their own learning
Using the Information	• provide each student with accurate descriptive feedback to further his or her learning • differentiate instruction by continually checking where each student is in relation to the curricular outcomes • provide parents or guardians with descriptive feedback about student learning and ideas for support	• provide each student with accurate, descriptive feedback that will help him or her develop independent learning habits • have each student focus on the task and his or her learning (not on getting the right answer) • provide each student with ideas for adjusting, rethinking, and articulating his or her learning • provide the conditions for the teacher and student to discuss alternatives • students report about their learning

Chapter 5

Assessment *of* Learning

What Is Assessment *of* Learning?

Assessment *of* learning refers to strategies designed to confirm what students know, demonstrate whether or not they have met curriculum outcomes or the goals of their individualized programs, or to certify proficiency and make decisions about students' future programs or placements. It is designed to provide evidence of achievement to parents, other educators, the students themselves, and sometimes to outside groups (e.g., employers, other educational institutions).

The purpose of assessment that typically comes at the end of a course or unit of instruction is to determine the extent to which the instructional goals have been achieved and for grading or certification of student achievement.

(Linn and Gronlund, *Measurement and Assessment in Teaching*)

Assessment *of* learning is the assessment that becomes public and results in statements or symbols about how well students are learning. It often contributes to pivotal decisions that will affect students' futures. It is important, then, that the underlying logic and measurement of assessment *of* learning be credible and defensible.

Teachers' Roles in Assessment *of* Learning

Because the consequences of assessment *of* learning are often far-reaching and affect students seriously, teachers have the responsibility of reporting student learning accurately and fairly, based on evidence obtained from a variety of contexts and applications. Effective assessment *of* learning requires that teachers provide

• a rationale for undertaking a particular assessment *of* learning at a particular point in time

• clear descriptions of the intended learning

• processes that make it possible for students to demonstrate their competence and skill

• a range of alternative mechanisms for assessing the same outcomes

• public and defensible reference points for making judgements

- transparent approaches to interpretation
- descriptions of the assessment process
- strategies for recourse in the event of disagreement about the decisions

With the help of their teachers, students can look forward to assessment *of* learning tasks as occasions to show their competence, as well as the depth and breadth of their learning.

Planning Assessment *of* Learning

Why am I assessing?

The purpose of assessment *of* learning is to measure, certify, and report the level of students' learning, so that reasonable decisions can be made about students. There are many potential users of the information:

- teachers (who can use the information to communicate with parents about their children's proficiency and progress)
- parents and students (who can use the results for making educational and vocational decisions)
- potential employers and post-secondary institutions (who can use the information to make decisions about hiring or acceptance)
- principals, district or divisional administrators, and teachers (who can use the information to review and revise programming)

What am I assessing?

Assessment *of* learning requires the collection and interpretation of information about students' accomplishments in important curricular areas, in ways that represent the nature and complexity of the intended learning. Because genuine learning for understanding is much more than just recognition or recall of facts or algorithms, assessment *of* learning tasks need to enable students to show the complexity of their understanding. Students need to be able to apply key concepts, knowledge, skills, and attitudes in ways that are authentic and consistent with current thinking in the knowledge domain.

What assessment method should I use?

In assessment *of* learning, the methods chosen need to address the intended curriculum outcomes and the continuum of learning that is required to reach the outcomes. The methods must allow all students to show their understanding and produce sufficient information to support credible and defensible statements about the nature and quality of their learning, so that others can use the results in appropriate ways.

Assessment *of* learning methods include not only tests and examinations, but also a rich variety of products and demonstrations of learning—portfolios, exhibitions, performances, presentations, simulations, multimedia projects, and a variety of other written, oral, and visual methods (see Fig. 2.2, Assessment Tool Kit, page 17).

Graduation Portfolios

Graduation portfolios are a requirement for graduation from British Columbia and Yukon Senior Years schools. These portfolios comprise collections (electronic or printed) of evidence of students' accomplishments at school, home, and in the community, including demonstrations of their competence in skills that are not measured in examinations.

Worth four credits toward graduation, the portfolios begin in Grade 10 and are completed by the end of Grade 12. The following are some goals of graduation portfolios:

• Students will adopt an active and reflective role in planning, managing, and assessing their learning.

• Students will demonstrate learning that complements intellectual development and course-based learning.

• Students will plan for successful transitions beyond Grade 12.

Graduation portfolios are prepared at the school level and are based on specific Ministry criteria and standards. Students use the criteria and standards as guides for planning, collecting, and presenting their evidence, and for self-assessing. Teachers use the criteria and standards to assess student evidence and assign marks.

There are three major components of a graduation portfolio:

1. Portfolio Core (30 percent of the mark). Students must complete requirements in the following six portfolio organizers: arts and design (respond to an art, performance, or design work); community involvement and responsibility (participate co-operatively and respectfully in a service activity); education and career planning (complete a graduation transition plan); employability skills (complete 30 hours of work or volunteer experience); information technology (use information technology skills); personal health (complete 80 hours of moderate to intense physical activity).

2. Portfolio Choice (50 percent of the mark). Students expand on the above areas, choosing additional evidence of their achievements.

3. Portfolio Presentation (20 percent of the mark). Students celebrate their learning and reflect at the end of the portfolio process.

(*Portfolio Assessment and Focus Areas: A Program Guide*)

How can I ensure
quality in this
assessment process?

Assessment *of* learning needs to be very carefully constructed so that the information upon which decisions are made is of the highest quality. Assessment *of* learning is designed to be summative, and to produce defensible and accurate descriptions of student competence in relation to defined outcomes and, occasionally, in relation to other students' assessment results. Certification of students' proficiency should be based on a rigorous, reliable, valid, and equitable process of assessment and evaluation.

Reliability

Reliability in assessment *of* learning depends on how accurate, consistent, fair, and free from bias and distortion the assessment is. Teachers might ask themselves:

* Do I have enough information about the learning of this particular student to make a definitive statement?
* Was the information collected in a way that gives all students an equal chance to show their learning?
* Would another teacher arrive at the same conclusion?
* Would I make the same decision if I considered this information at another time or in another way?

Reference Points

Typically, the reference points for assessment *of* learning are the learning outcomes as identified in the curriculum that make up the course of study. Assessment tasks include measures of these learning outcomes, and a student's performance is interpreted and reported in relation to these learning outcomes.

In some situations where selection decisions need to be made for limited positions (e.g., university entrance, scholarships, employment opportunities), assessment of learning results are used to rank students. In such norm-referenced situations, what is being measured needs to be clear, and the way it is being measured needs to be transparent to anyone who might use the assessment results.

Validity

Because assessment *of* learning results in statements about students' proficiency in wide areas of study, assessment *of* learning tasks must reflect the key knowledge, concepts, skills, and dispositions set out in the curriculum, and the statements and inferences that emerge must be upheld by the evidence collected.

Record-Keeping

Resource:
Marzano,
*Transforming
Classroom Grading*

Whichever approaches teachers choose for assessment *of* learning, it is their records that provide details about the quality of the measurement. Detailed records of the various components of the assessment *of* learning are essential, with a description of what each component measures, with what accuracy and against what criteria and reference points, and should include supporting evidence related to the outcomes as justification.

When teachers keep records that are detailed and descriptive, they are in an excellent position to provide meaningful reports to parents and others. Merely a symbolic representation of a student's accomplishments (e.g., a letter grade or percentage) is inadequate. Reports to parents and others should identify the intended learning that the report covers, the assessment methods used to gather the supporting information, and the criteria used to make the judgement.

Guidelines for Grading

1. Use curriculum learning outcomes or some clustering of these (e.g., strands) as the basis for grading.

2. Make sure that the meaning of grades comes from clear descriptions of curriculum outcomes and standards. If students achieve the outcome, they get the grade. (NO bell curves!)

3. Base grades only on individual achievement of the targeted learning outcomes. Report effort, participation, and attitude, for example, separately, unless they are a stated curriculum outcome. Any penalties (e.g., for late work, absences), if used, should not distort achievement or motivation.

4. Sample student performance using a variety of methods. Do not include all assessments in grades. Provide ongoing feedback on formative performance using words, rubrics, or checklists, not grades.

5. Keep records in pencil so they can be updated easily to take into consideration more recent achievement. Provide second-chance assessment opportunities (or more). Students should receive the highest, most consistent mark, not an average mark for multiple opportunities.

6. Crunch numbers carefully, if at all. Consider using the median, mode, or statistical measures other than the mean. Weight components within the final grade to ensure that the intended importance is given to each learning outcome.

7. Make sure that each assessment meets quality standards (e.g., there should be clear targets, clear purpose, appropriate target-method match, appropriate sampling, and absence of bias and distortion) and is properly recorded and maintained (e.g., in portfolios, at conferences, on tracking sheets).

8. Discuss and involve students in grading at the beginning and throughout the teaching and learning process.

(Adapted from O'Connor, *How to Grade for Learning*)

*How can I use the
information from
this assessment?*

Feedback to Students

Because assessment *of* learning comes most often at the end of a unit or learning cycle, feedback to students has a less obvious effect on student learning than assessment *for* learning and assessment *as* learning. Nevertheless, students do

rely on their marks and on teachers' comments as indicators of their level of success, and to make decisions about their future learning endeavours.
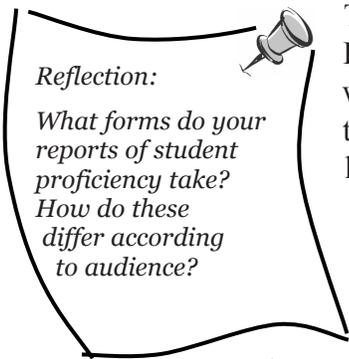
Differentiating Learning

In assessment *of* learning, differentiation occurs in the assessment itself. It would make little sense to ask a near-sighted person to demonstrate driving proficiency without glasses. When the driver uses glasses, it is possible for the examiner to get an accurate picture of the driver's ability, and to certify him or her as proficient. In much the same way, differentiation in assessment *of* learning requires that the necessary accommodations be in place that allow students to make the particular learning visible. Multiple forms of assessment offer multiple pathways for making student learning transparent to the teacher. A particular curriculum outcome requirement, such as an understanding of the social studies notion of conflict, for example, might be demonstrated through visual, oral, dramatic, or written representations. As long as writing were not an explicit component of the outcome, students who have difficulties with written language, for example, would then have the same opportunity to demonstrate their learning as other students.

Although assessment *of* learning does not always lead teachers to differentiate instruction or resources, it has a profound effect on the placement and promotion of students and, consequently, on the nature and differentiation of the future instruction and programming that students receive. Therefore, assessment results need to be accurate and detailed enough to allow for wise recommendations.

Reporting

Reflection:

What forms do your reports of student proficiency take? How do these differ according to audience?

There are many possible approaches to reporting student proficiency. Reporting assessment *of* learning needs to be appropriate for the audiences for whom it is intended, and should provide all of the information necessary for them to make reasoned decisions. Regardless of the form of the reporting, however, it should be honest, fair, and provide sufficient detail and contextual information so that it can be clearly understood. Traditional reporting, which relies only on a student's average score, provides little information about that student's skill development or knowledge. One alternate mechanism, which recognizes many forms of success and provides a profile of a student's level of performance on an emergent-proficient continuum, is the parent-student-teacher conference. This forum provides parents with a great deal of information, and reinforces students' responsibility for their learning.

The Communication System Continuum: From Symbols to Conversations

Grades	Report cards (grades and brief comments)	Infrequent informal communications	Parent-teacher interviews	Report cards with expanded comments	Frequent informal communication	Student-involved conferencing	Student-led conferencing

(O'Connor, *How to Grade for Learning*)

An Example of Assessment *of* Learning

Elijah was interested in assessing student mastery of both the modern and the traditional skills required for survival in the Nunavut environment where he teaches. The overarching theme of survival is taught in the early grades and culminates at the senior level in a course delivered in Inuktitut. Students learn how to take care of themselves and others, and how to adapt what they know to the situation at hand. Survival requires not only skills and knowledge, but also a concept the Inuit people call *qumiutit*, or the ability in an emergency situation to pull out of stored memory information that will enable a person to cope, not panic. Traditionally, this was learned in a holistic manner, grounded in Inuit traditional guiding principles that were nurtured and developed from birth, and taught and reinforced in daily living.

Throughout the term, Elijah took his students to an outdoor area to practise on-the-land survival activities, using both traditional and modern methods. He always took with him a knowledgeable Elder who could give the students the information they needed to store away in case of emergency. The students watched demonstrations of a skill a number of times. Each student then practised on his or her own, as Elijah and the Elder observed and assisted.

Why am I assessing?

I want to know which survival skills each student has mastered and their readiness to survive in the natural environment.

Elijah knew that students need to have a high level of expertise in the survival skills appropriate for the northern natural environment.

What am I assessing?

I am assessing each student's performance of traditional and modern survival skills.

Elijah assessed each student on each survival skill (e.g., making fire the traditional way, tying the knots required for the *qamutik* cross-pieces on a sled).

What assessment method should I use?

I need an approach in which students can demonstrate the traditional survival skills that they learned. The method I choose should also allow me to identify which skills they did not master.

Elijah knew that the best way to determine if students have mastered the skills is to have them perform them. When students believed they were ready, Elijah created an opportunity for them to demonstrate the mastered skill to a group of Elders, who then (individually, then in consensus) determined if the performance was satisfactory.

How can I ensure quality in this assessment process?

Ensuring quality with this approach involves clear criteria: either the student performs the skill successfully or does not.
I need to provide adequate opportunities for the student to demonstrate the skills under various conditions and at various times.

A student's competence in a survival skill is often demonstrated by an end product. For example, competence in knot tying is demonstrated by a knot that serves its purpose, and competence in fire building is demonstrated by a fire that is robust.

How can I use the information from this assessment?

Now that I know which skills each of the students has mastered, I can report this information to the students and their parents. I can use this information to identify a learning path for each student.

As the Elders judged each student's performance of the skills, Elijah recorded the results. He shared the information with each student and his or her parents in a final report, as shown here.

Report on Survival Skills						
Student: _____ Date: _____						
Traditional Survival Skills	**Modern Survival Skills**	**Adaptability to the Seasons**	**Attitude**	**Success**	**Next Steps**	
1) Skills						
Building a fire / means of keeping warm:						
• fuel sources • getting a spark	• propane heaters, stoves • clothing					
Shelters:						
• emergency shelters • igloo building[4] • qamaq[5]	• tents					
Transportation needs:						
• making the knots required for the qamutik cross pieces on a sled • building a kayak/umiak	• fixing a snowmobile (spark plugs, repairing track, drive belt) • keeping a boat seaworthy					
Navigational issues:						
• reading the land • reading the sky • understanding seasonal variations • reading inuksuit	• using GPS • map reading					
Preparation for land travel:						
• packing a qamutiq (sled) • load, balance • necessities: snow knife, rope, food, water, heat source	• letting others know where you are going • necessary tools, supplies, snowmobile parts, fuel • using communication devices					
Food sources:						
• plants and their nutritional properties • hunting, skinning, and cutting up seal, caribou, etc.	• kinds of food to take on the land, and their nutritional properties					
2) Relationship to the Seasons						
Assessing conditions / recognizing danger signs: • seasonal changes • land changes • water changes • wind changes • weather changes	Climatic changes: • weather changes and how this affects the land and water • knowledge of animals and their characteristics and behaviours					
3) Attitudinal Influences (Having the right attitude to learn)						
• respect for the environment (cleaning up a campsite upon leaving, dealing with the remains of an animal, not over-hunting/fishing) • respect for Elders and their knowledge • ability to learn from Elders						

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4. Expertise in igloo building includes understanding of types of snow, the shape and fit of blocks, and the use of a snow-knife.

5. A qamaq is a rounded house, built of scrap wood or bones, and covered with skins, cardboard, or canvas.

Elijah's report identified which of the students had mastered the specified skills required to survive in the Nunavut environment. It outlined other areas (such as adaptability to the seasons and attitudinal influences) about which peers, parents, and family members would need to provide input before a comprehensive assessment could be made. The assessment also identified those students not yet ready to survive in the natural environment. But the Elders did not stop working with the students who did not reach mastery. Elders see learning as an individual path in which skills, knowledge, and attitudes are acquired along the way. If a particular skill was beyond the capability of a student, the Elders identified other areas where that person could contribute to the common good of the community, and was accepted for the gifts he or she brought to the group. In this way, the Elders helped Elijah differentiate the learning path for each of his students.

Summary of Planning Assessment *of* Learning

	Assessment *for* Learning	Assessment *as* Learning	Assessment *of* Learning
Why Assess?	to enable teachers to determine next steps in advancing student learning	to guide and provide opportunities for each student to monitor and critically reflect on his or her learning, and identify next steps	to certify or inform parents or others of student's proficiency in relation to curriculum learning outcomes
Assess What?	each student's progress and learning needs in relation to the curricular outcomes	each student's thinking about his or her learning, what strategies he or she uses to support or challenge that learning, and the mechanisms he or she uses to adjust and advance his or her learning	the extent to which students can apply the key concepts, knowledge, skills, and attitudes related to the curricular outcomes
What Methods?	a range of methods in different modes that make students' skills and understanding visible	a range of methods in different modes that elicit students' learning and metacognitive processes	a range of methods in different modes that assess both product and process
Ensuring Quality	• accuracy and consistency of observations and interpretations of student learning • clear, detailed learning expectations • accurate, detailed notes for descriptive feedback to each student	• accuracy and consistency of student's self-reflection, self-monitoring, and self-adjustment • engagement of the student in considering and challenging his or her thinking • students record their own learning	• accuracy, consistency, and fairness of judgements based on high-quality information • clear, detailed learning expectations • fair and accurate summative reporting
Using the Information	• provide each student with accurate descriptive feedback to further his or her learning • differentiate instruction by continually checking where each student is in relation to the curricular outcomes • provide parents or guardians with descriptive feedback about student learning and ideas for support	• provide each student with accurate descriptive feedback that will help him or her develop independent learning habits • have each student focus on the task and his or her learning (not on getting the right answer) • provide each student with ideas for adjusting, rethinking, and articulating his or her learning • provide the conditions for the teacher and student to discuss alternatives • students report about their learning	• indicate each student's level of learning • provide the foundation for discussions on placement or promotion • report fair, accurate, and detailed information that can be used to decide the next steps in a student's learning