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CHAPTER SIX

Assessment as Learning

Lorna M. Earl

THE TIMES THEY ARE A-CHANGIN'

Education has been at the forefront of politics and policy for several decades, with many governors, presidents, prime ministers, and premiers being labeled the “education leader.” As Hargreaves (1994) told us, “Few people want to do much about the economy, but everyone—politicians, the media, and the public alike—wants to do something about education” (p. 15). The role of education is being hotly debated in board rooms, living rooms, and staff rooms, and teachers are caught in the middle of what often appear to be conflicting and countervailing demands, struggling to maintain their balance. Nevertheless, teachers are the ones who are responsible for the daily work of implementing reforms in their classrooms, making decisions about what to teach, how to teach, and how to assess.

Whatever else, it is likely that the next century will continue to be chaotic and the success of the culture will rely heavily on having citizens with a host of new literacies—computer, scientific, civic, and cultural. To function productively, all students, not just a few, will need to attain the foundation skills of language and mathematics and a whole range of “new basics,” such as accessing, interpreting, and applying information; critical thinking and

analysis; solving novel problems; making informed judgments; working independently and in groups; and discerning an appropriate course of action in ambiguous situations.

Traditionally, many students have left school to become part of an uneducated or undereducated lower class. In the world of the future, society cannot afford to squander or waste this human potential. We are entering an era in which the goal of schooling is to educate all children well, rather than selecting a "talented tenth" to be prepared for knowledge work (Darling-Hammond, 1994). It is no longer sufficient for schools to sort their students and cull out the ones who don't fit the school's recipe for learning. Instead, learning (of all kinds, for all futures) is becoming the fundamental purpose of schooling. This is a dramatic change in the assumptions underlying education, and it requires a different view of schools, schooling, teachers, teaching, and, particularly, assessment. In this conception, *schools* have the responsibility for preparing all students for tomorrow's world; *teachers* have the wherewithal to guide all students to high levels of learning; and *assessment*, first and foremost, is part of student learning. Assessment, viewed this way, is both individual and collective. It is the key to more targeted teaching and schoolwide improvement.

CLASSROOM ASSESSMENT: SERIOUS STUFF

This chapter is about classroom assessment, the kind of assessment that teachers do in classrooms. Certainly, large-scale district or state assessment has a place; but massive cultural, social, economic, political, environmental, and technological changes have meant that every facet of schooling, including classroom assessment, has been subjected to investigation and rethinking. Throughout most of the 20th century, classroom assessment was considered a mechanism for providing an index of learning, and it followed a predictable pattern: Teachers taught, tested students' knowledge of the material, made judgments about students' achievement based on the testing, and then moved onto the next unit of work. Historically, tests, quizzes, and projects have occurred at or near the end of instruction, as the bases for reporting to parents and making selection or placement decisions. Assessments differentiated or sorted students into groups and, in

the process, set or confirmed their future schooling, their likely employment, and the course of their lives. This process worked well enough for most students and went largely unchallenged, as long as there were plenty of places for the majority of students to lead productive and worthwhile lives, many of which did not depend directly on passing or failing in school (e.g., agriculture, manufacturing, trades). As the world has changed, this approach is proving to be inadequate. High school graduation is a minimum prerequisite for almost all jobs; and students and their parents are refusing to accept the judgment of educators as fair, especially when the criteria for judgment are vague or kept secret and the result is that some receive status, opportunity, and are valued, while others are excluded or their opportunities diminished.

So, this approach to assessment has come into question as societal expectations for schooling have changed, cognitive science has provided new insights into the nature of learning, and the traditional role of assessment in motivating student learning has been challenged.

Classroom assessment has been shown to be one of the most powerful levers for enhancing student learning. Black and William (1998) synthesized over 250 studies linking assessment and learning and found that the intentional use of assessment in the classroom to promote learning improves student achievement. Merely increasing the amount of time on assessment, however, does not necessarily enhance learning. Rather, when teachers use classroom assessment to become aware of the knowledge, skills, and beliefs that their students bring to a learning task, use this knowledge as a starting point for new instruction, and monitor students' changing perceptions as instruction proceeds, classroom assessment promotes learning.

When learning is the goal, teachers and students collaborate and use ongoing assessment and pertinent feedback to move learning forward. When classroom assessment is frequent and varied, teachers can learn a great deal about their students. They can gain an understanding of students' existing beliefs and knowledge and can identify incomplete understandings, false beliefs, and naive interpretations of concepts that may influence or distort learning. Teachers can observe and probe students' thinking over time and can identify links between prior knowledge and new learning. Learning is also enhanced when students are

encouraged to think about their own learning and to review their experiences of learning. Assessment provides the feedback loop for this process.

DIFFERENTIATING ASSESSMENT PURPOSES

If classroom assessment is such a powerful contributor to learning, what is it that teachers can do to maximize its impact? First, they need to attend to theories about how people learn. The human mind is a fascinating but mysterious organ. So much about how it works is still unknown. Teachers, as the guides of the mind, have a responsibility to remain ever vigilant to new knowledge about learning and to continually rethink their approaches to teaching and their assessment practices in relation to learning theory. Perhaps the most accessible and influential document about learning is called *How People Learn: Bridging Research and Practice*, published by the National Research Council (Donovan, Brandsford, & Pellegrino, 1999). It details three insights about learning:

- People come to learning with preconceptions about how the world works. If their initial understanding is not engaged, they may fail to grasp the new concepts and information or may learn them superficially and revert to their preconceptions in real situations.
- To develop competence in an area of inquiry, people must have a deep foundation of factual knowledge, understand facts and ideas in the context of a conceptual framework, and organize knowledge in ways that facilitate retrieval and application.
- A “metacognitive” approach to instruction can help people learn to take control of their own learning by defining learning goals and monitoring their own progress in achieving them.

These conceptions of learning suggest a very different conception of assessment, one that is both modern and ancient, rooted in the far past but establishing assessment as an inextricable part of learning in the present. It is ironic that the word *assessment* is derived from the Latin word *assidere*, “to sit with” (Wiggins, 1993).

Its very origin implies more than marks, percentiles, grade point averages, and cut scores. It also suggests a perspective that eschews efficiency and economy as assessment hallmarks. The word conjures up images of teachers observing students, talking and working with them to unravel their understandings and misunderstandings, making assessment an integral part of learning that offers detailed feedback to the teacher and the student (Earl & LeMahieu, 1997).

These notions of *assessment for learning* and *assessment as learning* reflect a view that learning is a process of taking in information, interpreting it, connecting it to existing knowledge or beliefs, and, if necessary, reorganizing understanding to accommodate the new information (Shepard, 1991). If people learn by establishing their own understanding from their experiences, assessment is not only part of learning, it is the critical component that allows learners and teachers to check their understanding against the views of others and against the collective wisdom of the culture as it has been recorded in the knowledge, theories, models, formulas, solutions, and stories that make up the curriculum and the disciplines. The notion that assessment is inextricably tied to learning challenges the very core of many educational practices and raises the specter for teachers of fundamentally changing much of what they do. This challenge is daunting but seductive, especially for teachers who see teaching as a moral enterprise and the moral purpose of teacher as enhancing or enriching the lives of their students (Fullan, 1993, 1999). There is no "one right way" to assess students; rather, there are different purposes for assessment. Teachers need to recognize the various purposes and differentiate them so that they can utilize their assessment practices to give themselves and their students routine information about how students are thinking and making sense of the material, as a basis for next steps in teaching and in learning.

Classroom assessment has always been used for a variety of purposes, but the purposes are becoming more differentiated and complex. As classroom assessment purposes become more complex, it is not easy to use one assessment process for the many different purposes. Assessment activities work best when the purpose is clear and explicit and the assessments are designed to fit that purpose.

MOVING TO ASSESSMENT FOR LEARNING AND ASSESSMENT AS LEARNING

Typically, teachers use three intertwined but distinct assessment purposes: assessment of learning, assessment for learning, and assessment as learning.¹

Assessment of Learning

Assessment of learning is assessment used to confirm what students know, to demonstrate whether or not they have met the standards, and to show how they are placed in relation to others. In assessment of learning, teachers use assessment to provide statements of proficiency or competence for students. Its purpose is summative, intended to certify learning and report to parents and students about their progress in school, usually by signaling students' relative positions compared to other students. Assessment of learning in classrooms is typically done at the end of something (e.g., a unit, a course, a grade, a key stage, a program) and takes the form of tests or exams that include questions drawn from the material studied during that time. There is a strong emphasis on comparing students, and feedback to students comes in the form of marks or grades, with little direction or advice for improvement. These kinds of testing events indicate which students are doing best and which ones are doing poorly.

Assessment for Learning

Assessment for learning is designed to give teachers information to modify the teaching and learning activities in which students are engaged in order to differentiate and focus on how individual students approach learning. It suggests that students are all learning in individual and idiosyncratic ways, while recognizing that there are predictable patterns and pathways that many students go through. The emphasis is on teachers using the information from carefully designed assessments to determine not only what students know but also to gain insights into how, when, and whether students use what they know, so that they can streamline and target instruction and resources. Assessment for learning shifts the emphasis from summative to formative assessment and

from making judgments to creating descriptions that can be used in the service of the next stage of learning. In assessment for learning, teachers collect a wide range of data so that they can modify the learning work for their students. They craft assessment tasks that open a window on what students know and can already do and use the insights that come from the process to design next steps in instruction. To do this, teachers use observation, worksheets, questioning in class, student-teacher conferences, or whatever mechanism is likely to give them information that will be useful for their planning and teaching. Marking is not designed to make comparative judgments among the students, but to highlight each student's strengths and weaknesses and provide students with feedback that will further their learning.

Clearly, teachers are the central characters in assessment for learning as well, but their role is quite different than in the assessment-of-learning approach. In assessment for learning, teachers use their personal knowledge of the students and their understanding of the context of the assessment and the curriculum targets to identify particular learning needs. Assessment for learning happens in the middle of learning (often more than once), not at the end. It is interactive, with teachers providing assistance as part of the assessment. It helps teachers provide the feedback to scaffold next steps. And it depends on teachers' diagnostic skills to make it work. Before teachers can plan for targeted teaching and classroom activities, they need to have a sense of what it is that students are thinking. *What is it that they believe to be true?* This process involves much more than asking, "Do they have the right or wrong answer?" It means making students' thinking visible and understanding the images and patterns that they have constructed in order to make sense of the world, from their own perspectives.

Record keeping in this approach may include a grade book, but teachers also rely on records such as checklists of student progress against expectations, artifacts, portfolios of student work over time, and worksheets to trace the progression of students along the learning continuum.

Assessment as Learning

Assessment as learning is a particular case of assessment for learning, but it is so important that it deserves special attention by

teachers. Assessment as learning emphasizes using assessment as a process of developing and supporting metacognition for students. Assessment as learning focuses on the role of the student as the critical connector between assessment and learning. Students, as active, engaged, and critical assessors, make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition. It occurs when students personally monitor what they are learning and use the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand. When teachers focus on assessment as learning, they use classroom assessment as the vehicle for helping students develop, practice, and become comfortable with reflection and critical analysis of their own learning.

LINKS TO WHOLE-SCHOOL IMPROVEMENT

So, how does changing classroom assessment connect with whole-school change? Well, schools change when people change—in their hearts and in their minds. This kind of deep change happens only when teachers individually and collectively recognize that there is a reason to change and feel strongly enough about it to learn new approaches and do things differently. Teacher learning is a very potent vehicle for improving schools, and classroom assessment is something that teachers want to learn about. The bonus is that it is also positively related to increases in student learning. Classroom assessment is a “high-leverage” focus to engage the staff in thinking about what and how they might behave differently for the sake of student learning.

When individual teachers use more effective instructional practices, some students benefit, but this usually does not have any major effect on the rest of a school. However, when even one teacher changes his or her assessment practices, especially in the dramatic way described in this chapter, it will inevitably cause dissonance and even irresolvable tension for the teacher and the school. Changing classroom assessment is not something that individual teachers can do on their own. The process is closely tied to the organization and accountability mechanisms that exist in schools and to teachers’ beliefs about the role of schools and the

nature of learning. At the same time, classroom assessment can be a powerful force in establishing a solid base for a school to prepare its students for coping with an uncertain future.

Changing classroom assessment involves more than just tinkering around the edges. It requires that a school faculty seriously consider their beliefs about the very foundations of learning and teaching. As teachers start small to develop more understanding of assessment and its potential in schools, they gradually slip into the territory of thinking big as they become a professional community. Teachers working in schools that are professional communities believe they can make a difference; they take risks and work together to redefine their roles; they insist on continuous growth and perpetual learning; and they see themselves as responsible, on a daily basis, for their own and their colleagues' development (Stoll & Fink, 1996). As Hargreaves and Fullan (1991) stated, "They [teachers in professional communities] never stop learning and they are always looking to improve their practice" (p. 85). Most important, they see themselves as a team that collectively can move far beyond their individual accomplishments.

Assessment has the potential to be one of the most powerful levers for school renewal. Not only does improving assessment have serious implications for improving student learning, it also provides a legitimate and tangible focus for teachers to work collectively to explore their own beliefs, expectations, and requirements for their students as they learn and engage in different and more focused practices in all classrooms.

GETTING THERE

It won't be a simple task to change assessment in schools. In fact, there will be many vocal opponents to the views described in this chapter. But opposition is not a sufficient reason for refusing to try. The suggestions in this section arise from schools in which changing assessment has been proposed, tried, and adapted by teachers working together in all kinds of schools, at all grade levels, and in a variety of places around the world. They are offered as starting points for some schools and touchstones for others. They can be used for discussion and for action as educators venture along or continue on the pathway of assessment as learning.

Use Assessment to Transform Your School

The educational change literature is full of references and studies that describe collaboration among teachers as a characteristic of effective schools. Researchers who focus on improving classroom assessment have found the same thing (Darling-Hammond, Anness, & Falk, 1995). When teachers engage in discussions about students' work, they share ideas about evidence for learning and build a mutual expertise that no one else possesses and that no one from outside the group could give them. These discussions are not abstract musings about what student work might look like. Teachers need to look at actual student work and discuss its quality. As they consider the work of a large number of students and talk about why they have made certain judgments, they are able to compare the work of their students to the work of students from other classes (and even other schools), and they make their assumptions, standards, and beliefs about learning explicit. In the process, they must either defend their beliefs or change them. It is always amazing to watch groups of teachers become aware of the diversity that exists in the expectations they hold. But the real excitement begins when they struggle to clarify, to explain, to understand, and ultimately to establish some agreement about what constitutes high-quality student work, so that the phrase *high standards* is connected to actual performance, not abstract ideals. They not only describe the experience as professionally rewarding and enlightening but also begin to feel more confident about their roles as assessors.

Work Together

Teacher *moderation*, as the collaborative process of teachers doing joint or group assessment of student work has come to be called, has proven to be a very powerful focus for school planning that creates a sense of solidarity for staff as they move forward. It also provides direct and immediate "payoff" by establishing and maintaining consistency and accuracy in classroom assessment and reducing teachers' insecurity about their assessment practices. Teachers often worry about their assessment and evaluation decisions. They are plagued by questions: How sure am I that I'm right? Is this really an accurate and fair picture of this student's learning? These questions become particularly important when

teachers' judgments carry serious consequences for students. In measurement terms, these are issues of *reliability* and *validity*. Teachers don't need to know the nuances of these concepts, but they do need to be able to ensure that their assessments are both reliable and valid. When teachers work together to establish criteria for judging their students' work, set standards, locate examples of quality work, and make group decisions, the collaboration has many spin-offs. At the very least, it gives teachers some confidence in their decisions, because they did not come to them in isolation.

In the long run, teachers develop agreement about the nature and quality of their assessments and of students' work. By sharing the decisions about how to assess, there are fewer discrepancies in student assessment standards and procedures between grades and classes; teachers develop a deeper understanding of curriculum and of individual students; and they engage in the intense discussions about standards and evidence that lead to a shared understanding of expectations for students, more refined language about children and learning, and consistent procedures for making and communicating judgments.

Declare the Purpose and Spread the Word

If assessment addresses learning, parents and students deserve to be on the inside, working toward the same ends as teachers. Assessment is where the "rubber hits the road." It is the visible declaration of what counts in school and of how well students and schools are doing. Teachers in a school need a united message, and they need to broadcast this message to students and the parents by showing them in actions and words that learning and assessment are exercises of self-discovery for students and that teachers are their guides, their mentors, and their mirrors. Make students participants in their own learning. Provide them with many opportunities to use assessment as a process to challenge their own knowledge and beliefs, not by waiting for "right answers," but by comparing their understanding with the current wisdom that appears in books, in other media, via technology, and, not least, in the expertise of teachers. And most of all, make them discriminating and questioning consumers.

When students and parents understand what is expected of them and the expectations don't shift with each new teacher, they

have a much better chance of meeting the expectations. Faculty should develop learning targets that are clear and select a whole range of descriptions and examples of good work for teachers, students, and parents to see, discuss, and adjust. Reporting to students and parents should not be static, symbolic accounting, but continuous, reciprocal conversations about progress and about learning. Judgments should not arrive suddenly, by surprise, when the time for action is far past, but as shared decisions heralding next steps in learning in a somewhat predictable environment. Everyone gains when he or she is part of the process and of the solution.

Make Connections

The essence of assessment as learning for teachers is akin to that of talented conductors holding the complete musical score in their heads, with a flair for improvisation. They must hear the nuances of each instrument, intuit the emotions of the players, allow them the freedom to experiment, and subtly guide and extend the talent and virtuosity of each of them in personal ways, by providing feedback and encouragement on a moment-by-moment basis. What better focus for professional development than teachers, working together and becoming virtuoso conductors of student learning, who know the targets, can see and hear the performances, and provide the guidance for students to get better and better.

Self-Assessment Should Be the Ultimate Goal

Stiggins (1993) said it all: If you want to appear accountable, test your students. If you want to improve schools, teach teachers to assess their students. If you want to maximize learning, teach students to assess themselves. Students need to become their own best assessors. A participatory democracy depends on citizens who can make informed and defensible decisions. If students are to become critical thinkers and problem solvers who can bring their talents and knowledge to bear on unanticipated problems, they must develop high-level skills of self-assessment and self-adjustment. It is not likely that students will become competent, realistic self-evaluators on their own. They need to be taught skills of self-evaluation and have routine and challenging opportunities to practice and validate their own judgments (Earl & Cousins,

1995). Broadfoot (1994) described a study in Britain in which teachers came to realize that the things that really made a difference in students' motivation and the quality of their learning were (a) sharing and discussing curriculum goals with students; (b) encouraging students to set their own learning targets and make "learning plans"; (c) involving students in assessing their own work so that they were more willing to, more responsible for, and more able to monitor their own learning; and (d) reviewing progress together with students and revising "learning plans," based on information from classroom assessments. Effective assessment empowers teachers and students to ask reflective questions and consider many strategies

Classroom assessment matters for students, for teachers, and for schools of the future. One can imagine a time when assessment is not viewed with foreboding and terror, not separated from teaching and learning, not used to punish or prohibit access to important information, and not seen as a private, mystical ceremony. Instead, assessment and teaching/learning will be reciprocal, each contributing to the other in ways that enhance both. Teachers in schools will be talented conductors who can draw the best from their students and make their learning obvious to the world outside schools. As Haney (1991) observed,

Once teachers begin such efforts, the difficulties fall away and their work becomes, in a sense, easier. They become thoughtful observers, documenters and organizers of evaluation. In the end, these fresh directions are not as complex as they appear. They call upon us to ask, in relation to purpose, what would cause us to say that our students are thinkers, readers, writers and comprehenders of knowledge, and to then work out systematic processes to follow up such questions. In doing so, we make assessment a more powerful educational tool and return credibility to school practice. Most important, though, we improve the quality of student learning. (p. 166)

NOTE

1. Some authors use *assessment for learning* to encapsulate the ideas described here in two categories, *assessment for learning* and *assessment as learning*.

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