11. Teacher-made assessment strategies

Kym teaches sixth grade students in an urban school where most of the families in the community live below the poverty line. Each year the majority of the students in her school fail the state-wide tests. Kym follows school district teaching guides and typically uses direct instruction in her Language Arts and Social Studies classes. The classroom assessments are designed to mirror those on the state-wide tests so the students become familiar with the assessment format. When Kym is in a graduate summer course on motivation she reads an article called, "Teaching strategies that honor and motivate inner-city African American students" (Teel, Debrin-Parecki, & Covington, 1998) and she decides to change her instruction and assessment in fall in four ways. First, she stresses an incremental approach to ability focusing on effort and allows students to revise their work several times until the criteria are met. Second, she gives students choices in performance assessments (e.g. oral presentation, art project, creative writing). Third, she encourages responsibility by asking students to assist in classroom tasks such as setting up video equipment, handing out papers etc. Fourth, she validates student' cultural heritage by encouraging them to read biographies and historical fiction from their own cultural backgrounds. Kym reports that the changes in her students' effort and demeanor in class are dramatic: students are more enthusiastic, work harder, and produce better products. At the end of the year twice as many of her students pass the State-wide test than the previous year.

Afterward. Kym still teaches sixth grade in the same school district and continues to modify the strategies described above. Even though the performance of the students she taught improved the school was closed because, on average, the students' performance was poor. Kym gained a Ph.D and teaches Educational Psychology to preservice and inservice teachers in evening classes.

Kym's story illustrates several themes related to assessment that we explore in this chapter on teacher-made assessment strategies and in the Chapter 12 on standardized testing. First, choosing effective classroom assessments is related to instructional practices, beliefs about motivation, and the presence of state-wide standardized testing. Second, some teacher-made classroom assessments enhance student learning and motivation —some do not. Third, teachers can improve their teaching through action research. This involves identifying a problem (e.g. low motivation and achievement), learning about alternative approaches (e.g. reading the literature), implementing the new approaches, observing the results (e.g. students' effort and test results), and continuing to modify the strategies based on their observations.

Best practices in assessing student learning have undergone dramatic changes in the last 20 years. When Rosemary was a mathematics teacher in the 1970s, she did not *assess* students' learning she *tested* them on the

mathematics knowledge and skills she taught during the previous weeks. The tests varied little format and students always did them individually with pencil and paper. Many teachers, including mathematics teachers, now use a wide variety of methods to determine what their students have learned and also use this assessment information to modify their instruction. In this chapter the focus is on using classroom assessments to improve student learning and we begin with some basic concepts.

Basic concepts

Assessment is an integrated process of *gaining information* about students' learning and *making value judgments* about their progress (Linn & Miller, 2005). Information about students' progress can be obtained from a variety of sources including projects, portfolios, performances, observations, and tests. The information about students' learning is often assigned specific numbers or grades and this involves ***measurement.*** Measurement answers the question, "How much?" and is used most commonly when the teacher scores a test or product and assigns numbers (e.g. 28 /30 on the biology test; 90/100 on the science project). ***Evaluation*** is the process of making judgments about the assessment information (Airasian, 2005). These judgments may be about individual students (e.g. should Jacob's course grade take into account his significant improvement over the grading period?), the assessment method used (e.g. is the multiple choice test a useful way to obtain information about problem solving), or one's own teaching (e.g. most of the students this year did much better on the essay assignment than last year so my new teaching methods seem effective).

The primary focus in this chapter is on **assessment *for* learning,** where the priority is designing and using assessment strategies to enhance student learning and development. Assessment for learning is often **formative assessment,** i.e. it takes place during the course of instruction by providing information that teachers can use to revise their teaching and students can use to improve their learning (Black, Harrison, Lee, Marshall & Wiliam, 2004). Formative assessment includes both **informal assessment** involving spontaneous unsystematic observations of students' behaviors (e.g. during a question and answer session or while the students are working on an assignment) and **formal assessment** involving pre-planned, systematic gathering of data. **Assessment *of* learning** is formal assessment that involves assessing students in order to certify their competence and fulfill accountability mandates and is the primary focus of the next chapter on standardized tests but is also considered in this chapter. Assessment of learning is typically **summative,** that is, administered after the instruction is completed (e.g. a final examination in an educational psychology course). Summative assessments provide information about how well students mastered the material, whether students are ready for the next unit, and what grades should be given (Airasian, 2005).

Assessment for learning: an overview of the process

Using assessment to advance students' learning not just check on learning requires viewing assessment as a process that is integral to the all phases of teaching including planning, classroom interactions and instruction, communication with parents, and self-reflection (Stiggins, 2002). Essential steps in assessment for learning include:

Step 1: Having clear instructional goals and communicating them to students

In the previous chapter we documented the importance of teachers thinking carefully about the purposes of each lesson and unit. This may be hard for beginning teachers. For example, Vanessa, a middle school social studies

teacher, might say that the goal of her next unit is: "Students will learn about the Cvil War." Clearer goals require that Vanessa decides what it is about the US Civil War she wants her students to learn, e.g. the dates and names of battles, the causes of the US Civil War, the differing perspectives of those living in the North and the South, or the day-to-day experiences of soldiers fighting in the war. Vanessa cannot devise appropriate assessments of her students' learning about the US Civil War until she is clear about her own purposes.

For effective teaching Vanessa also needs to communicate clearly the goals and objectives to her students so they know what is important for them to learn. No matter how thorough a teacher's planning has been, if students do not know what they are supposed to learn they will not learn as much. Because communication is so important to teachers a specific chapter is devoted to this topic (Chapter 8), and so communication is not considered in any detail in this chapter.

Step 2: Selecting appropriate assessment techniques

Selecting and administrating assessment techniques that are appropriate for the goals of instruction as well as the developmental level of the students are crucial components of effective assessment for learning. Teachers need to know the characteristics of a wide variety of classroom assessment techniques and how these techniques can be adapted for various content, skills, and student characteristics. They also should understand the role reliability, validity, and the absence of bias should play is choosing and using assessment techniques. Much of this chapter focuses on this information.

Step 3: Using assessment to enhance motivation and confidence

Students' motivation and confidence is influenced by the type of assessment used as well as the feedback given about the assessment results. Consider, Samantha a college student who takes a history class in which the professor's lectures and text book focus on really interesting major themes. However, the assessments are all multiple choice tests that ask about facts and Samantha, who initially enjoys the classes and readings, becomes angry, loses confidence she can do well, and begins to spend less time on the class material. In contrast, some instructors have observed that that many students in educational psychology classes like the one you are now taking will work harder on assessments that are case studies rather than more traditional exams or essays. The type of feedback provided to students is also important and we elaborate on these ideas later in this chapter.

Step 4: Adjusting instruction based on information

An essential component of assessment *for* learning is that the teacher uses the information gained from assessment to adjust instruction. These adjustments occur in the middle of a lesson when a teacher may decide that students' responses to questions indicate sufficient understanding to introduce a new topic, or that her observations of students' behavior indicates that they do not understand the assignment and so need further explanation. Adjustments also occur when the teacher reflects on the instruction after the lesson is over and is planning for the next day. We provide examples of adjusting instruction in this chapter and consider teacher reflection in more detail in Appendix C..

Step 5: Communicating with parents and guardians

Students' learning and development is enhanced when teachers communicate with parents regularly about their children's performance. Teachers communicate with parents in a variety of ways including newsletters, telephone

conversations, email, school district websites and parent-teachers conferences. Effective communication requires that teachers can clearly explain the purpose and characteristics of the assessment as well as the meaning of students' performance. This requires a thorough knowledge of the types and purposes of teacher made and standardized assessments (this chapter and Chapter 12) and well as clear communication skills (Chapter 8).

We now consider each step in the process of assessment for learning in more detail. In order to be able to select and administer appropriate assessment techniques teachers need to know about the variety of techniques that can be used as well as what factors ensure that the assessment techniques are high quality. We begin by considering high quality assessments.

Selecting appropriate assessment techniques I: high quality assessments

For an assessment to be high quality it needs to have good validity and reliability as well as absence from bias.

Validity

Validity is the evaluation of the "adequacy and appropriateness of the interpretations and uses of assessment results" for a given group of individuals (Linn & Miller, 2005, p. 68). For example, is it appropriate to conclude that the results of a mathematics test on fractions given to recent immigrants accurately represents their understanding of fractions? Is it appropriate for the teacher to conclude, based on her observations, that a kindergarten student, Jasmine, has Attention Deficit Disorder because she does not follow the teachers oral instructions? Obviously in each situation other interpretations are possible that the immigrant students have poor English skills rather than mathematics skills, or that Jasmine may be hearing impaired.

It is important to understand that validity refers to the *interpretation and uses made of the results* of an assessment procedure not of the assessment procedure itself. For example, making judgments about the results of the same test on fractions may be valid if the students all understand English well. A teacher concluding from her observations that the kindergarten student has Attention Deficit Disorder (ADD) may be appropriate if the student has been screened for hearing and other disorders (although the classification of a disorder like ADD cannot be made by one teacher). Validity involves making an overall judgment of the degree to which the interpretations and uses of the assessment results are justified. Validity is a matter of degree (e.g. high, moderate, or low validity) rather than all-or none (e.g. totally valid vs invalid) (Linn & Miller, 2005).

Three sources of evidence are considered when assessing validity—content, construct and predictive. **Content validity** evidence is associated with the question: How well does the assessment include the content or tasks it is supposed to? For example, suppose your educational psychology instructor devises a mid-term test and tells you this includes chapters one to seven in the text book. Obviously, all the items in test should be based on the content from educational psychology, not your methods or cultural foundations classes. Also, the items in the test should cover content from all seven chapters and not just chapters three to seven—unless the instructor tells you that these chapters have priority.

Teachers' have to be clear about their purposes and priorities for instruction *before* they can begin to gather evidence related content validity. Content validation determines the degree that assessment tasks are relevant and representative of the tasks judged by the teacher (or test developer) to represent their goals and objectives (Linn & Miller, 2005). It is important for teachers to think about content validation when devising assessment tasks and one way to help do this is to devise a Table of Specifications. An example, based on Pennsylvania's State standards