



MAKING ASSESSMENT MANAGEABLE AND MEANINGFUL

WHAT IS ASSESSMENT?

Education is not filling a pail. It is lighting a fire.

— W. B. Yeats

Aesop tells of two travelers who were walking along the seashore. Far out they saw something riding on the waves. "Look," said one, "a great ship rides in from distant lands, bearing rich treasures!" As the object came closer, the other said, "That is not a great treasure ship. It is a fisherman's skiff, with the day's catch of savory fish!" Still nearer came the object and the waves washed it up on shore. "It's a chest of gold lost from some wreck," they cried. Both travelers rushed to the beach, but there they found nothing but a water-soaked log. The moral of the story is, *before you reach a conclusion, do a careful assessment.* ■

ACTIVITY 1.1

Demonstrate your understanding of the following concepts by matching the definitions with the appropriate concept. Check your answers with your partner and explain why you believe your answers are correct.

CONCEPT	DEFINITION
_____ 1. instruction	a. Change within a student that is brought about by instruction
_____ 2. learning	b. Judging the merit, value, or desirability of a measured performance
_____ 3. assessment	c. Structuring situations in ways that help students change, through learning
_____ 4. evaluation	d. Collecting information about the quality or quantity of change in a student, group, teacher, or administrator

(Answers: 1. c, 2. a, 3. d, 4. b)

Doing careful assessments is an inherent responsibility of being an educator. Instruction, learning, assessment, and evaluation are all interrelated. Teachers are responsible for instructing students to create learning, which is assessed to (a) verify learning is taking place and (b) improve the effectiveness of instruction. Periodically, assessment is used to judge the quality and quantity of learning and to award grades. Instruction, learning, assessment, and evaluation are so intertwined that it is hard to separate them. In Activity 1.1, match the definition with the appropriate concept. Compare your answers with the answers of a partner, and then explain to him or her how instruction, learning, assessment, and evaluation are interrelated.

ASSESSMENT AND EVALUATION

You can have assessment without evaluation, but you cannot have evaluation without assessment. Ideally, you assess continually whereas you evaluate only occasionally. You can use the information provided by assessments to evaluate

1. **Students.** Grades, honors (such as for National Honor Society, honor's lists, valedictorian), and graduation based on exit criteria (the knowledge and skills students need to be graduated from a program, grade, or school) can be awarded based on assessment data.
2. **Teachers.** Instructional programs can be assessed to determine whether they are effective and whether teachers deserve recognition and merit salary increases.
3. **Schools and districts.** To determine the effectiveness of schools and districts, comparisons must be made to other schools, districts, states, and countries. To make such comparisons, schools have to use the same assessment procedures.

The quality of the assessment largely determines the quality of the evaluation. If the assessment is faulty, the evaluation will be faulty. A valid judgment can only be made if an accurate and complete assessment has taken place.

Assessment, therefore, involves collecting information about the quality or quantity of a change in a student, group, class, school, teacher, or administrator. The effectiveness of an assessment depends on the use of minimal resources to

1. **Achieve the goals of the assessment.** Generally, the goals are to obtain valid and reliable information about the assessee's level of performance. **Valid assessments** actually assess what they were designed to assess, all of what they were designed to assess, and nothing but what they were designed to assess. **Reliable assessments** occur when a student's performance remains the same on repeated measurements.

2. **Maintain effective working relationships among assessors, assessees, and all other relevant stakeholders.** This is an often-neglected aspect of assessment. High-quality assessments result from collaboration among the individuals conducting the assessment, the individuals whose performances are being assessed, and the individuals who have a stake in a valid and reliable assessment taking place. If any aspect of the assessment process damages the relationships involved, the long-term effectiveness of the assessment program is decreased.

3. **Increase the motivation of all involved parties to participate in future assessments.** Ideally, the assessment experience should be such that all participants look forward to the next assessment opportunity. To conduct high-quality assessments, both the assessor and the assessee have to be motivated to ensure that the assessment has valid and reliable results. If any aspect of the assessment process decreases the willingness of the participants to engage in future assessments, the as-

assessment is ineffective. The greater the indifference or resistance to the assessment is, the lower the quality of assessment and the ease of conducting the assessment are.

The effectiveness of an assessment is decreased anytime something interferes with (a) achieving the goals of the assessment, (b) maintaining effective working relationship among assessors, assessees, and other stakeholders, and (c) motivating participation in future assessments.

ASSESSMENT ISSUES

Two central issues in conducting assessments are how to make assessments meaningful and how to make them manageable. To be *meaningful*, assessments have to

1. Be perceived by major stakeholders (such as students and teachers) as having a significant purpose. Significant purposes are tied to the motivation to have the assessment take place. The more significant the assessment seems, the more motivated the assessor and assessees will be to facilitate the assessment.
2. Consist of procedures that are clearly understood. The more clearly participants understand the procedures, criteria, and rubrics used in the assessment process, the more able and willing they will be to facilitate the assessment process and ensure that high-quality assessments take place.
3. Provide a clear direction for increasing the quality of learning and instruction. The more useful the results are expected to be in providing direction to future learning and instruction, the more motivated individuals will be to engage in the assessment.

Unless the purpose is perceived to be significant, the procedures are clearly understood, and the results are perceived to be useful and relevant, the individuals whose performances are being assessed will not do their best and will not facilitate the assessment process. Even high-stakes assessments can be resisted when they are perceived to be meaningless or unmanageable. Yet low-stakes assessments can be entered into with great enthusiasm and effort when they are perceived to be meaningful and easily manageable. (See Figure 1.1.) To be *manageable*, assessments have to provide useful information with the expenditure of minimal resources. Manageability includes whether

1. The available resources are adequate for the requirements of the assessment procedure. Each assessment procedure requires certain resources, such as time and materials. The more resources required, the harder the assessment is to manage. If the required resources are beyond the capacity of the teacher, the assessment is unmanageable unless, of course, the resources of colleagues and/or students are enlisted to help with the assessment.
2. The value of the information obtained is worth the expenditure of the resources. The value of the information resulting from the assessment must balance the resources required to obtain the information.

Manageability depends on the percentage of the available resources needed to conduct the assessment. Available resources have to be allocated to instruction, general classroom management (record keeping, relationships with parents), general school management (faculty meetings, committees), and so forth. From the total amount of resources available for assessment, the amount that each assessment procedure takes determines the likelihood that the procedure is used.

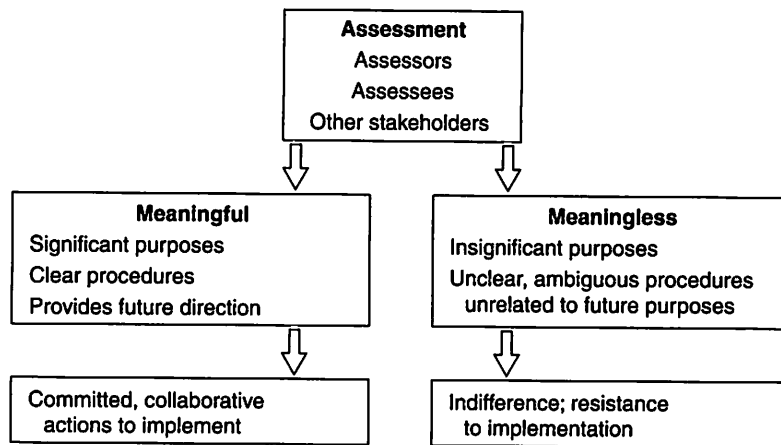


FIGURE 1.1 Meaningful Assessment

Power of Involvement

There are a number of reasons for involving students in assessment decisions (Johnson & F. Johnson, 2000). First, involvement tends to increase the quality of decisions by utilizing the resources of students as well as the teacher. In general, high involvement in decision making increases the use of available resources, which in turn increases the quality of the decision. The more students participate in making a decision, the more resources that are available and, consequently, the higher is the quality of the decision about assessment. Students may be interesting resources for planning, conducting, and reporting assessments because they have developed a unique perspective from many, many experiences of having been assessed and should, therefore, be especially involved in making a decision.

Second, involvement tends to increase members' commitment to implement assessment in a high-quality way. Compared with the teacher explaining the assessment procedures and having a student committee help plan the assessment, direct involvement of all students in planning the assessment results in stronger commitment to implement the procedures.

Third, involvement tends to reduce students' resistance to feedback and the need to change. To change in constructive ways, students need timely and specific feedback about their learning progress and their strengths and weaknesses. For many students, teacher-conducted assessments are threatening. Defensiveness by the students can result in resistance to the feedback and rejection of the implications. Teacher feedback can be distorted by the psychological defense mechanisms an individual uses to maintain a positive self-image. If students are involved in planning and conducting assessments, they will be less resistant to receiving and using feedback to decrease weaknesses and to increase strengths.

Fourth, involvement tends to increase student achievement. Assessing classmates' work and giving them feedback on the quality of their efforts has numerous positive effects on achievement. Participating in assessments directs students' attention toward the intended outcomes of instruction. It increases students' understanding of the criteria and rubrics being used. It requires students to learn at the levels of understanding, application, and interpretation (as opposed to just knowledge), thereby increasing their retention and transfer of what is being taught. Explaining feedback to classmates enhances students' understanding of what is being taught. Participating in assessments complements students' learning efforts and increases the likelihood that students learn, retain, and transfer what is being taught.

Fifth, involvement tends to result in greater motivation to learn and more positive attitudes toward learning and assessment. Numerous studies indicate that if you want to change people's behaviors and attitudes, you should involve them in group discussions that lead to (a) public commitment to the new behaviors and attitudes and (b) the perception that all members of the group support the new behaviors and attitudes. Involving students in planning and conducting assessments tends to result in public commitment to complete assignments at a high level of quality and the awareness that classmates are making the same commitment. The result tends to be greater motivation to learn and more positive attitudes toward learning and assessment.

Sixth, involvement tends to increase self-assessment. Assessing the work of classmates helps students gain insight into the quality of their own work, the degree of skill they have in various areas, and any misconceptions they have that need correction. Such self-assessments tend to provide students with short-term goals, to clarify the steps to be taken to complete assignments, and to provide feedback concerning their learning progress.

MEANINGFUL ASSESSMENTS

To plan, conduct, and manage meaningful assessments, you need to answer the following questions:

1. What student performances may be assessed?
2. What assessment procedures may be used?
3. What is the purpose of the assessment?
4. What is the focus of the assessment?
5. In what setting will the assessment be conducted?
6. Who are the stakeholders in the assessment?
7. What evaluation procedure should be used?

In understanding what is to be assessed, you must select the student performances that you want to assess and the procedures you will use. In doing so, you must understand the purpose of the assessment, its focus, the setting in which the assessment will take place, what is at stake, who are the relevant stakeholders, and the evaluation procedure.

Student Achievement Assessed

There is an old saying, "What gets measured gets done." What teachers assess may be the single most powerful message as to what teachers value and wish to accomplish. There are so many indices of student learning that all cannot be discussed in any one book. Given in the following list, however, are some of the most common indices of student learning:

1. **Academic learning.** What students know, understand, and retain over time
2. **Reasoning.** The quality of students' reasoning, conceptual frameworks, use of the scientific method and problem-solving, and construction of academic arguments
3. **Skills and competencies.** Examples are oral and written communication skills, teamwork skills, research skills, skills in organizing and analyzing information, technology skills, skills in coping with stress and adversity, conflict resolution skills
4. **Attitudes.** The attitudes students develop, such as a love of learning, commitment to being a responsible citizen, desire to read, liking scientific reasoning,

self-respect, liking diversity, commitment to making the world a better place, and many others

5. **Work Habits.** The work habits students develop, such as completing work on time, using time wisely, meeting responsibilities, striving for quality work, continually improving one's work, striving to add value to each job one does, and so forth

Assessment is collecting information about the quality or quantity of a change in a student, group, teacher, or administrator. **Performance assessment** is collecting information about demonstrations of achievement involving actually performing a task or set of tasks, such as conducting an experiment, giving a speech, writing a story, or operating a machine. After the intended outcomes of instruction are defined, the procedures used to determine whether they were achieved must be selected.

Assessment Procedures

After deciding which student achievements to assess, you need to decide which procedures to use to determine the extent to which students are achieving the intended learning outcomes of instruction. The procedures you can use include

Goal-setting conferences	Simulations
Standardized tests	Questionnaires
Teacher-made tests, quizzes, exams	Interviews
Written compositions	Learning logs and journals
Oral presentations	Student management teams
Projects, experiments, portfolios	Total quality learning procedures
Observations	Teacher assessment teams
Record keeping (attendance, participation, homework, extra-credit)	Student-led parent conferences

Each of the above procedures is discussed in some detail in this book. Each chapter introduces one or more tools to assess students' learning and addresses the questions:

1. What is the procedure/tool?
2. Why should you use it?
3. How should you use it?
4. How do you adapt (customize) it to your needs?

To decide which student performances are to be assessed by which procedures, you should clarify the purpose of your assessment, whether it focuses on processes or outcomes, the setting in which the assessment takes place, and whether the assessment is of high or low stakes to which stakeholders. Examples of these considerations are listed in Table 1.1.

Purpose of Assessment

To achieve your purposes, you match the student performances you can assess with the appropriate assessment method. The purposes for assessing may be to (a) diagnose students' present level of knowledge and skills, (b) monitor progress toward learning goals to help form the instructional program, and (c) provide data to judge the final level of students' learning.

TABLE 1.1 Assessment of Student Performance

PURPOSE	FOCUS	SETTING	STAKES	STAKEHOLDERS
Diagnostic	Process of learning	Artificial (classroom)	Low	Students and parents
Formative	Process of instruction	Authentic (real world)	High	Teachers
Summative	Outcomes of learning			Administrators
	Outcomes of instruction			Policymakers
				Colleges, Employers

1. **Diagnostic assessments** are conducted at the beginning of an instructional unit, course, semester, or year to determine the present level of knowledge, skill, interest, and attitudes of a student, group, or class. Diagnostic assessments are never used for assigning grades. Information about the student's entry-level characteristics enables the teacher and student to set realistic but challenging learning goals. The better the diagnosis, the more clear and specific the learning goals will be.

2. **Formative assessments** are conducted periodically throughout the instructional unit, course, semester, or year to monitor progress and provide feedback concerning progress toward learning goals. Its intention is to facilitate or form learning. Formative assessments are an integral part of the ongoing learning process for two reasons. First, they provide students with feedback concerning the progress they are making toward achieving their learning goals. On the basis of that feedback, students can plan what they need to do next to advance their learning. Second, formative assessments provide teachers with feedback concerning their progress in providing effective instruction. Teachers can then plan what to do next to help students achieve their learning goals. Formative evaluations are not used to evaluate either the student or the teacher.

3. **Summative assessments** are conducted at the end of an instructional unit or semester to judge the final quality and quantity of student achievement and/or the success of the instructional program. They sum up performance and provide the data for giving grades and determining the extent to which goals and objectives have been met and desired outcomes achieved. The judgments about student achievement are then communicated to interested audiences such as students, parents, administrators, postsecondary educational institutions, and potential employers.

It is on the basis of these assessments that schools are held accountable (see Box 1.1).

Focus of Assessment

Diagnostic, formative, and summative assessments may take place to improve the process of learning or to determine the outcomes of learning. In conducting formative assessments, you may focus on both the process of learning and the outcomes of learning. In conducting summative assessments, you focus primarily on outcomes.

1. **The processes of learning.** To improve continually the quality of students' efforts to learn, you must engineer a system whereby the processes students use to

BOX 1.1

ACCOUNTABILITY FOR WHAT?

Schools are under increasing accountability pressures to reexamine the outcomes they are trying to achieve.

1. **The definitions of achievement have expanded.** In addition to doing well on standardized tests, students are expected to be able to demonstrate (a) achievement-related behaviors (ability to communicate, cooperate, perform certain motor activities, and solve complex problems); (b) achievement-related products (writing themes or project reports, art products, craft products); or (c) achievement-related attitudes and dispositions (pride in work, desire to improve continually one's competencies, commitment to quality, internal locus of control, self-esteem).
2. **The organizational structure of schools is changing.** With the change to a team-based, high-performance organizational structure (that emphasizes cooperative learning in the classroom and collegial teaching teams in the building), teachers are expected to work in teams to assess (a) the quality of students' teamwork skills and (b) the quality of the instructional program.
3. **High school and college graduates often lack the competencies necessary to be citizens in our society and live a high-quality life.** Schools are being held accountable to teach successfully what students need to (a) advance educationally, (b) get and hold a job, (c) be a responsible citizen, and (d) have a high quality of life. Many graduates are unemployable, uninformed on current issues, and unmotivated to vote or participate in the political process. They fail to build and maintain stable friendships and family relationships. A fourth-grade teacher may think primarily in terms of getting students ready for the fifth grade, and a high school teacher may think primarily in terms of getting students ready for college instead of preparing students to live productive lives in society.
4. **Many schools are blind to the need to prepare students to compete with graduates of schools in other countries for jobs and promotions.** The internationalization of the economy has resulted in an internationalization of schools. It is no longer enough to be one of the best schools in a local area, in a state, or even in the nation. The quality of a school in the United States has to be compared with the quality of schools in Japan, Germany, Finland, Thailand, and every other country in the world. Schools in the United States have to be educating "world-class workers" and individuals who are able to work for and be successful in international companies that have branches and employees from all over the world.

learn are identified and assessed. Instead of only conducting summative assessments, formative assessments are conducted. The assumption is that if you continually improve the processes of learning, the quality and quantity of student learning also continually improves.

To implement total quality learning, you assign students to cooperative learning groups. Each group takes charge of the quality of the work of its members. The group (a) defines and organizes the process members are going to use to learn, (b) assesses the quality of members' engagement of each step of the process, (c) places the

data on a quality chart, and (d) plans how to improve the effectiveness of the learning process.

2. The processes of instruction. To improve continually the quality of instruction, collegial teaching teams (a) define the instructional process, (b) assess the quality of members' engagement in each step of the process, (c) place the data on a quality chart, and (d) plan how to improve the effectiveness of the instructional process.

3. The outcomes of learning. To assess the quality and quantity of student learning, you need (a) an appropriate method of sampling the desired student performances and (b) a clearly articulated set of criteria to judge their quality and quantity. You can use paper-and-pencil tests or you can have students perform a procedure or skill, such as writing a composition or conducting a science experiment.

4. The outcomes of instruction. You assess the effectiveness of instruction by measuring whether the instructional program actually motivated students to strive to learn above and beyond their usual level.

Setting of Assessments

Assessments may take place in artificial situations (such as the classroom) or in authentic or "real-life" settings. **Authentic assessment** requires students to demonstrate desired skills or procedures in real-life contexts. Because it is often difficult to place students in real-life situations, you may want to have students complete simulated real-life tasks or solve simulated real-life problems. To conduct an authentic assessment in science, for example, you may assign students to research teams that work on a cure for cancer by (a) conducting an experiment, (b) writing a lab report summarizing results, (c) writing a journal article, and (d) making an oral presentation at a simulated convention. Like performance-based assessment, to conduct an authentic assessment you need procedures for (a) sampling performances and (b) developing criteria for evaluation (see Activity 1.2). You also need the imagination to find real-life situations or create simulations of them.

Stakes and Stakeholders

There are at least four audiences for the results of assessments of students' learning, instructional programs, and the effectiveness of a school: students and their parents, teachers, administrators, and policymakers. For each of these audiences, assessments can be of high or low importance (see Activity 1.3). In designing and conducting assessments, you must determine who the audiences for the assessment will be and what kind of stake they have in its results. See Table 1.2 for categories of audiences and corresponding assessments.

ACTIVITY 1.2

List three examples of authentic assessment you have used in your classes:

1. _____
 2. _____
 3. _____
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ACTIVITY 1.3 ■ THE STAKE YOU HAVE IN ASSESSMENTS

1. List the assessment procedures you use.
2. Divide your list into two categories: high stake and low stake.
3. Repeat Step 2 for each major stakeholder in your school.

1. Low-stake assessments. Formative assessments of student learning and classroom instruction tend to be low stake because they are designed and administered by teachers for the purpose of giving students feedback and guiding instructional decisions. Students are not adversely affected when they perform poorly on low-stake assessments and teachers are not penalized when a lesson does not go well.

2. High-stake assessments. Summative assessments that may partially determine students' futures or whether teachers receive merit raises tend to be high stake. College admission tests such as the SAT or the ACT are high-stake assessments for students because admission to colleges and universities is affected by these scores. Statewide assessments or some standardized tests are typically high-stake assessments for teachers, schools, or districts, but not students. In some districts, the average scores of different schools or districts within the state are published in the newspaper, which can influence real estate values and are, therefore, high stake for many interested audiences.

The danger of low-stake assessments is that students and faculty may not take them seriously. The danger of high-stake assessments is that students and faculty may be tempted to cheat in some manner.

Methods of Evaluation

Periodically, after summative assessments have been made, teachers assign value to students' work. Teachers can symbolize the value with smiley faces, written com-

TABLE 1.2 Stakeholders in Assessment

STUDENTS AND PARENTS	TEACHERS	ADMINISTRATORS	POLICYMAKERS
Determine student progress	Diagnose students' strengths and weaknesses	Monitor effectiveness of teachers	Set standards
Diagnose student's strengths and weaknesses	Give students feedback	Monitor effectiveness of instructional programs	Monitor the quality of education
Plan how to improve students' achievement	Determine students' grades	Identify program strengths and weaknesses	Formulate policies
Understand what is expected of them in school	Make grouping decisions	Designate priorities	
Make informed decisions about college and careers	Determine effectiveness of instruction and curriculum		
	Decide how to modify and improve instructional program		

TABLE 1.3 Criterion-Referenced Grading

GRADE	PERCENT CORRECT
A	95–100
B	85–94
C	75–84
D	65–74
F	Less than 64

ments, or grades. In deciding how to assign value, teachers must decide whether to make judgments based on a criterion-referenced or a norm-referenced procedure. The **criteria-referenced procedure** assigns a value or grade to a score according to a predetermined standard. Criteria-referenced evaluation is used in cooperative and individualistic learning. The **norm-referenced procedure** assigns a value or grade to a score based on a comparison to other scores. Norm-referenced evaluation is used as part of competitive learning.

Criteria-Referenced Evaluation. Criterion-referenced or categorical judgments are made by adopting a fixed set of standards and judging the achievement of each student against these standards. Every student who can achieve up to the standard passes, and every student who cannot fails. If the criterion is for students to demonstrate ability to use propositional logic in solving a series of chemistry problems, then a teacher takes each student's answers and judges whether they have done so. A common version of criterion-referenced evaluation involves assigning letter grades on the basis of the percentage of test items answered correctly. Table 1.3 provides an example.

Criterion-referenced evaluation was first recommended as part of mastery or competency-based instruction in the 1920s and was widely used in the 1930s. Yet in the 1940s and 1950s its use declined. In the 1960s, however, a revival of interest in criterion-referenced evaluation resulted from the increased emphasis on behavioral objectives, from the sequencing and individualizing of instruction, from mastery learning, and from cooperative learning. If teachers can state their instructional objectives in measurable terms, then the teacher can determine whether a student has achieved the objectives.

Norm-Referenced Evaluation. Norm-referenced evaluation uses the achievement of other students as a frame of reference for judging the performance of an individual. The general procedure is to administer a test to a large sample of people like those for whom the measure is designed. This group, known as the *norm group*, provides a distribution of scores against which the score of any single person can be compared. Classroom teachers usually use norm-referenced evaluation procedures by grading on a curve. (See Table 1.4). Grading on a curve was one of many proposals

TABLE 1.4 Norm-Referenced Grading

GRADING ON A CURVE	CHARACTERISTICS
15 percent receive As	Compares student performances to each other
20 percent receive Bs	Creates competition among students
30 percent receive Cs	Assumes distribution of test scores is a normal curve
20 percent receive Ds	Teacher-made tests are not designed to give normal distributions
15 percent receive Fs	Class sizes are typically too small to expect a normal distribution

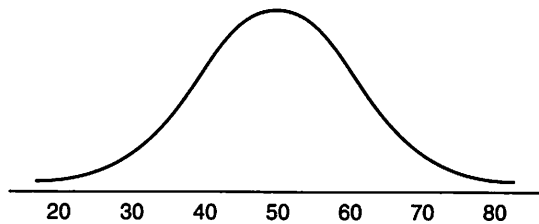


FIGURE 1.2 Normal Curve
Normal distribution with a mean of 50
and a standard deviation of 10

for educational reform in the 1930s; it represented an attempt to adopt in the classroom the same procedures used by publishers of standardized tests. To grade on a curve, teachers define the norm group as all the students in the class for which the grades are to be assigned, and assume that the distribution of test scores follows the form known as the normal curve (see Figure 1.2).

The way in which the norm group is selected is crucial to the fairness and validity of the judgments made. Although there are statistical advantages to assuming that assessment results are normally distributed, (a) teacher-made assessment measures are rarely designed to give normal distributions and (b) class sizes are typically too small to expect a normal distribution. It takes several hundred scores to have a potentially normal distribution. Terwilliger (1971) concludes that these defects are so serious and so common that it is impossible to justify the practice of grading on a curve.

There are numerous disadvantages to using norm-referenced evaluation procedures (Johnson & Johnson, 1999). Norm-referenced evaluation tends to

1. Increase student anxiety, which interferes with learning complex tasks and new information. High anxiety especially interferes with adaptive problem solving.
2. Motivate individuals to exert minimal effort. In competitions, chronic winners exert only enough effort to win and chronic losers exert little or no effort at all.
3. Create extrinsic motivation. Winning tends to become more important than learning.
4. Reduce intrinsic motivation to learn for interest in or enjoyment of an activity for its own sake.
5. Increase the frequency with which students cheat. Students tend to become more committed to winning at any cost.
6. Create a situation in which students may internalize the values of "bettering others" and "taking joy in others' mistakes." Students tend to become less committed to values of fairness and justice and more self-oriented.
7. Promote contingent self-acceptance in which the value of self and others is contingent on winning.
8. Result in overgeneralization of results to all aspects of a person's being. Winning in one arena tends to result in feeling superior in all arenas. Losing in one arena tends to result in feeling inferior in all arenas.
9. Create anger, hostility, and dislike toward those who win. Losing tends to promote depression and aggression toward winners and judges.
10. Promote a view of life as a dog-eat-dog rat race in which only the strongest survive.

MAKING ASSESSMENTS MEANINGFUL

Just because an assessment is conducted does not guarantee that it is perceived as meaningful by relevant stakeholders. Assessments have meaning when they (a) achieve a significant purpose; (b) have clear procedures, criteria, and rubrics that

ACTIVITY 1.4 ■ WHAT MAKES ASSESSMENTS MEANINGFUL?

Rank order from most important (1) to least important (10) the following ways in which assessments can be meaningful.

- _____ Ensuring parents understand the assessment procedures and process and obtain a clear picture of how well their children are doing academically
 - _____ Ascertaining whether efforts to learn are contributing to the well-being of others and the common good as well as to self-benefit
 - _____ Providing direction for correcting misunderstandings, filling in gaps in learning, and advancing to the next level of knowledge and skill
 - _____ Having students invest their own time and energy in conducting the assessment
 - _____ Making assessment procedures, criteria, and rubrics easy to understand
 - _____ Involving students in setting their learning goals
 - _____ Conducting the assessment in an authentic context
 - _____ Establishing goals that are relevant to students' immediate lives
 - _____ Creating in students a sense of ownership for the assessment procedures and process
 - _____ Giving students and other stakeholders accurate and detailed feedback on the quality and quantity of student learning
-

are understood by all relevant stakeholders; and (c) produce results that provide clear direction for increasing the quality of learning and instruction (see Activity 1.4).

First, to be meaningful, assessment has to have a purpose that is significant. Any assessment goal may be perceived as significant if it meets one or more of four conditions: (a) students are involved in setting learning goals; (b) the goals are perceived to be interdependent with those of significant others; (c) achieving the goals requires the joint efforts of several people; and (d) the goals are perceived to be relevant to the students' current lives.

Involving students in determining their learning goals makes the goals and the assessment of the progress in accomplishing those goals more meaningful (Johnson & F. Johnson, 2000). Individuals commit energy and resources to achieve their own goals but tend to resist working to achieve goals that are imposed on them. Involvement in the goal-setting process leads to personal ownership of the goals and commitment to achieving them. The more students are involved in setting the learning goals, the more meaningful the assessment will tend to be; and the more students perceive the goals as being imposed on them, the less meaningful the assessment will tend to be.

The learning goals of students are interrelated with the goals of other stakeholders. Goals are positively interdependent when individuals perceive that they can reach their goals if and only if others in the group also reach their goals (Deutsch, 1962). Although students' goals may be interdependent with several stakeholders, the more significant the stakeholders are to the students, the more meaningful the

goals are perceived to be. Stakeholders can be teachers, parents, peers, and other school personnel. Parents, for example, have goals for their children that require their children to learn to read and write at a high level of proficiency. Whenever a student demonstrates improved competence in reading and writing, the parents feel satisfaction because their goals are being achieved also. The more interdependent students' learning goals are with those of significant others, the more meaningful the students' goals are.

Goals are typically more meaningful when they are accomplished through joint efforts with others. In some classes, and in some instances, individuals work alone to achieve individual goals. In other classes, and in other instances, students work together to achieve mutual, interrelated goals. Joint efforts may be perceived as being more meaningful than individual efforts because joint efforts contribute to the well-being of others and to the common good as well as to one's own benefit (Johnson & Johnson, 1999). The greater the number of individuals who benefit from a person's efforts, the more meaningful the efforts are perceived to be.

Finally, goals are more significant when they are relevant to the student's immediate life and wants. If achieving the learning goals is perceived to improve the quality of a student's immediate life, the goals are perceived to be meaningful. Relevance is often difficult to establish because it can change from hour to hour, and what seems relevant today may seem irrelevant tomorrow.

Teachers may increase the meaningfulness of students' goals by involving students in determining what the goals should be, by highlighting the interdependence among the students' goals and the goals of significant others, by structuring the learning situation so joint efforts are required to achieve the goals, and by establishing the relevance of the goals to the student's immediate life.

Second, assessments are meaningful when all relevant stakeholders clearly understand the procedures, criteria, and rubrics being used. The more confusing and ambiguous the procedures, criteria, and rubrics seem to be, the less meaningful the assessment is. Clarity of understanding comes from the way the procedures, criteria, and rubrics are explained and from involvement in creating the procedures, criteria, and rubrics used in the assessment process. People follow the paths they have planned for themselves while deviating from and subverting the paths imposed on them by others. When students are more involved in formulating assessment procedures and creating criteria and rubrics to be used to assess the quality of their work, they have a clearer understanding of the procedures, criteria, and rubrics; they feel a greater sense of ownership for the procedures, criteria, and rubrics; and they make a more concerted commitment to carry out the assessment in ways that promote valid and reliable results. For parents, assessments tend to be meaningful when parents understand the procedures used to assess student learning and obtain a clear picture of their children's academic performance.

Third, meaningful assessments provide a direction and a road map for future efforts to learn. Assessments should provide direction by revealing (a) misunderstandings and gaps in learning that need to be remediated and (b) the next level of learning goals that need to be achieved. Assessments become more meaningful when the results are used to point toward the next steps in learning and instruction. Meaningless assessments may provide achievement scores with no implications for what the student should do to correct and advance his or her learning.

MAKING ASSESSMENT MANAGEABLE

Managing assessments includes organizing the resources needed for setting learning goals in ways that induce student commitment, for deciding on which assessment

procedures to use, for collecting and analyzing the assessment data, and for recording and communicating the results of the assessments to relevant stakeholders. Each of these activities takes considerable time and effort. Planning for the assessments includes (a) setting the learning goals in a way that induces student commitment to achieve the goals, (b) selecting the procedures to be used (such as tests, compositions, portfolios, projects, observations), and (c) organizing the resources such as supplies and equipment needed to conduct the lesson and the assessment (see Figure 1.3). Collecting and analyzing the assessment data includes conducting diagnostic assessments before the lesson begins, conducting progress or formative assessments while the unit is in progress, and conducting summative assessments after the unit is completed. Recording and reporting results includes charting the results and reporting activities such as student-led conferences. New learning goals are then set that include either remediation to bring a student's performance up to the criteria for mastery or direction for the next instructional unit.

Many assessment procedures are labor intensive and may involve more than one modality, may examine diverse outcomes, may require multisources of information, may require authentic settings, and may be aimed at measuring student performance on complex procedures. It takes considerable resources to conduct such assessments. Table 1.5 lists various problems associated with managing assessments and provides a solution to each problem.

The major issue in managing assessments is teacher time. If assessment is done adequately, it is difficult for a teacher to manage the assessment system. Most teachers do not have much time to conduct assessments. Swain and Swain (1999), for example, note that in the United States almost all the official work of teachers is committed to the classroom instruction of students. Teachers in the United States devote more hours to instruction and supervision of students each week and have longer required workweeks than in any other developed, industrialized country, including the nations with 6-day weeks, such as Japan and Switzerland. Consequently, most of the assessment activities must be done in the evening or on weekends. They conclude that teachers who spend 12 minutes to plan for each class session and 9 minutes per week to assess each student's work have no choice but to work 60 hours a week or more. If teachers work 45 hours a week, they will have 6 minutes to plan for each class session and 3 minutes per week to assess each student's work. Obviously, 3 minutes a week is not enough time to conduct any sort of meaningful assessment.

Swain and Swain (1999) note that a teacher spends 15 or 20 hours outside of school to grade an essay assignment, then teachers may decide to assign fewer essays.

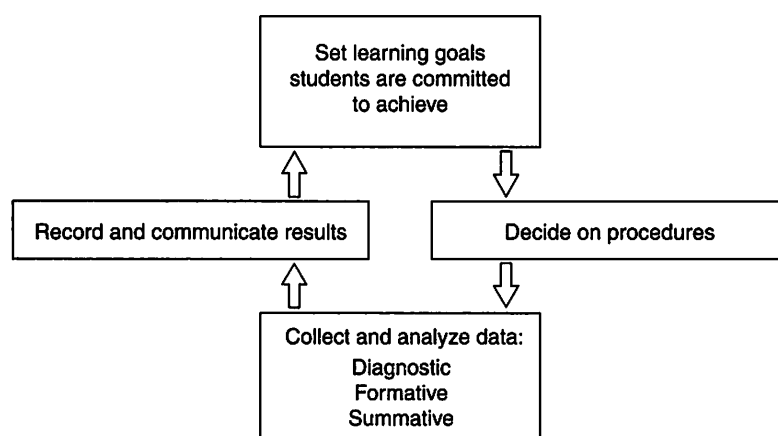


FIGURE 1.3 Process of Assessment

TABLE 1.5 Management Problems with Assessment

PROBLEM	SOLUTION
Participating in the assessment process causes students to miss learning opportunities.	Experience of conducting assessments teaches content and procedures.
The amount of time and effort required to implement the assessment process results in infrequent assessments.	Have students help manage the assessment process for classmates.
Outcomes most commonly assessed are subject matter knowledge and recognition of facts.	Student help allows more diverse outcomes to be assessed, such as critical thinking, cognitive and social skills, attitudes, and work habits.
Students are limited primarily to reading and writing as modalities.	Expand modalities by having students work in groups where they can be observed, perform cognitive and social skills, demonstrate higher-level reasoning, and so forth.
Sources of information are limited to teacher assessments.	Student help allows for self- and peer assessments as well as teacher assessments.
Assessments are biased by requiring reading and writing activities for demonstrating knowledge and skill.	Students can exchange and reveal knowledge orally and demonstrate skills to each other.
Teacher bias and expectations can affect assessment results.	Reduce possibility of teacher bias by having students assess classmates' work.
Students receive assessment results without procedures for remediation and improvement.	Classmates can provide students a support system for creating and implementing remediation and improvement plans.
Only individual outcomes can be assessed.	Students can work together so group outcomes can be assessed as well as individual outcomes.
Assessing individual students in isolation is incongruent with ideal instructional experiences.	Have students work together, assessing each other's work, to make the assessment process congruent with ideal instructional methods.

If they spend 10 hours of preparation time on the weekend to write out the materials for a new, student-directed unit, then teachers may plan fewer of these types of units. If a teacher wanted to spend 10 minutes a month talking to each student privately, the teacher would have to find about 20 hours at lunchtime or after school to do so.

Time constraints can prohibit the use of many of the most effective and helpful assessment procedures. Teachers simply do not have the time to use them without help and assistance. If the more creative and effective assessment procedures are to be used, teachers need additional sources of labor. The most natural sources of help for teachers are students and colleagues. Students are an ideal source of help because (a) they are always present in the classroom; (b) student commitment to implement the results of an assessment is greater when they collect, analyze, and interpret the data themselves; and (c) students may often learn more from conducting assessments than they do from receiving assessments. For these and many other reasons, it

ACTIVITY 1.5 ■ PROBLEMS IN CONDUCTING ASSESSMENTS

Rank the following problems in conducting good assessment from most important to you (1) to least important to you (10).

- _____ Amount of time and effort required to implement the assessment process
 - _____ Limited primarily to reading and writing as modalities
 - _____ Outcomes most commonly assessed are subject matter knowledge and recognition of facts
 - _____ Sources of information limited to teacher observations
 - _____ Assessments require reading and writing as prerequisites for demonstrating knowledge and skill
 - _____ Learning and assessment goals are imposed on students
 - _____ Students do not understand the criteria and rubrics used to assess their work
 - _____ Assessment process is not a learning experience for most students
 - _____ Teacher expectations and stereotypes bias assessment procedures
 - _____ Many students are unable to use assessments to make improvement plans
-

is often advisable (and necessary) to involve students in learning the assessment rubrics and in using them to reflect on and assess their own and classmates' work. Having students help conduct assessments allows teachers to

1. Provide students with powerful learning experiences that increase their achievement. When students conduct assessments of classmates' work, they learn more thoroughly the criteria and rubrics used in assessment, thus developing internal guidelines and greater understanding of how their work should be completed. One of the paradoxes of assessment is that students typically learn more from conducting assessments than they do from receiving assessments. Assessing the accuracy, quantity, and quality of one's own and classmates' work tends to make the assessment and reporting processes important learning experiences. Having students assess classmates' work, therefore, becomes part of the instructional program. The more experience students have in using criteria and rubrics, the more thoroughly they learn the procedures, skills, and information being taught. At the very least, they will better understand how to complete the assignment at a high level of quality. In other words, involving students in the assessment process results in greater integration of assessment and instruction.

2. Conduct more frequent assessments. When the teacher is responsible for conducting all the assessments, the number of assessments that may be conducted is limited by the teacher's time. Despite a teacher's desire to have students write, if the teacher believes that he or she has to read and assess everything each student writes, the amount of writing the teacher can manage is severely restricted. Having students assess each other's work significantly increases the frequency with which assessments can be conducted as well as the amount of work that may be assigned.

3. Assess a wider variety of outcomes. Besides subject matter knowledge and expertise, student help with assessment allows teachers to assess reasoning, skills and competencies, attitudes, and work habits. Outcomes may be ignored because they are too labor intensive to assess or because they require frequent and continuous monitoring. However these outcomes can be included in an assessment plan when students are available to help. What gets measured, gets noticed and, in turn, influences what is taught. Assessment procedures that focus on higher-level reasoning, problem solving, and metacognitive thinking will be emphasized in instruction. Furthermore, when teachers observe students verbally interacting with each other, they have the opportunity to view and assess through a “window into students’ minds” students’ understanding of the material being studied, critical thinking, and cognitive reasoning. When students work together, covert reasoning and problem solving may be made overt so that they can be assessed and improved.

4. Use more modalities in assessing students’ work. In addition to assessing each other’s reading and writing, students can observe each other presenting, performing cognitive and social skills, demonstrating higher-level reasoning procedures, using visuals such as graphs and illustrations, and even acting out or role playing aspects of the content being learned.

5. Utilize more sources of information in making assessments. Student involvement makes self- and peer assessments available in addition to teacher assessments. Self-, peer, and teacher assessments can then be coordinated and integrated. Students and classmates as well as teachers can be involved in communicating the results of assessments to interested audiences.

6. Reduce the bias inherent in requiring reading and writing activities only for demonstrating knowledge or engaging in a performance. Students can learn subject matter orally and reveal their understanding of what was learned orally. They can interview each other, read to each other, and explain material to each other. Other students can read questions to a classmate who cannot read or write well, and the classmate can explain to groupmates what the answer is and how it is derived.

7. Reduce the possibility of teacher bias. Bias may be introduced into teachers’ assessments in numerous ways. Even characteristics such as neatness of handwriting (Sweedler-Brown, 1992) and teachers’ perceptions of students’ behavior (Bennett et al., 1993; Hills, 1991) can influence a teacher’s judgment of a student’s achievement. The more students assess each other’s work, the less potential there is for teacher bias.

8. Create classmate social support systems for remediation and enrichment activities. The restrictions on teacher time prevent teachers from monitoring each student’s efforts to learn all the time. The result is that teachers are required to assess only samples of student learning. In small cooperative groups classmates can continuously monitor each other’s activities. In addition, some students are more susceptible to peer influence than teacher influence. Students can keep track of each other’s level of mastery, hold each other accountable for learning, and encourage remediation efforts and extending one’s competencies. The involvement of students in the assessment process provides a potential support system for continuous assessment, remediation, and enrichment. Classmates provide the resources for continuous improvement.

9. Create the opportunity to assess group as well as individual outcomes. Some are scientific, dramatic, or creative projects may only be completed by groups. Without cooperative groups, such assignments cannot be given and assessed.

10. Make the assessment process congruent with ideal instructional procedures. Because cooperative learning tends to promote higher achievement, more positive interpersonal relationships, and greater psychological health than do competitive or individualistic learning (Johnson & Johnson, 1989), most teachers use it frequently.

Involving group members in assessment procedures thus increases the congruence between instruction and assessment.

Assessment has traditionally focused on individual-to-individual transfer of learning. Students worked in isolation from classmates (in either competitive or individualistic learning situations) and were given individual achievement tests to assess their achievement. Two assumptions underlie this practice. One is that individual assessment requires individual learning. This is a misconception. Group-to-individual transfer has been repeatedly demonstrated to be superior to individual-to-individual transfer (Johnson & Johnson, 1989). The purpose of cooperative learning groups is to ensure that all members learn and are, therefore, better able to perform on a subsequent individual assessment measure as a result of their group experience. The second assumption is that assessment should focus on “unassisted” student learning, which means that students should not be exposed to sources of help and assistance from classmates, parents, private tutors, educational programs on television or video, and so forth. This also is a misconception. All school learning is assisted and promoted by the instructional efforts of a wide variety of individuals within and outside of the school.

TYPES OF LEARNING GROUPS

For students to assist in the assessment process they must work together and interact. That is, they must be placed in groups. Often in the past all learning groups were assumed to be the same. There is much more to learning groups than seating students together. There is nothing magical about being in a group. Many groups are ineffective and counterproductive and take more teacher time than they are worth. At least four types of learning groups may be identified (see Activity 1.6). Pseudo and

ACTIVITY 1.6 ■ DEFINITIONS OF LEARNING GROUPS

Demonstrate your understanding of the different types of learning groups by matching the definitions with the appropriate group. Check your answers with your partner and explain why you believe your answers to be correct.

TYPE OF LEARNING GROUP	DEFINITION
_____ 1. pseudo group	a. A group in which students work together to accomplish shared goals. Students perceive they can reach their learning goals if and only if the other group members also reach their goals.
_____ 2. traditional learning group	b. A group whose members have been assigned to work together but they have no interest in doing so. The structure promotes competition at close quarters.
_____ 3. cooperative learning group	c. A group whose members agree to work together but see little benefit from doing so. The structure promotes individualistic work with talking.
_____ 4. high-performance cooperative learning group	d. A group that meets all the criteria for being a cooperative group and outperforms all reasonable expectations, given its membership.

TABLE 1.6

TYPES OF LEARNING GROUPS	COOPERATIVE GROUPS	ESSENTIAL ELEMENTS	OUTCOMES
Pseudo groups	Formal cooperative learning	Positive interdependence	Effort to achieve
Traditional groups	Informal cooperative learning	Individual accountability	Positive relationships
Cooperative groups	Cooperative base groups	Promotive interaction	Psychological health
High-performance cooperative groups		Interpersonal and small group skills Group processing	

traditional learning groups, for example, provide little if any advantage over individual instruction. Assessment is only enhanced when the groups are truly cooperative. To use the new assessment procedures, students must work in cooperative learning groups. Teachers need to understand what cooperative learning is, the different types of cooperative learning groups, the essential elements of cooperation, and the outcomes resulting from cooperation among students (see Table 1.6).

UNDERSTANDING COOPERATIVE LEARNING

Together we stand, divided we fall. —*Watchword of the American Revolution*

Sandy Koufax was one of the greatest pitchers in the history of baseball. Although he was naturally talented, he was also unusually well trained and disciplined. He was perhaps the only major-league pitcher whose fastball could be heard to hum. Opposing batters, instead of talking and joking around in the dugout, would sit quietly and listen for Koufax's fastball to hum. When it was their turn to bat, they were already intimidated. However, the genius of Koufax could have been subverted in one simple way: by making the first author of this book his catcher. To be great, a pitcher needs an outstanding catcher (his great partner was Johnny Roseboro). David Johnson is such an unskilled catcher that Koufax would have had to throw the ball much more slowly for David to catch it. This would have deprived Koufax of his greatest weapon. Placing Roger and Edythe at key defensive positions in the infield or outfield, furthermore, would have seriously affected Koufax's success. Sandy Koufax was not a great pitcher on his own. Only as part of a team could Koufax achieve greatness. As in baseball, extraordinary achievement in the classroom takes cooperative effort, not individualistic or competitive efforts of an isolated individual.

Cooperative learning exists when students work together to accomplish shared goals. Students perceive that they can reach their learning goals if and only if the other students in the learning group also reach their goals. Thus, students seek outcomes that are beneficial to all those with whom they are cooperatively linked. Students are given two responsibilities: to complete the assignment and to ensure that all other group members complete the assignment. Students discuss material with each other, help one another understand it, and encourage each other to work hard. Individual performance is checked regularly to ensure that all students are contributing and learning. A criteria-referenced evaluation system is used. The result is that the group is more than a sum of its parts, and all students perform higher academically than they would if they worked alone.

There are three types of cooperative learning groups. A **formal cooperative learning group** lasts from one class period to several weeks. Formal cooperative learning groups ensure that students are actively involved in the intellectual work of organizing material, explaining it, summarizing it, and integrating it into existing conceptual structures. They are the heart of using cooperative learning. An **informal cooperative learning group** is an ad-hoc group that lasts from a few minutes to one class period. You use them during direct teaching (lectures, demonstrations, films, videos) to focus students' attention on the material they are to learn, set a mood conducive to learning, help set expectations as to what the lesson will cover, ensure that students cognitively process the material you are teaching, and provide closure to an instructional session. A **cooperative base group** is a long-term (lasting for at least a year), heterogeneous group with stable membership whose primary purpose is for members to give each other the support, help, encouragement, and assistance each needs to progress academically. Base groups provide students with long-term, committed relationships.

To structure instructional units so students do in fact work cooperatively with each other, you must understand the basic elements that make cooperation work. Mastering the basic elements of cooperation allows you to

1. Take your existing instructional units, curricula, and courses and structure them cooperatively.
2. Tailor cooperative learning instructional units to your unique instructional needs, circumstances, curricula, subject areas, and students.
3. Diagnose the problems some students may have in working together and intervene to increase the effectiveness of the student learning groups.

For cooperation to work well, you must structure five essential elements in each lesson (Johnson & Johnson, 1989). The first and most important element is **positive interdependence**. You must give a clear task and a group goal so that students believe they sink or swim together. You have successfully structured positive interdependence when group members perceive that they are linked with each other in a way that one cannot succeed unless everyone succeeds. The work of any member benefits all members. If one fails, all fail. Positive interdependence may be structured through common goals, joint rewards, division of resources, complementary roles, a division of labor, and a joint identity.

The second essential element of cooperative learning is individual (and group) accountability. Each member must be accountable for contributing his or her share of the work (which ensures that no one can "hitch-hike" on the work of others). **Individual accountability** exists when the performance of each individual student is assessed and the results given back to the group and the individual. The purpose of cooperative learning groups is to make each member a stronger individual in his or her right. Students learn together so that they can subsequently perform higher as individuals (see Box 1.3).

The third essential component of cooperative learning is promoting interaction, preferably face-to-face. Students need to do real work together in which they promote each other's success by orally explaining to each other how to solve problems, discussing with each other the nature of the concepts being learned, teaching their knowledge to classmates, and explaining to each other the connections between present and past learning. Cooperative learning groups are both an academic support system (every student has someone who is committed to helping him or her learn) and a personal support system (every student has someone who is committed to him or her as a person).

The fourth essential element of cooperative learning is teaching students the required interpersonal and small group skills. In cooperative learning groups students

BOX 1.2

THE TEACHER'S ROLE IN COOPERATIVE LEARNING

MAKE PREINSTRUCTIONAL DECISIONS

- **Specify academic and social skills objectives.** Every lesson has both (a) academic and (b) interpersonal and small group skills objectives.
- **Decide on group size.** Learning groups should be small (groups of two or three members, four at the most).
- **Decide on group composition.** Assign students to groups randomly or select groups yourself. Usually you will want to maximize the heterogeneity in each group.
- **Assign roles.** Structure student–student interaction by assigning roles such as reader, recorder, encourager of participation, and checker for understanding.
- **Arrange the room.** Group members should be “knee to knee and eye to eye” but arranged so they all can see the instructor at the front of the room.
- **Plan materials.** Arrange materials to give a “sink-or-swim together” message. Give only one paper to the group or give each member part of the material to be learned.

EXPLAIN TASK AND COOPERATIVE STRUCTURE

- **Explain the academic task.** Explain the task, the objectives of the lesson, the concepts and principles students need to know to complete the assignment, and the procedures they are to follow.
- **Explain the criteria for success.** Student work should be evaluated on a criteria-referenced basis. Make clear your criteria for evaluating students' work.
- **Structure positive interdependence.** Students must believe they sink or swim together. Always establish mutual goals (students are responsible for their own learning and the learning of all other group members). Supplement goal interdependence with celebration/reward, resource, role, and identity interdependence.
- **Structure intergroup cooperation.** Have groups check with and help other groups. Extend the benefits of cooperation to the whole class.
- **Structure individual accountability.** Each student must feel responsible for doing his or her share of the work and helping the other group members. Ways to ensure accountability are frequent oral quizzes of group members picked at random, individual tests, and assigning one member the role of checker for understanding.
- **Specify expected behaviors.** The more specific you are about the behaviors you want to see in the groups, the more likely students will do them. Social skills may be classified as forming (staying with the group, using quiet voices), functioning (contributing, encouraging others to participate), formulating (summarizing, elaborating), and fermenting (criticizing ideas, asking for justification). Regularly teach the interpersonal and small group skills you want to see used in the learning groups.

MONITOR AND INTERVENE

- **Arrange face-to-face promotive interaction.** Conduct the lesson in ways that ensure that students directly promote each other's success face to face.
- **Monitor students' behavior.** This is the fun part! While students are working, you circulate to see whether they understand the assignment and the

material, give immediate feedback and reinforcement, and praise good use of group skills. Collect observation data on each group and student.

- **Intervene to improve taskwork and teamwork.** Provide taskwork assistance (clarify, reteach) if students do not understand the assignment. Provide teamwork assistance if students are having difficulties in working together productively.

EVALUATE AND PROCESS

- **Evaluate student learning.** Assess and evaluate the quality and quantity of student learning. Involve students in the assessment process.
- **Process group functioning.** Ensure each student receives feedback, analyzes the data on group functioning, sets an improvement goal, and participates in a team celebration. Have groups routinely list three things they did well in working together and one thing they will do better tomorrow. Summarize as a whole class. Have groups celebrate their success and hard work.

are required to learn academic subject matter (taskwork) and also to learn the interpersonal and small group skills required to work together effectively (teamwork). Cooperative learning is inherently more complex than competitive or individualistic learning because students have to engage simultaneously in taskwork and teamwork. Group members must learn how to provide effective leadership, decision making, trust building, communication, and conflict management. Procedures and

BOX 1.3

COOPERATIVE LEARNING: WHOSE WORK IS IT?

When students work in cooperative groups, they provide each other with help and support. This raises the question, Whose work is it? It may be unclear what they can do individually. This same question may be asked about a student's work after a teacher has provided academic help or support. Additional complications arise when class work merges with homework. The amount of help students get from family and friends becomes an additional threat to the validity of interpretations about individual scores. Many assessment procedures put students who do not receive help from family and peers at a disadvantage. Communities in which parents are highly educated professionals, furthermore, may produce student work superior to that produced by students in districts with less educated or wealthy parents. This problem is avoided when assessment procedures lead to individual performances on demand. A student, for example, can write a series of compositions during a school year, all of which go through a peer editing process. Although these compositions reflect what the student is capable of (given the editing and feedback from classmates, parents, and teachers), it does not reflect how well the student can write on demand. The teacher, therefore, may wish to give a test in which students are given a certain amount of class time (such as 30 minutes) to write an essay. The extent to which the writing skills learned transfer to new writing demands can then be assessed.

strategies for teaching students social skills may be found in Johnson (1991, 2000) and Johnson and F. Johnson (2000).

The fifth essential component of cooperative learning is group processing. Group processing occurs when group members discuss how well they are achieving their goals and maintaining effective working relationships. Groups need to describe what member actions are helpful and unhelpful and make decisions about what behaviors to continue or change. Continuous improvement of the process of learning results from careful analysis of how members are working together and determining how group effectiveness can be enhanced.

Your use of cooperative learning becomes effective through disciplined action. The five basic elements are not just characteristics of good cooperative learning groups. They are a discipline that you have to apply rigorously (much like a diet has to be adhered to) to produce the conditions for effective cooperative action.

Over the past 100 years, hundreds of research studies have been conducted on social interdependence. Cooperation, compared with competitive and individualistic efforts, results in (Johnson & Johnson, 1989):

1. **Higher achievement.** The superiority of cooperation (over competitive and individualistic efforts) increases as the task is more complex and conceptual, requires more problem solving and creativity, entails more higher-level reasoning and critical thinking, and transfers more to the real world.
2. **More positive relationships among students and between students and faculty.** This was evidenced even when students were from different ethnic and cultural backgrounds, social classes, and language groups. It was also true for students who were and were not handicapped. Individuals tend to like others with whom they have worked cooperatively.
3. **More positive psychological well-being.** Working with classmates cooperatively has been found to promote greater self-esteem, self-efficacy, social competencies, coping skills, and general psychological health. Included in this area are also students' attitudes toward schooling and subject areas. Working cooperatively tends to result in students developing more positive attitudes toward school, learning, and subject areas and being more interested in taking advance courses and continuing one's education.
4. **A more constructive classroom and school learning environment.** The more frequently cooperative learning is used, the more students perceive the classroom climate as being both academically and personally supportive and enhancing. The more positive the attitudes toward cooperative learning are, (a) the more students report that peer and teacher encouragement helped them to exert effort to achieve, (b) the more students perceive themselves to be involved in positive and supportive personal relationships with classmates and teachers, (c) the higher students' academic self-esteem, and (d) the more fair the grading procedures are perceived to be (Johnson & Johnson, 1991a).

STANDARDS AND TESTING MOVEMENT

There are at least four levels of accountability: student, teacher, school, and parents. The high-stakes nature of these assessments raises the possibility of cheating.

Student Accountability

In Chicago students were promoted year after year regardless of schoolwork that lagged 3 or 4 years behind grade level. Then, as a result of a new policy, which drew nationwide attention, Chicago schools failed more than 40,000 students who did not

pass standardized tests in the third, sixth, eighth, and ninth grades. The message sent to students, teachers, and parents was that “social promotion” was over. The students who failed were humiliated and their parents were enraged. Such high-stakes testing has many critics. In Minnesota, as in many other states, to graduate from high school students are required to pass a **basic standards test**, which measures skills in reading, writing, and math that students should have learned by a certain grade. Such standardized tests are becoming so important that in many states large portions of class time are spent specifically teaching to the test.

The modern standards movement is part of a national response to the 1983 report, entitled *A Nation at Risk*, on the condition of education in U.S. schools. This report called for the development of rigorous academic standards to ensure a high-quality education for all students. In response, national professional organizations representing content areas (such as mathematics, language arts, literacy, science, and social studies) built lists of indicators and expectations for student performance at various grade levels. These new standards tend to be set quite high and apply to a much more diverse student population than ever before. Consequently, they are both driving the curriculum, instruction, and assessment of students and becoming the criteria for successful teacher and administrator performance. New state and privately published standardized tests have been and are being developed to measure degree of attainment of the content standards, thus giving the public objective data about the performance of students, teachers, and schools. The resulting public pressure is supposed to keep schools working to improve the education of all children. Individual parents can put pressure on a school to improve the achievement of their child.

Although such accountability has obvious benefits, there are dangers. The first danger is that the tests are not valid. In Michigan, for example, suburban parents started a boycott of the state proficiency test when the school valedictorian, who enrolled at the Massachusetts Institute of Technology after getting a perfect score on his ACT test, flunked the exam. A second danger is that one group may gain control over what should be measured, to the detriment of other groups. A third danger is that this type of accountability focuses more on punishing low performers than on rewarding high performers. A fourth danger is the outcome of denying students diplomas may incite a backlash against the tests.

In the spring of 2000 a parent whose daughter was denied graduation insisted on seeing the test and found that six questions had been scored incorrectly. In addition, almost 8,000 students who actually passed the test had been told that they had failed, including 336 seniors who were incorrectly denied graduation. There has been some backpedaling. Wisconsin withdrew a test that all students had to pass to graduate. Other states have weakened planned requirements.

The fifth danger is that the criteria for passing a test may be set too high or too low. If too high, public demand will end the accountability system. If too low, the accountability system will waste time and money. After 90 percent of Arizona sophomores failed a new math test, the board of education reconsidered the test. The Virginia Board of Education planned to sanction schools in which more than 30 percent of students failed state tests, but when 93 percent of the schools had these percentages of failure, the Board relaxed the standards. Faced with holding back 50 percent of students, the Los Angeles school system has reconsidered the planned end to automatic promotions.

Teacher and Administrator Accountability

The standards and testing movement targets teachers (and administrators) as well as students. Teacher performance assessments focus on domains such as (a) organizing content knowledge for student learning, (b) creating an environment for student learning, (c) teaching for student learning, and (d) teacher professionalism in building

collaborative relationships with colleagues. The most common form of teacher accountability, however, is student performance on standardized tests. In Kentucky, for example, teachers get bonuses when test scores rise and are placed on probation or face the prospect of losing their jobs when scores fall.

From Maryland to California, standardized test scores are the weapon of choice in threatening takeovers of failed schools. In New York, principals can be removed for "persistent education failure." In New Jersey, state officials can take complete control of a district for up to 5 years; board members and administrators can be dismissed. In Illinois, a district can be dissolved and realigned with another district or managed by an independent authority. At the extreme is the fresh-start or reconstitution concept; if student performance fails to improve despite normal intervention efforts, the district can close a school and start over, with teachers and administrators transferring to different schools. Many states now have laws to fight what is known as academic bankruptcy, that is, schools in which student performance is sagging.

Since 1982, William Sanders, at the University of Tennessee, has been studying Tennessee's student achievement data to devise a mathematical model to identify effective and ineffective teachers. Sander's system focuses on the academic gain a student could be expected to make in a year. He believes that small gains can add up to greater academic achievement in the long run. What surprised him was that the data indicated that the variability among teachers was much larger than the variability among schools. The students of the top teachers all make gains above expectation.

Sanders concludes that of all the influences in a student's life, the quality of teaching, not poverty, ethnicity, or family circumstance, is the most important factor. When compared to class size or ethnicity of students, or whether students are on free or reduced-price lunches, the individual classroom teacher has a much more powerful effect on student achievement. Teacher effects accumulate, so that if one third-grader gets poor teachers for 3 years and another third-grader gets excellent teachers for 3 years, by sixth grade their standardized test scores can differ by as many as 50 percentile points. Sanders wants school districts to identify ineffective teachers and provide them with mentors or involve them in team teaching. At the very least, principals should ensure that a student does not get an ineffective teacher 2 years in a row.

With the increased importance of standardized test results, more and more people are seeing students failing such tests in the eleventh grade and asking, who is responsible? Increasingly, authorities are answering, teachers! Colorado and New Mexico claim to have abolished teacher tenure, making it easier to dismiss teachers. Florida has cut in half the time it takes to dismiss a teacher. North Carolina has lengthened the teacher probation period from 3 years to 4 years. Texas uses student test scores as part of teacher evaluations. A few districts pay bonuses to teachers based on student performance. In 1994 the state of Tennessee began publishing school-by-school comparisons statewide based on gains students were making on standardized tests. Starting in 1996, second- through eighth-grade teachers have been receiving yearly reports showing how much their students progressed compared with expectations and with other students in the school system and the state. Principals also began receiving comparison reports on teachers so they could take action to help ineffective teachers.

School Accountability

Many states have decided to issue report cards for schools and often assign schools grades ranging from A to F or apply designations such as distinguished, excellent, low-performing, and unsatisfactory. An example is Colorado, which will begin printing school report cards in August 2001 and mailing them to parents. Each report card will contain a letter grade for the academic performance and improvement of the school as a whole, the grades assigned to neighboring schools, results of statewide

test performance, student-teacher ratios, average levels and salaries for teacher experience, reports of disciplinary incidents, student attendance, data on the amount of money the school district receives and how that money is spent. Florida also assigns schools letter grades (based on state test scores and high school dropout rates) and allocates funds to help schools that get low grades. As a result, the number of elementary schools assigned Fs dropped from 66 in 1998 to 4 in 2000.

The Education Commission of the States reports that the majority of states issue report cards for schools and 26 states publicly categorize or rank schools. School and district assessment may increase as the political and public demand for accountability increases. In Texas, the State Education Agency publishes a pocket summary of the previous school year for each school that includes teacher and student profiles, dropout rates, a breakdown of district revenue, results of college admissions tests, and the percentage of students who passed state tests.

Parent Accountability

Throughout the United States, students and teachers are becoming more accountable every year. Perhaps the same rules should apply to parents. Some states are considering making parents accountable. In Kentucky a state dropout-prevention committee proposed that parents should pay schools for any unexcused absences of their children. In Virginia parents were fined \$50 for the "willful or unreasonable failure" to sign and return a statement to the school. In 1996 the legislators dropped the fine. However, efforts to include parents in the accountability system will continue.

Cheating

The majority of high school students cheat in school, at least once in a while. In a recent survey, more than 70 percent of students admitted cheating at least once in the past year. Among high achievers, the percentage was even higher (80 percent). Many students report that they are encouraged by their teachers to cheat on standardized tests; teachers state, in turn, that they are encouraged by their administrators to have students cheat. So many teachers and administrators are encouraging cheating on standardized tests that it is becoming a national problem. Cheating, not only by students, but also by teachers and administrators, is the result of high stakes involved in students' performance on standardized tests. In the fall of 1999, for example, teachers and administrators at 32 New York City schools were reputed to have helped students cheat on standardized tests by providing them with questions in advance and even marking test forms for them. The higher the stakes of the evaluation are, and the more frequently normative procedures are used, the more cheating may occur.

SUMMARY

Assessment is the collecting of information about the quality and quantity of a change in a student or group. The *effectiveness* of an assessment depends on using minimal resources to achieve the goals of the assessment; maintaining effective working relationships among the assessor, assessee, and other interested stakeholders; and increasing motivation to participate in future assessments.

Two central issues of assessment are how to make assessments meaningful and how to make them manageable. To be *meaningful*, assessments have to a significant purpose, consist of procedures that are clearly understood, and provide a direction for future learning and instruction. To be *manageable*, assessments have to provide useful information with the application of minimal resources. Manageability includes whether the available resources are adequate for the requirements of the assessment

procedure and whether the value of the information obtained is worth the expenditure of the resources.

The student performances that can be assessed are academic learning, reasoning, skills and competencies, attitudes, and work habits. The purpose of assessments may be to diagnose the level of student knowledge and skills before an instructional unit is implemented, to form the instructional program by periodically checking on its progress, and to sum up the information needed to judge the quality and quantity of student learning. The focus of assessment can be on the processes of learning and instruction or on their outcomes. The more often assessments are conducted in authentic settings, the better. The results of the assessments can be of high or low importance to students and their parents, teachers, administrators, policymakers, and colleges and employers. Evaluations of the assessment result may be based on criteria-referenced or norm-referenced procedures.

The meaning of an assessment begins with a significant purpose. Significance depends on involvement in setting goals, interdependency of goals with the goals of significant others, joint efforts being required to achieve the goals, and the relevance of the goals to the assessee's lives. Meaning also depends on the clarity of the procedures, criteria, and rubrics being used. Understanding is based on involvement. Finally, meaning depends on the assessment providing useful information about the direction of future learning efforts.

Managing assessments includes planning the assessments (setting goals that students are committed to achieving, selecting procedures, organizing resources); conducting diagnostic, formative, and summative assessments; analyzing the data and recording the results; and reporting the results to relevant stakeholders. New learning goals are then set. Each of these activities takes considerable time and effort. Teachers have very little time for assessment, perhaps 3 to 9 minutes each week on average to assess the work of each student. Teachers, therefore, do not have time to use many of the most effective and helpful assessment procedures.

If teachers are to use the more effective and helpful assessment procedures, they must involve colleagues, parents, and students in assessing students' work. Of these available resources, student assistance has the advantages of creating opportunities for powerful learning experiences that increase achievement; of allowing more frequent assessments to be conducted; of expanding the variety of outcomes to be assessed; of using more modalities, thus reducing the need for reading and writing to be prerequisites for assessment; of drawing on more sources of information for assessments; of reducing the teacher bias; of prescribing remediation and enrichment activities following the assessment; and of addressing group as well as individual outcomes to be assessed.

If students are to participate in the assessment process, they must be organized into cooperative learning groups. At least four types of learning groups can be identified: pseudo groups, traditional groups, cooperative groups, and high-performance cooperative groups. The three types of cooperative learning groups are formal, informal, and base groups. To be cooperative, five basic elements must be structured: positive interdependence, individual accountability, promotive interaction, social skills, and group processing. When implemented skillfully, cooperative learning, compared to competitive and individualistic learning, tends to result in greater efforts to learn, more positive relationships, and greater psychological health.

The accountability movement has increased the use of standardized tests for high-stakes assessments. These tests may determine whether students are promoted or graduate, whether teachers receive bonuses or sanctions, whether administrators are fired and boards of education are replaced, whether parents are fined, and whether schools are closed. The result is a clearer picture of whether schools and teachers are promoting student learning, but also of how students, teachers, and administrators are cheating.

Assessment begins with a goal-setting conference. Once students' goals are set, students participate in the instructional program. The quality and quantity of academic learning, level of reasoning, skills and competencies, attitudes, and work habits may be assessed by standardized and teacher-made tests, compositions and presentations, individual and group projects, portfolios, questionnaires, and learning logs and journals. The assessment data is used as part of a total, quality learning procedure emphasizing continuous improvement. Teachers participate in collegial teaching teams to ensure assessments are fair and complete. Finally, periodically teachers use the assessment data to determine students' grades.

ASSESSMENT PLANNING FORM

Grade Level: _____ Subject Area: _____ Date: _____

Lesson: _____

1. What are the purposes of the assessment?

- a. _____

- b. _____

- c. _____

- d. _____

2. What is the focus of the assessment?

- | | |
|------------------------------|-------------------------------|
| _____ Process of learning | _____ Outcomes of learning |
| _____ Process of instruction | _____ Outcomes of instruction |

3. In what setting will the assessment take place?

4. What area of student learning will the assessment be aimed at?

- | | |
|---|-------------------|
| _____ Academic learning | _____ Attitudes |
| _____ Level of reasoning, critical thinking | _____ Work habits |
| _____ Skills and competencies | |

5. What assessment procedures will be used?

- | | |
|-------------------------------------|----------------------------------|
| _____ Standardized tests | _____ Portfolios |
| _____ Teacher-made tests | _____ Observation |
| _____ Compositions | _____ Interviews |
| _____ Presentations | _____ Questionnaires |
| _____ Individual and group projects | _____ Learning logs and journals |

6. Who are the stakeholders and what is the level of their stakes in the assessment?

Stakeholder	Low Stake	Medium	High Stake
_____ Students and parents			
_____ Teachers			
_____ Administrators			
_____ Policymakers			
_____ Colleges, employers			

7. How will the assessment be made more meaningful?

- a. Explain how purpose is significant.
- b. Explain how procedures, criteria, rubrics are made clear.
- c. Explain how direction for future efforts is highlighted.

8. How will the assessment be made more manageable?

- a. What resources are needed?
 - b. How may student assistance be utilized?
-

COOPERATIVE LESSON PLANNING FORM

Grade Level: _____ Subject Area: _____ Date: _____

Lesson: _____

OBJECTIVES

1. Academic _____

2. Social _____

DECISIONS

1. Group size: _____

2. Method of assigning students: _____

3. Roles: _____

4. Room arrangement: _____

5. Materials: _____

☐ a. One copy per group _____

☐ b. Jigsaw _____

☐ c. Tournament _____

☐ d. One copy per person _____

☐ e. Other _____

EXPLAINING TASK AND GOAL STRUCTURE

1. Task: _____

2. Criteria for success: _____

3. Positive interdependence: _____

4. Individual accountability: _____

5. Intergroup cooperation: _____

6. Expected behaviors: _____

MONITORING AND INTERVENING

1. Observation procedure: _____ Formal _____ Informal

2. Observation by: _____ Teacher _____ Students _____ Visitors

3. Intervening for task assistance: _____

4. Intervening for teamwork assistance: _____

5. Other: _____

EVALUATING AND PROCESSING

1. Assessment of members' individual learning: _____

2. Assessment of group productivity: _____

3. Small group processing: _____

4. Whole group processing: _____

5. Charts and graphs used: _____

6. Positive feedback to each student: _____

7. Goal setting for improvement: _____

8. Celebration: _____

9. Other: _____
