# Cooperative Learning Center

**University Of Minnesota**

**60 Peik Hall**

**159 Pillsbury Drive, S.E.**

**Minneapolis, Minnesota 55455-0298**

**Phone: (612) 624-7031**

**FAX: (612) 626-1395**

**http://www.co-operation.org**

**Directors: Roger T. Johnson and David W. Johnson**

**Karl A. Smith**

# David W. Johnson

David W. Johnson is a Professor of Educational Psychology at the University of Minnesota. He is Co-Director of the Cooperative Learning Center. He held the **Emma M. Birkmaier Professorship in Educational Leadership** at the University of Minnesota from 1994 to 1997 and the **Libra Endowed Chair** for Visiting Professor at the University of Maine in 1996-1997. He received the American Psychological Association’s 2003 Award for Distinguished Contributions of Applications of Psychology to Education and Practice. He and his brother Roger were awarded the **Brock International Prize in Education** in 2007. He received his doctoral degree from Columbia University. He has authored over 400 research articles and book chapters. He is the author of over 40 books. He is a past-editor of the **American Educational Research Journal**. Dr. Johnson is the recipient of awards for outstanding research and teaching from the American Psychological Association (1981), the American Society for Engineering Education (1984), the National Council for Social Studies (1986), the American Association for Counseling and Development (1988), Ball State University (1990), the Minnesota Association for Supervision and Curriculum Development (1990), the Southwest Ohio Planning Council for Inservice Education (1990), the Department of Defense Schools, Panama, (1994), the American Educational Research Association (1996), the American Society for Engineering Education (1997),and Ball State University (1999). He has been listed in Marquis' **Who's Who in the World** since 1982 For the past 35 years Dr. Johnson has served as an organizational consultant to schools and businesses in throughout the world. He is a psychotherapist.

# Roger T. Johnson

Roger T. Johnson is a professor of Curriculum and Instruction at the University of Minnesota. He holds his doctoral degree from the University of California in Berkeley. He is the Co-Director of the Cooperative Learning Center. He and his brother David were awarded the **Brock International Prize in Education** in 2007. Dr. Johnson's public school teaching experience includes kindergarten through eighth grade instruction in self-contained classrooms, open schools, nongraded situations, cottage schools, and departmentalized (science) schools. At the college level, Dr. Johnson has taught teacher-preparation courses for undergraduate through PhD programs. He has consulted with schools throughout North America, Central and South America, Eastern and Western Europe, the Middle East, Asia, and the Pacific Region. He taught in the Harvard-Newton Intern Program as a Master Teacher. He was a curriculum developed with the Elementary Science Study in the Educational Development Center at Harvard University. For three summers he taught classes in the British Primary Schools at the University of Sussex near Brighton, England. Dr. Johnson has been honored with several national awards including the American Psychological Association the American Society Engineering Education, National Council for the Social Studies, Minnesota Association for Supervision and Curriculum Development, University of Maine, and Ball State University. Dr. Johnson is the author of numerous research articles, book chapters, and books. Nationally, Dr. Johnson is a leading authority on inquiry teaching and science education.

# Karl A. Smith

Karl A. Smith is Emeritus Professor of Civil Engineering and Morse-Alumni Distinguished Teaching Professor in the STEM Education Center and Technological Leadership Institute at the University of Minnesota. He is also Cooperative Learning Professor of Engineering Education, School of Engineering Education, at Purdue University. Karl has been actively involved in engineering education research and practice for over forty years has worked with thousands of faculty all over the world on pedagogies of engagement, especially cooperative learning, problem-based learning, and constructive controversy. He is a Fellow of the American Society for Engineering Education and past Chair of the Educational Research and Methods Division. He has written eight books including *How to model it: Problem solving for the computer age; Cooperative learning: Increasing college faculty instructional productivity*; *Strategies for energizing large classes: From small groups to learning communities*; and *Teamwork and project management.*

# Schedule

1. Introduction

2. Power of Groups

3. Using Groups For Individual Assessment

4. Incorporating Peer Assessment in Groups

5. Assessing Groups as a Whole

6. Cultivating Self-Assessment in Groups

7. Conclusions and Closure

# Table 1: Comparison Of Old And New Paradigms Of Teaching

|  |  |  |
| --- | --- | --- |
| **Factor** | **Old Paradigm Of Teaching** | **New Paradigm Of Teaching** |
| **Knowledge** | Transferred From Faculty To Students | Jointly Constructed By Students And Faulty |
| **Students** | Passive Vessel To Be Filled By Faculty’s Knowledge | Active Constructor, Discoverer, Transformer of Own Knowledge |
| **Faculty Purpose** | Classify And Sort Students | Develop Students’ Competencies And Talents |
| **Relationships** | Impersonal Relationships Among Students And Between Faculty And Students | Personal Transaction Among Students And Between Faculty And Students |
| **Context** | Competitive/Individualistic | Cooperative Learning In Classroom And Cooperative Teams Among Faculty |
| **Assumption** | Any Expert Can Teach | Teaching Is Complex And Requires Considerable Training |

## Key Messages

**1. Organizational Structure Has To Change:**

a. From Mass-Production, Competitive, Loosely Coupled Structure

b. To Team-Based, Cooperative, High Performance Structure

**2. Both Students And Faculty Work In Teams:**

a. Students Work In Cooperative Learning Groups

b. Faculty Work In Colleagial Teaching Teams

**3. Teams Continuously Improve The Quality Of The Processes Of Learning And Instruction.**

# Assessment Workshop, Singapore, October, 2012

**Purpose**: The workshop on Assessment and Assessing Students in Groups will focus on how to structure assessments so that they become learning experiences that help achieve instructional goals. Groups help make assessments more manageable and meaningful. They improve the assessment of individual students, they provide a setting for peer assessment, they allow for the completion of complex projects, and they provide a setting for self-assessment. Each of these topics will be covered in this workshop.

# Section One: Overview of Group Assessment

In order to create such effective group assessment systems the misperceptions about group assessment need to be corrected and the eight steps of utilizing groups in assessment must be followed.

# Utilizing The Power Of Groups For Assessment

In a single lesson, the teacher may assess the group as a whole and each group member as individuals. Members may assess each other and engage in self-assessment. To utilize the power of cooperative learning groups in utilizing and combining the procedures described in this book the eight steps to utilizing groups in assessment must be followed.

## Step 1: Recognize The Power of Groups For Assessment Purposes

The learning of any one student in the classroom depends on the help, support, and encouragement of classmates. Instruction, learning, assessment, and evaluation all take place in a network of interpersonal relationships. Despite these relationships, assessment has traditionally focused on individual-to-individual transfer of learning and “unassisted” individual learning, which are reflected in competitive and individualistic learning. Groups have powerful effects on students’ behavior, through socialization and development, social influence, and attitude and value development. The power of groups for both instruction and assessment has been relatively ignored. Students will form groups despite how learning is structured, so the issue is not whether groups will exist in a classroom but rather whether teachers will utilize the power of groups for instructional and assessment purposes. Learning in groups tends to enhance many instructional outcomes, such as achievement, relationships with classmates, psychological health, and social skills. In addition, learning in groups helps make assessment meaningful, provides the framework for involving students in the assessment process, and enables teachers to conduct more frequent assessments, assess a wider variety of outcomes, use more modalities in assessing students’ work, utilize more sources of information in making assessments, reduce biases in assessment, create support systems, and assess groups as well as the individual members. Groups mediate the impact of evaluation, so that when students working in learning groups have high evaluation apprehension they perform better on well-learned tasks but when they have low evaluation apprehension they perform better on new and complex tasks. Finally, a much wider range of outcomes can be assessed when learning groups are used. In short, the use of learning groups opens the classroom to assessment potentials that many schools do not dream of.

## Step 2: Structure Effective (Not Ineffective) Groups

The power of groups that is reflected in the great achievements in the world and the success of business and industry can also be utilized in the classroom. There is, however, nothing magical about working in a group. Some kinds of learning groups facilitate student learning, enhance assessment, and increase the quality of life in the classroom while other types of learning groups hinder student learning, interfere with assessment, and create disharmony and dissatisfaction with classroom life. To utilize groups effectively for learning and assessment, teachers must be able to change pseudo and traditional learning groups to cooperative learning groups. There are three types of cooperative learning groups: Formal cooperative learning, informal cooperative learning, and cooperative base groups. The requirements for cooperation include positive interdependence, individual accountability, promotive interaction, appropriate use of social skills, and group processing. Cooperative learning, compared with competitive and individualistic learning, tends to increase achievement and retention, create more positive relationships, and increase psychological health. In addition, cooperation tends to result in more accurate, valid, and reliable perception of students and their performances due to open and honest communication and high levels of trust, while competitive and individualistic learning tend to promote misperceptions of students and their performances based on closed and misleading communication and distrust. To use groups for assessment purposes, the groups have to be structured cooperatively.

## Step 3: Make An Assessment Plan

To enhance productivity in classrooms, the use of cooperative learning groups needs to be central the assessment plans constructed by teachers. In making an assessment plan that is then implemented and carried out to fruition, there are at least eight issues that have to be addressed. Teachers may assess individuals, groups, or both. Teachers need to determine the specific processes and outcomes to be assessed; the potential outcomes include knowledge, reasoning processes, skills and competencies, attitudes and values, and work habits. The instructional tasks need to be sequenced. Teachers then formulate the assessment procedures; procedures include tests, observations, portfolios, reports, and so forth. The purpose of assessments may be diagnostic, formative, or summative. The setting in which assessments take place may be artificial or authentic. The stakeholders include students, parents, teachers, administrators, colleges, and employers. The assessment procedures may be criterion-referenced or norm-referenced. Finally, the importance of assessment instructional and learning processes as well as outcomes is stressed; this is known as total-quality-learning.

## Step 4: Use Groups To Assess Individual Performances

The basic purpose of a cooperative group is to make each member a stronger individual in his or her own right. Most assessments begin, therefore, with the teacher assessing the learning of group members as separate individuals. This involves such procedures as setting learning goals, using individual tests and assigning individual products, observing students while the groups work, giving group members a questionnaire to complete, and interviewing group members during the group sessions. There is a pattern to classroom life summarized as “learn it in a group, perform it alone.” The teacher may use the results of the individual assessments to structure the agenda for the next group session and the group may use the individual assessments to provide remediation and further instruction of each member.

## Step 5: Assess Group Performances

In productive groups, discussions can be so free flowing that ownership and any one idea could not be established, they were the product of the group as a whole. This is typical of productive groups. There are many instructional procedures that require a group product and there are many assignments that require groups to produce a single product. Science experiments, dramatic or musical productions, team sports, history field projects and many, many more assignments may result in a group product that is assessed as a whole. Problem-based learning, the case study method, dramatic productions, group investigation, and academic controversy all require group products. Such instructional procedures allow students to be creative and inventive in integrating diverse knowledge and skills, use diverse medias, use procedures such as the scientific method, formulate their own questions and answers, share their learning and accomplishments with others, and transfer and apply a wide variety diverse information and skills. When students are placed to groups to complete a project, both group and individual level assessments need to be conducted.

## Step 6: Structure Peer Assessment

Picasso and Braque’s intensely creative collaboration stands as an example of the power of peer assessment. Peers are the source of potentially the most complete, accurate, and helpful assessments and feedback. Teachers can only sample student behavior, while peers in learning groups can continuously monitor and assess a student’s behavior. Peer monitoring and assessment can have powerful influences on achievement-oriented behavior and a wide range of variables affecting cognitive and social development. Utilizing peers in assessment increases the learning of the assessor, allows for more frequent assessments to take place, allows for the assessment of a wider variety of outcomes, allows for the use of more modalities in assessment, reduces the bias inherent in making reading and writing prerequisites for assessment, allows for the utilization of more sources of information, reduces potential teacher bias in assessment, and creates peer social support systems for remediation and enrichment. Peers are required if students are to engage in performances such as writing and presenting frequently, have their work assessed, and be given immediate and detailed feedback on the quality of their performances. In addition, to become competent in such areas as writing and presenting, students need to observe, analyze, and assess the performances of others.

## Step 7: Structure Self-Assessment

The philosopher Chilon wrote in the antechamber of the Oracle of Delphi, “Know Thyself.” This is the purpose of almost all assessment in the classroom, that students develop an understanding of their strengths and weaknesses and areas in which they excel or need further growth. Throughout one’s life learning, growth, and development is greatly influenced by self-assessments. There will not always be a teacher or a set of peers to assess one’s actions and provide feedback. Each individual has to learn how to engage in self-assessment and using the results to modify his or her behavior to make it more effective. Teaching students how to engage in valid and reliable self-assessment has long been a basic aim of education. Self-assessment leads self-awareness and self-regulation, self-monitoring and appropriate self-presentation, self-understanding, and social sensitivity. Engaging in self-assessment requires a social comparison process with other individuals. Without comparing oneself with similar others, a person will never really know whether they are quick or slow witted, have a sense of humor, or approach problems in an analytical and rational way. Social comparison is a core element of human conduct and is used continuously to make accurate assessments of one’s performances, opinions, emotions, attitudes, values, attributes, and abilities. It may be impossible to know oneself without knowing others and comparing oneself with others. It makes considerable difference, however, whether social comparison takes place in a competitive or a cooperative context. In a competitive context, social comparisons deal with winning and losing and contingent self-esteem. In a cooperative context, social comparisons lead to a view of each group member as a unique individual. The ways in which a person gains information to use in self-assessment include introspection, self-observation, observation of others (especially diverse others of similar age and training), explaining yourself to others, and receiving feedback from others. Student self-assessment is promoted by (a) involving students in developing a set of criteria to use in assessing their performances, (b) involving students in creating a rubric for each criterion, (c) training students to use the criteria and rubrics, (d) have each student assess his or her performance, (e) help students develop action plans, and (f) continuously improve the process. Learning logs and journals are key tools for having students document and assessed and reflect on their learning. Keeping a log or journal helps students rate the quality of the learning of themselves and their groupmates.

## Step 8: Use Groups To Create Assessment Situations

Group experiences may be created for the specific purposes of assessing targeted student competencies and learning. There are two major methods for doing so: Role-playing and simulations. Students participate in the role-playing exercise or simulation, reflect on their experience, relate what they learn to the academic material being studied, and diagnose how effectively they performed in the situation. Group experiences are very useful in assessing complex competencies and skills that need to be demonstrated as well as described.

# Section Two: Background Material

# Management Problems With Assessment

|  |  |
| --- | --- |
| **Problem** | **Solution** |
| Amount of time and effort required to implement the assessment process. | Have cooperative groups manage the assessment process for their members. |
| 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.  |
| Outcomes most commonly assessed are subject matter knowledge and recognition of facts. | Have students work in cooperative groups where more diverse outcomes can be assessed, such as critical thinking, academic, cognitive, and social skills.  |
| Sources of information limited to teacher assessments. | Have students work in cooperative groups to include self and peer assessments in addition to teacher assessments.  |
| Results biased by making reading and writing a prerequisite for demonstrating knowledge and skill. | Use cooperative groups so students can exchange and reveal knowledge orally and demonstrate skills.  |
| Most individual students lack the resources necessary to implement the continuous improvement process.  | Use cooperative groups so that continuous improvement process can be implemented.  |
| Many individual students will not learn the criteria and rubrics used to assess their work.  | Use cooperative groups to ensure that all group members learn the criteria and rubrics used to assess their work.  |
| Assessment process is not a learning experience for most individual students. | Use cooperative groups to involve students in assessing each other’s work thereby learn from the assessment process.  |
| Teacher bias can affect the assessment and evaluation process.  | Reduce possibility of teacher bias by using cooperative learning groups and involving members in assessing each other’s work. |
| Many individual students are not able to learn from assessments, make improvement plans, and implement plans on their own.  | Use cooperative learning groups to provide students a support system for creating and implementing improvement plans.  |
| Only individual outcomes can be assessed.  | Use cooperative learning groups so group outcomes can be assessed in addition to individual outcomes.  |
| Assessing individual students in isolation is incongruent with ideal instructional experiences.  | Use cooperative learning groups so that assessment process is congruent with ideal instructional methods.  |

## Groups Empower Teachers To Enlarge The Scope Of Assessments

The power of groups is reflected in the ways it enables teachers to increase the scope of assessments. Having students help conduct assessments allows teachers to:

1. **Provide students with powerful learning experiences that increase theirs achievement**. Assessing the accuracy, quantity, and quality of own and classmates’ work tends to make the assessment and reporting processes important learning experiences. In addition, when students conduct assessments of classmates’ work, they learn the criteria and rubrics used in assessment more thoroughly, thus developing internal guidelines and greater understanding of how their work should be completed. Involving students in the assessment process can result in greater integration of assessment and instruction.

2. **Conduct more frequent assessments.** 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**. Outcomes that are ignored because they are too labor intensive to assess or require frequent and continuous monitoring may be included in an assessment plan when students are available to help. When students work together, covert reasoning and problem-solving processes, social skills, attitudes and values, and work habits 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. This considerable enriches student assessment.

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

6. **Reduce sources of bias**. There are at least two sources of bias in classroom assessments. The first is the inherent bias in making reading and writing prerequisites for revealing knowledge or engaging in a performance. The second is potential teacher bias due to such factors as neatness of handwriting (Sweedler-Brown, 1992) and teachers’ perceptions of students’ behavior (Bennett et al., 1993; Hills, 1991). The more students assess each other work, the less the potential there is for these biases.

7. **Create classmate social support systems for remediation and enrichment activities**. The limits on teacher time prevent teachers from monitoring each student’s efforts to learn all the time and requires that only a sample be assessed. In small cooperative groups, classmates can continuously monitor each other’s activities and provide both academic and personal support.

9. **Create the opportunity to assess group as well as individual outcomes.** There are scientific, dramatic, or creative projects that may only be done by groups.

## Groups Enable The Assessment Of A Wider Range Of Outcomes

The power of groups is reflected in the range of outcomes that may be assessed. Most outcomes of instruction can be assessed either individually or in groups. Cognitive outcomes, such as domain specific knowledge (declarative, procedural, schematic, strategic knowledge in broad domains such as humanities, social sciences, science), learning skills (such as comprehending, problem solving, decision making), reasoning with or applying knowledge in problem solving (verbal, quantitative, spatial reasoning), and learning about one’s learning, can sometimes be best measured individually and at other times best measured in groups. Personal and social outcomes such as empathy, caring, compassion, and self-understanding may be measured through individual questionnaires, but if teachers wish to assess students’ ability to engage in such behaviors, a group setting is necessary. In today’s discussions about assessing learning and national, state, and local accountability systems, the desired outcomes of education are almost always confined to individual measurement of cognitive outcomes at the expense of personal, social, and civic outcomes.

Groups allow for the assessment of a wide range of outcomes that cannot be assessed when individuals work alone. Examples are (Johnson & Johnson, 1996, 2002):

1. In groups, members give oral explanations, which tend to result in higher-level reasoning, deeper-level understanding, and long-term retention. These outcomes are often difficult to assess. In order to determine what students truly understand it is necessary to make covert cognitive processes overt. Teachers listen to the group members working together and can determine the level of understanding students have of the material they are studying. Without cooperative groups in which students are explaining to each other what they are learning, such assessment is not possible.

2. In groups, members may disagree with each other and challenge each other’s conclusions and reasoning. Such intellectual conflict, when it is managed constructively, fuels higher-level reasoning, divergent thinking, creativity, and long-term retention (Johnson & Johnson, 1995c). Creative problem solving is especially enhanced by intellectual conflict among groupmates. The ways in which intellectual conflicts are managed and the creativeness of arriving at a conclusion can only be assessed in a group. Without cooperative groups in which students engage in intellectual conflicts, such assessment is not possible.

3. In groups, assessment can involve modalities other than reading and writing. Students who have trouble reading can learn assigned material orally. The discussion inherent in groupwork deemphasizes reading ability and emphasizes oral competencies. Groups provide an arena in which oral examinations on students’ knowledge, reasoning, and problem-solving can take place and immediate feedback and remediation may be given.

4. In groups, social skills may be assessed. While a group works, communication must be effective, leadership must be provided, trust must be built and maintained, decisions must be made, conflicts must be resolved, and so forth. Such social skills cannot be assessed when students are working alone. Without cooperative groups, the assessment of social skills may not be possible.

5. In groups, attitudes and values may be more apparent and easier to assess. Working in cooperative learning groups tends to result in more positive attitudes toward learning and more prosocial values than does learning competitively or individualistically. Attitudes and values are reflected in behavior in interaction among group members and therefore more open to assessment. Without cooperative groups in which students actualize their attitudes and values through the way they interact, such assessment may not be possible.

6. In groups, work habits may be more apparent and easier to assess.

7. In groups, civic outcomes such as taking initiative, demonstrating social responsibility, engaging in civic projects, and so forth can be measured.

8. In groups, a wide variety of skills and competencies (such as problem-solving, interacting effectively with diverse peers, use of technology, writing and speaking) can be assessed.

# Eight Steps Of Using Groups For Assessment

Given that valid and reliable assessments depend on cooperative relationships among students and faculty and that learning groups may be used almost in any lesson, the use of learning groups in assessment needs to be discussed. There are eight steps in using groups for assessment.

First, teachers need to realize that groups not only have powerful effects on achievement and other instructional outcomes, but also on assessments.

Second, not all groups are powerful and not all groups enhance instruction and assessment. There is more to making groups effective than seating students together and telling them they are a team. Poorly structured groups may be at best inefficient and at worse destructive to members. To be effective, learning groups need to be cooperative with five basic elements (i.e., positive interdependence, individual accountability, promotive interaction, social skills, and group processing) carefully structured in the learning situation. Any assignment in any subject area may be structured cooperatively. There are three types of cooperative learning groups: Formal cooperative learning, informal cooperative learning, and cooperative base groups. Each may be used to enhance the quality of assessments and integrate instruction and assessment.

Third, teachers make an assessment plan that includes cooperative learning groups as the setting in which the assessment is organized. While students may learn in cooperative learning groups, teachers may assess individuals, groups, or both. The teacher decides which specific processes and outcomes (i.e., knowledge, reasoning processes, skills and competencies, attitudes and values, and work habits) will be assessed, the sequence of the instructional tasks, the assessment procedures (tests, observations, portfolios, reports, and so forth), and the purpose of assessments (i.e., diagnostic, formative, or summative). Groups can provide immediate remediation and enrichment thus integrating instruction and assessment.

Fourth, groups are used as the setting in which each member is assessed as an individual. The basic purpose of a cooperative group is to make each member a stronger individual in his or her own right. There is a pattern to classroom life summarized as “learn it in a group, perform it alone.” Most assessments begin, therefore, with the teacher utilizing groups to more accurately assess each group member as a separate individual. Groups are necessary for the assessment of many individual outcomes. There are many individual performances (such as mastery of social skills, singing in harmony, playing an instrument in concert with others, passing the ball to a teammate in basketball, giving an encouraging remark to a groupmate who is too shy to participate, expanding on a classmate’s idea, giving good explanations, summarizing and integrating the views of others, criticizing the reasoning of another person, and so forth) that can only be assessed within a group setting. Within learning groups, learning goals are set for each member. Assessment procedures are then used, such as individual tests, questionnaires, interviews, and observations. The teacher may use the results of the individual assessments to structure the agenda for the next group session and the group may use the individual assessments to provide remediation and further instruction of each member.

Fifth, on many assignments groups produce a product that should be assessed. Obviously, group assessment cannot take place without groups. Group assessment involves having students work in small groups to complete a lesson, project, or test while a teacher and/or group members measure the level of performance of the group as a whole. There are many desired outcomes of schools that can only be assessed if students work in groups and are assessed at a group level, such as performing a play, winning a basketball or volleyball game, or the making a video. Science experiments, dramatic or musical productions, team sports, history field projects and many, many more assignments may result in a group product that is assessed as a whole. When group projects are assigned, problem-based learning used, and case studies are discussed, the result of the group effort is assessed.

Sixth, groups are necessary for peer assessments. Obviously, if students are to assess each other’s learning, they have to work together so that each person’s learning processes and quality and quantity of actual learning can be observed and understood. Peers may be the source of the most complete, accurate, and helpful assessment and feedback. The more students work together, and the more cooperative the situation, the more accurate, fair, and insightful peer assessments will be. While teachers may sample students’ behavior, groupmates continuously monitor each other’s work and performances. Assessing each other’s work, furthermore, increases the learning of the assessor, allows for more frequent assessments to take place, allows for the assessment of a wider variety of outcomes, allows for the use of more modalities in assessment and thereby reduces the bias inherent in making reading and writing prerequisites for assessment, allows for the utilization of more sources of information, reduces potential teacher bias in assessment, and creates peer social support systems for remediation and enrichment.

Seventh, the teacher may structure self-assessment based on the experiences of working cooperatively with classmates. Engaging in self-assessment requires a comparison process (either with a person’s past performances, preset criteria, or the performance of similar others) and procedures for gathering information about such things as one’s performances, actions, emotions, intentions, and values. All three types of comparisons are helpful, but it is the comparison of one’s performances with the performances of others than is often most informative. Self-assessments, therefore, are much more reliable and accurate when a person has been working cooperatively with others. Self-assessment is discussed in Chapter 7.

Finally, the teacher may create group situations for assessment purposes, such as the use of role-playing situations, simulations, and academic controversies.

**Essential Definitions**

Form a pair and match the correct definition with each concept. Combine with another pair and check answers.

|  |  |
| --- | --- |
| **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. Rubric**  | c. Standards against which the quality and quantity of performances are assessed (what counts or is important). |
| **\_\_\_\_\_ 4. Assessment** | d. Structuring of situations in ways that help students change, through learning.  |
| **\_\_\_\_\_ 5. Criteria** | e. Collecting information about the quality or quantity of a change in a student, group, teacher, or administrator. |
| **\_\_\_\_\_ 6. Evaluation** | f. Articulation of gradations of quality and quantity for each criterion, from poor to exemplary.  |

# Assessment Issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Purpose** | **Focus** | **Setting** | **Stakeholders** | **Stakes** |
| Diagnostic | Process Of Learning | Artificial (Classroom) | Students-Parents | Low |
| Formative | Process Of Instruction | Authentic (Real-World) | Teachers, Administrators | High |
| Summative | Outcomes Of Learning |  | Policy-Makers |  |
|  | Outcomes Of Instruction |  | Colleges, Employers |  |

Three types of assessments: **diagnostic** (diagnose students’ present level of knowledge and skills), **formative** (monitor progress toward learning goals to help form the instructional program), and **summative** (provide data to judge the final level of students’ learning).

# 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 comments, 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 or not 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. Here is an example.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Grade** | **Percent Correct** |  |
|  | A | 95 - 100 |  |
|  | B | 85 - 94 |  |
|  | C | 75 - 84 |  |
|  | D | 65 - 74 |  |
|  | F | Less than 64 |  |

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, the sequencing and individualizing of instruction, mastery learning, and 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**. Grading on a curve was one of many proposals 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 potentially have a 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.

## Table 1.2 Norm-Referenced Grading

|  |  |
| --- | --- |
| Grading On 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 |

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 on complex tasks and of 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. Creates 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 a feeling a superiority in all arenas. Losing in one arena tends to result in a feeling of inferiority in all arenas.

9. Create anger, hostility, and dislike those who win. Losing tends to promote depression and aggression towards winners and judges.

10. Promotes a view of life as a “dog-eat-dog” “rat-race” in which “only the strongest survive.”

# Preparation Paper Assessment Form

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Course: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Preparation Paper Number: \_\_\_\_\_\_\_\_\_\_\_\_\_

Rated By: Self Peer Instructor Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Total Score: \_\_\_\_\_\_**

 **1 2 3 4 5**

|  |  |  |  |
| --- | --- | --- | --- |
| **Criterion** | **Low** | **Middle** | **High** |
| 1. Focus StatementScore: \_\_\_\_\_ |  |  |  |
| 2. Definition Of TermsScore: \_\_\_\_\_ |  |  |  |
| 3. Summary Of Relevant TheoryScore: \_\_\_\_\_ |  |  |  |
| 4. Summary Of Supporting ResearchScore: \_\_\_\_\_ |  |  |  |
| 5. Additional Sources To TextScore: \_\_\_\_\_ |  |  |  |
| 6. ConclusionsScore: \_\_\_\_\_ |  |  |  |
| 7. Study Proposed Score: \_\_\_\_\_ |  |  |  |
| 8. Professional AppearanceScore: \_\_\_\_\_ |  |  |  |

Comments, Specific Suggestions On How To Improve Paper:

1. Complete this form for each member’s preparation paper and give to that member.

2. Take the forms for your preparation paper and add the totals together.

3. Divide by the number of forms received to calculate the mean rating.

4. Record the results on your quality chart for writing preparation papers.

# Presenting Your Preparation Paper

Each week you will make a three-minute presentation of your preparation paper. The objectives of your presentation are to (a) inform and teach the other group members the material in your preparation paper and (b) communicate the excitement and interest you feel towards the issue covered. Your presentation should contain at least two modalities (such as oral and visual). If possible, give the group members an active role in the presentation. You will be presenting to your group while members of other groups are also presenting, so there will be some background noise.

# Oral Presentations Criteria

***Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***Title Of Presentation:*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| **Criterion** | **Rating** | **Comments** |
| Addresses Subject, Scholarly, Informative |  |  |
| Organized (introduction, body, conclusion) |  |  |
| Creative Reasoning And Persuasiveness |  |  |
| Intriguing (audience wants to find out more) |  |  |
| Interesting, Transitions, Easy To Follow, Concise |  |  |
| Volume, Enunciation, Eye Contact, Gestures |  |  |
| Involving (audience active, not passive) |  |  |
| Visual Aids, Props, Music |  |  |
| Other:  |  |  |
| Total |  |  |

**For each criterion, rate the presentation between 1 (very poor) to 5 (very good).**

# Individual Portfolio

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Course:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| **Completed** | Criteria | **To Be Done** |
|  | I Attended All Class Sessions |  |
|  | I Was Prepared For & Actively Involved In Class |  |
|  | I Read The Texts Carefully And Know Them Well |  |
|  | I Kept My Weekly Journal |  |
|  | I Wrote All The Required Preparation Papers |  |
|  | I Made A Personal Long-Range Plan For Using CR |  |
|  | I Passed Basic Concepts Test At 90 Percent Level |  |
|  | I Completed Case Study |  |
|  | I Wrote Research Review Paper |  |
|  | I Wrote Diagnosis Paper |  |
|  | I Did All The Implementation Assignments |  |
|  | **Total** |  |
|  | **Grade I Contracted For** |  |

# Group Portfolio

|  |  |  |
| --- | --- | --- |
| **Points Possible** | **Criteria** | **Points Earned** |
|  | Attendance (All Members) |  |
|  | Group Self-Assessment |  |
|  | All Preparation Papers Written & Feedback Given |  |
|  | All Presentations Made & Feedback Given |  |
|  | All Research Papers Written & Feedback Given |  |
|  | All Diagnosis Papers Written & Feedback Given |  |
|  | All Journal Entries Made |  |
|  | Group Test Taken, All Members Present |  |
|  | All Members Pass Basic Concepts Test |  |
|  | **Total** |  |

# My Learning Contract

|  |  |  |
| --- | --- | --- |
|  | **Learning Goals** |  |
| **My Academic Goals** | **My Responsibilities For Helping Others’ Learn** | **My Group’s Goals** |
| 1. |  |  |
| 2. |  |  |
| 3. |  |  |
| 4. |  |  |

**The plan for achieving my learning goals, meeting my responsibilities, and helping my group is:**

**The Time Line For Achieving My Goals Is:**

Beginning Date:

First Road-Mark:

Second Road-Mark:

Third Road-Mark:

Final Date:

**Signatures:**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# The GIG Procedure For Giving Tests

You should frequently give tests and quizzes to assess (a) how much each student knows and (b) what students still need to learn. Whenever you give a test, cooperative learning groups can serve as bookends by preparing members to take the test and providing a setting in which students review the test. Using the following procedure will result in (a) optimizing each student’s preparation for the test, (b) making each student accountable to peers for his or her performance on the test, (c) assessing how much each student knows, (d) assessing what students still need to learn, (e) providing students with immediate clarification of what they did not understand or learn, (f) providing students with immediate remediation of what they did not learn, (g) preventing arguments between you and your students over which answer are correct and why. The procedure is.

1. Students prepare for, and review for, a test in cooperative learning groups.

2. Each student takes the test individually, making two copies of his or her answers. Students submit one set of answer to you to grade and keep one set for the group discussion.

3. Students retake the test in their cooperative learning groups.

## Preparing For A Test In Cooperative Groups

Students meet in their cooperative learning groups and are given (a) study questions and (b) class time to prepare for the examination. The task is for students to discuss each study question and come to consensus about its answer. The cooperative goal is to ensure that all group members understand how to answer the study questions correctly. If students disagree on the answer to any study questions, they must find the page number and paragraph in the resource material explaining the relevant information or procedures. When the study/review time is up, the students give each other encouragement for doing well on the upcoming test.

## Taking The Test Individually

Each student takes the test individually, making two copies of his or her answers. The task (and individual goal) is to answer each test question correctly. Students submit one copy of the answers to you (the teacher). You score the answers and evaluate student performance against a preset criterion of excellence. Students keep one copy for the group discussion. After all group members have finished the test, the group meets to take the test again.

## Retaking The Test In Cooperative Groups

Students meet in their cooperative learning groups and retake the test. The **task** is to answer each question correctly. The **cooperative goal** is to ensure that all group members understand the material and procedures covered by the test. Members do so by (a) reaching consensus on the answer for each question and the rationale or procedure underlying the answer and (b) ensuring that all members can explain the answer and the rationale or procedure. The procedure is for members to:

1. Compare their answers on the first question.

2. If there is agreement, one member explains the rationale or procedure underlying the question and the group moves on to question two.

3. If there is disagreement, members find the page number and paragraph in the resource materials explaining the relevant information or procedures. The group is responsible for ensuring that all members understand the material they missed on the test. If necessary, group members assign review homework to each other. When all members agree on the answer and believe other members comprehend the material, the group moves on to question two.

4. The learning groups repeat this procedure until they have covered all test questions.

5. The group members celebrate how hard members have worked in learning the material and how successful they were on the test.

# 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. There was, however, a simple way for Koufax's genius to have been negated. 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 is such an unskilled catcher that Koufax would have had to throw the ball much slower in order 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. In baseball and in the classroom it takes a cooperative effort. Extraordinary achievement comes from a cooperative group, not from the individualistic or competitive efforts of an isolated individual.

|  |  |  |  |
| --- | --- | --- | --- |
| **Types Of Groups** | **Cooperative Groups** | **Essential Elements** | **Outcomes** |
| Psuedo 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 |  |

**Cooperative learning groups** exist 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. **Formal cooperative learning** groups last 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. **Informal cooperative learning** groups are ad-hoc groups that last 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. **Cooperative base groups** are long-term (lasting for at least a year), heterogeneous groups 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.

**The third essential component of cooperative learning is promotive 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 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 know how to provide effective leadership, decision-making, trust-building, communication, and conflict-management. Procedures and strategies for teaching students social skills may be found in Johnson (1991, 1996) and Johnson and F. Johnson (1996).

**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 the 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: the more the task is complex and conceptual, the more problem solving and creativity required, the more higher-level reasoning and critical thinking required, and the more transfer to the “real world” required.

2. **More positive relationships among students and between students and faculty**. This was true 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** (Johnson & Johnson, 1991). 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, (a) the more students report peer and teacher encouragement 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.

**Cooperative Learning And “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 questions 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 those produced by students in districts with less educated and 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. While 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.

# The Teacher's Role in Cooperative Learning

## Make Pre-Instructional 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): Assign students to groups randomly or select groups yourself. Usually you will wish 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 a 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 wish 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 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 an done thing they will do better tomorrow. Summarize as a whole class. Have groups celebrate their success and hard work.

# Overview And 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 the use of minimal resources to achieve the goals of the assessment, maintain effective working relationships among the assessor, assessees, and other interested stakeholders, and increase 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 purposes, 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 assessed can be 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 the 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, policy-makers, and colleges and employers. Evaluations placed on 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, interdependent of the goals with the goals of significant others, joint efforts being required to achieve the goals, and the relevance of the goals for the assessees’ 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 for future efforts.

Managing assessments includes planning the assessments (setting goals students are committed to achieve, 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 on the average teachers have three to nine minutes each week to assess the work of each student. Teachers, therefore, do not have the 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 the sources of help available, student assistance has the advantages of allowing for powerful learning experiences that increase achievement, more frequent assessments to be conducted, a wider variety of outcomes to be assessed, more modalities to be used, more sources of information available for assessments, reduces the need for reading and writing to be prerequisites for assessment, reduces teacher bias, allows for remediation and enrichment activities to follow from assessment, and allows for 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. There are three types of cooperative learning groups—formal, informal, and base groups. In order 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 that may determine whether students are promoted or graduate, teachers receive bonuses or sanctions, administrators are fired and boards of education are replaced, parents are fined, and schools are closed. What has resulted in 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 quality of their academic learning, level of their 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 colleagial teaching teams to ensure assessments are fair and complete. Finally, periodically teachers use the assessment data to give students grades.

# My Assessment Plan

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. The assessment will be aimed at:

\_\_\_\_\_ Academic Learning \_\_\_\_\_ Attitudes

\_\_\_\_\_ Level Of Reasoning, Critical Thinking \_\_\_\_\_ Work Habits

\_\_\_\_\_ Skills And Competencies

5. The assessment procedures used will be:

\_\_\_\_\_ Standardized Tests \_\_\_\_\_ Portfolios

\_\_\_\_\_ Teacher-Made Tests \_\_\_\_\_ Observation

\_\_\_\_\_ Compositions \_\_\_\_\_ Interviews

\_\_\_\_\_ Presentations \_\_\_\_\_ Questionnaires

\_\_\_\_\_ Individual & Group Projects \_\_\_\_\_ Learning Logs & Journals

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Stakeholder | Low Stake | Medium | High Stake |
|  | \_\_\_\_\_ Students & Parents |  |  |  |
|  | \_\_\_\_\_ Teachers |  |  |  |
|  | \_\_\_\_\_ Administrators |  |  |  |
|  | \_\_\_\_\_ Policy-Makers |  |  |  |
|  | \_\_\_\_\_ Colleges, Employers |  |  |  |

7. How will the assessment be made more meaningful?

a. How Purpose Is Significant:

b. How Procedures, Criteria, Rubrics Are Made Clear:

c. How Direction For Future Efforts Is Highlighted:

8. How will the assessment be made more manageable?

a. What Resources Are Needed?

b. How Student Help Be Utilized?

# Compositions And Presentations

Every educated person should be able to present what they know in written and oral form. These are difficult competencies and to become skilled writers and presenters, students need to write and present every day. This presents an assessment problem, as someone has to read each composition and listen to each presentation and provide helpful feedback. Using cooperative learning groups to assess members’ performances accomplishes four goals at the same time. It allows students to engage in the performance frequently, receive immediate and detailed feedback on their efforts, observe closely the performances of others, and see what is good or lacking in others’ performances, and provide the labor needed to allow students to engage in a performance frequently. Two of the most common performances assessed are compositions and presentations. In composition pairs, students are assigned to pairs, discuss and outline each other’s composition in their pairs, research their topic alone, in pairs write the first paragraph of each composition, write the composition alone, edit each other’s composition, rewrite the composition alone, re-edit each other’s compositions, sign-off on partner’s composition verifying that it is ready to be handed in, and then process the quality of the partnership. The procedure for presentations is very similar.

# Persuasive Argument Composition Rubric

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_ Grade: \_\_\_\_\_

Title Of Composition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Scoring Scale: Low 1--2--3--4--5 High**

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria** | **Score** | **Weight** | **Total** |
| **Organization:** Thesis Statement And Introduction Rationale Presented To Support Thesis Conclusion Logically Drawn From RationaleEffective Transitions |  | 6 | (30) |
| **Content:** Topic AddressedReasoning Clear With Valid LogicEvidence Presented To Support Key PointsCreativity Evident |  | 8 | (40) |
| **Usage:** Topic Sentence Beginning Every ParagraphCorrect Subject-Verb AgreementCorrect Verb TenseComplete Sentences (No Run-Ons, Fragments)Mix Of Simple And Complex Sentences. |  | 4 | (20) |
| **Mechanics:** Correct Use Of Punctuation Correct Use Of CapitalizationFew Or No Misspellings |  | 2 | (10) |
| Scale: 93-100=A, 87 - 85-92=B, 77-84=C |  | 20 | (100) |

# Feedback Checklist

|  |  |  |
| --- | --- | --- |
| **Feedback** | **Yes** | **No, Start Over** |
| Is Feedback Given? |  | Was Not Given Or Received, Start Over |
| Is Feedback Generating Energy In Students? |  | Students Are Indifferent, Start Over |
| Is Energy Directed Towards Identifying & Solving Problems So Performance Is Improved? |  | Energy Used To Resist, Deny, Avoid Feedback, Start Over |
| Do Students Have Opportunities To Take Action To Improve Performance? |  | No, Students Are Frustrated & Feel Like Failures, Start Over |

A **process** is an identifiable sequence of actions (or events) taking place over time aimed at achieving a given goal (Johnson & F. Johnson, 1997). **Group processing** is members reflecting on the group's work and members’ interaction to clarify and improve members’ efforts to achieve the group's goals and maintain effective working relationships by (a) describing what member actions were helpful and unhelpful and (b) making decisions about what actions to continue or change. The **purposes** of group processing are to:

1. Improve continuously the quality of the group's taskwork and teamwork.

2. Increase individual accountability by focusing attention on each member’s responsible and skillful actions to learn and to help groupmates learn.

3. Streamline the learning process to make it simpler (reducing complexity).

4. Eliminate unskilled and inappropriate actions (error-proofing the process).

# Dreams

Langston Hughes

Hold fast to dreams.

For when dreams die,

Life is a broken-winged bird,

That cannot fly.

Hold fast to dreams.

For when dreams go,

Life is a barren field,

Frozen with snow.

Your **tasks** are to write at least three different answers to the following questions and come to consensus as to the best possible answer. Work **cooperatively**: One set of answers from the group, everyone must agree, everyone must be able to explain.

The **questions** are:

1. What are the emotions/attitudes expressed by the poem?

2. What are your reactions (feelings and thoughts) to the poem?

3. What are the three key words in the poem?

4. What is the poem saying?

Formatted by David and Roger Johnson, **Cooperative Learning Center**, University of Minnesota, Minneapolis, Minnesota 55455