CHAPTER EIGHT

OBSERVING STUDENTS

ASSESSMENT THROUGH OBSERVING STUDENTS LEARN

> The only thing that endures over time is the law of the farm: I must prepare the ground, put in the seed, cultivate it, water it, then gradually nurture growth and development to full maturity. There is no quick fix. —*Stephen Covey*

Teachers observe and notice what is going on around them. They watch students to see who is on task, who is out of his or her seat, who looks puzzled, and who is finished and waiting for his or her next assignment. Observation is a primary, yet often underutilized, tool of assessing learning and instruction. By and large, little attention has been devoted to training teachers how to engage in unbiased observation of student performances and students' efforts to learn. **Observation** is aimed at recording and describing behavior as it occurs (Johnson, Johnson, & Holubec, 1998a). Its purpose is to provide objective data in the following areas:

1. **The quality of student performances.** Many student performances may only be assessed through direct observation procedures. Many performances, such as giving a speech, playing tennis, helping a classmate, reciting a poem, or drawing a picture can only be assessed through observational methods.
2. **The processes and procedures students use in completing assignments.** To improve continually the process of learning, students must receive feedback concerning their actions in completing an assignment. The process of learning is primarily assessed through observation.
3. **The processes and procedures teachers use in conducting lessons.** If teachers are to improve continually, they need feedback on their actions in conducting class sessions and teaching a course. The process of instruction is primarily assessed through observation.

A major problem with observation is the potential for lack of objectivity by the observers. An example of biased observing may be seen in a study conducted by Hastorf and Cantril (1954). They asked Dartmouth and Princeton college students to watch a film of a football game between the two schools. The game was an unusually rough one in which many penalties had been called. The Princeton quarterback, an all-American, left the game in the second quarter with a broken nose and a mild concussion. The Dartmouth quarterback left the game in the third quarter with a broken leg.

The Dartmouth and Princeton college students were asked to watch the film and record the number and severity of the infractions committed by the two teams. Dartmouth won the game and its students saw the two teams committing an equal

number of violations. The Princeton students saw the Dartmouth players as committing more than twice as many penalties as the Princeton team. A solution to the problem of bias is using a **structured coding system,** which requires observers to categorize each group behavior into an objectively definable category.

In using observation as an assessment tool, you need to (Johnson, Johnson, & Holubec, 1998a)

1. Understand the basics of observing.
2. Prepare for observing by
   a. Deciding which student behaviors, actions, and skills are to be observed
   b. Deciding who will be the observers
   c. Making a sampling plan
   d. Constructing an observation sheet to record the frequencies of targeted actions that are appropriate for the age of the students
   e. Training observers
3. Be an observer. Record how often each student performs the specified behaviors. (Observation procedures may be formal or informal.)
4. Summarize observations in a clear and useful manner to
   a. Give feedback to each student and group.
   b. Help students analyze the observation data.
   c. Help students reflect on how effectively they are learning and helping each other learn, and whether they may behave more effectively next time.

THE BASICS OF OBSERVING

To use observation for assessment purposes, it is necessary to understand the basic nature of observation (Johnson, Johnson, & Holubec, 1998a). (Box 8.1 provides a brief account of the observation process.) Working with a partner, complete the following activities that will define and explain the nature of observing.

1. Observe the Characteristics of Your Setting

Being aware of the setting in which observation takes place is important. Settings can be natural or simulations (see Box 8.2). The characteristics of the setting can influence observation in many ways. Complete Activity 8.1 to discover how your observations compare with others.

2. Differentiate between Objective and Subjective Observations

Ensure all triad members understand the difference between objective and subjective observations. *Objective* observations are factors or details all members can readily agree

BOX 8.1
FIVE-MINUTE WALK

1. Select actions to observe.
2. Construct observation sheet.
3. Plan route through the classroom.
4. Gather data on every group.
5. Feed the data back to the groups and/or to the class as a whole.
6. Chart or graph the results.

BOX 8.2
SIMULATIONS, ROLE PLAYING, AND OBSERVATION

There are times when you wish to observe students engaging in a skill or pattern of behavior, but it will take far too much time to wait and observe the behavior occurring naturally. To save time, you create a simulation and observe what students do. Simulations and games are increasingly being used as training and assessment procedures. Simulations can vary widely in complexity of issues and number of participants, ranging from relatively simple simulations for an individual or small group to moderately complex computerized simulations requiring a number of groups to participate. For assessment purposes, students are placed within a simulation and their actions are monitored and observed so that behavioral measures of outcomes can be obtained.

Frequently in simulations, students role play the characters. Initial instructions are given, and the role players determine what happens. Role playing is a tool for

1. Bringing a specific skill and its consequences into focus so it may be practiced
2. Experiencing concretely the type of interaction under examination
3. Setting up an imaginary life situation so students can act and react in terms of the assumptions they are asked to adopt, the beliefs they are asked to hold, and the character they are asked to play
4. Giving students experience in discussing and identifying effective and ineffective behavior

Your tasks, as the coordinator of the simulated role play, are as follow:

1. Get students in "role." You help involve the role players in the situation by introducing it in such a way that the players are emotionally stimulated. Using name tags and asking the players questions to help them get a feeling for the part are helpful. Introduce the scene to the role players and the observers.
2. Conduct the simulation. While the students are engaged in the role play, you carefully observe and record the frequency of their effective and ineffective actions.
3. Get students out of "role." Always "de-role" after the role playing has ended.
4. Conduct a processing session in which students reflect on what happened and how to behave more effectively.

upon. *Subjective* observations are unique perceptions, biases, or individual points of view that all members may not agree upon. To test your knowledge of these differences, label each observation recorded in Activity 8.1 as either objective (O) or subjective (S).

3. Differentiate between Descriptions and Inferences

Ensure all triad members understand the difference between descriptions and inferences. Descriptions should be based on facts, details, or factors that can be observed. Inferences are conclusions about behavior that involve opinion and interpretation. Activity 8.2 is an exercise in distinguishing between descriptive and interpretive statements.

4. Phrase Questions Well

To observe in an objective and descriptive way, you must understand the specific purpose of the intended observations and focus on the behaviors that will provide

ACTIVITY 8.1

You have 5 minutes to write down as many characteristics of your setting as possible.

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

Form a triad and compare your observations:

1. What did each of you observe? _____

2. In what sequence were your observations made? _____

3. How did you decide what to write down and what not to? _____

4. Did the format of the task influence what you observed? _____

the answer or solve the problem. This is best done by limiting observation to directly observable behaviors. Questions should be well phrased so that they allow the observer to focus on directly observable behavior. You should carefully evaluate how well you phrase questions (see Activity 8.3).

5. Differentiate between Category and Sign Systems

Category system requires the observer to list a set of categories so that every observed behavior can be recorded into one, and only one, of a series of mutually

ACTIVITY 8.2

Identify the descriptive (D) and the interpretative (I) statements given below:

_____ **1.** Sam held his hand up 90 seconds before the teacher called on him.

_____ **2.** Helen made sarcastic remarks about the teacher.

_____ **3.** Roger laughed four times during the meeting.

_____ **4.** David was embarrassed when they sang "Happy Birthday."

_____ **5.** Roger is holding the golf club in his left hand.

_____ **6.** Keith does not like the lesson.

_____ **7.** Dale is confused by the teacher's explanation.

_____ **8.** Edythe is not talking enough.

_____ **9.** John has his back to his group.

ACTIVITY 8.3 PHRASING QUESTIONS

DIRECTIONS:

Determine which of the following questions are well phrased and explain why you think so.

Questions	Well Phrased	Poorly Phrased	Reason(s)
1. Are males more restless than females during the lesson?			
2. How many questions did students ask during the lesson?			
3. Is the teacher encouraging students to disagree and challenge each other?			
4. How many students are studying during free time?			

exclusive categories. The categories must be exhaustive for a particular dimension so that every observed behavior can be categorized. (See Activity 8.4 for an example of how to implement the category system.)

A **sign system** involves listing beforehand a limited number of specific kinds of behavior of interest to the observer. An observer using a sign system approach records only those behaviors that fall into one of the preconceived categories listed. Many behaviors would not be recorded if they did not fit into the specified categories. (See Activity 8.5 for an example of how to implement the sign system.)

6. Understand Types of Categories

Mutually exclusive categories are precisely distinguishable and independent from other categories. Non–mutually exclusive categories are overlapping (a behavior can

ACTIVITY 8.4 ▩ CATEGORY SYSTEM OF OBSERVING

Category	Member 1	Member 2	Member 3
Gives information			
Asks for other's information			
Gives direction to group's work			
Summarizes members' ideas			

ACTIVITY 8.5 ▩ SIGN SYSTEM OF OBSERVING

Group Member	Explains Concept	Draws Representation	Withdraws
1.			
2.			
3.			
4.			

be coded in more than one category). **Exhaustive categories** exist when every instance of observed behavior can be classified in one of the available categories. Activity 8.6 provides examples of categories for which you can determine the type.

7. Understand Types of Sampling

Time sampling occurs when the observer records the occurrence or nonoccurrence of selected behavior(s) within specified, uniform time limits. **Event sampling** occurs when the observer records a given event or category of events each time it naturally occurs. You can use the observation forms for these types of sampling provided on pages 137 and 138 or you can construct your own.

The basics of observing include being aware of the characteristics of the setting, differentiating between objective and subjective observations, differentiating between descriptions and inferences, understanding the phrasing of questions, differentiating between category and sign systems, differentiating between mutually exclusive and overlapping and between exhaustive and nonexhaustive categories, and understanding the difference between time sampling and event sampling. Given your understanding of these basics, you are now ready to prepare for observing.

ACTIVITY 8.6

Examine the categories. Decide whether they are (a) mutually exclusive or overlapping and whether they are (b) exhaustive or nonexhaustive. Write *yes* or *no* in each box.

Categories	Mutually Exclusive	Exhaustive
Asking a question Stating an opinion Explaining a concept Telling a joke		
Being silent Talking		
Looking out the window Looking at the book Looking at the teacher		
Standing Sitting Lying prone		

PREPARING FOR OBSERVING

In preparing for observing, you state your instructional objectives in the appropriate behavioral form. The objectives should describe student behavior that is observable and countable. Then you decide which actions to observe, who will observe, what the sampling plan will be, and how the observers will be trained. You then construct your observation form.

Deciding Which Actions to Observe

On or Off Task. You can observe students' work to determine whether they are on task, completing their work, or are off task, engaging in some other activity than the prescribed academic learning.

Academic Efforts, Procedures, and Strategies. You can assess many learning outcomes (such as depth of understanding, level of reasoning, mastery of problem-solving procedures, metacognitive thinking) only by opening a "window" into students' minds and observing students "thinking aloud." Cooperative learning groups provide such a window.

Social Skills. One of the many advantages of cooperative learning is that it allows teachers, students, and other interested parties to assess students' mastery of the interpersonal and small group skills needed to work with others.

Deciding Who Observers Will Be

Teachers. You, the teacher, are always an observer. In every lesson, you systematically roam from group to group. You gather specific information on the interaction of members in each group. When necessary, you intervene to improve students' efforts to learn and to help classmates learn.

Students. When students become experienced in working in cooperative learning groups, you should train them to be observers. Students may be roving observers who circulate throughout the classroom and monitor all learning groups. Similar to the teacher, student roving observers need a sampling plan to ensure that they observe all groups an approximately equal amount of time.

Students may also observe their own groups (one observer per group). In this case, student observers remove themselves slightly from the group so they are close enough to see and hear the interaction among group members but are not tempted to participate in the academic task. Observers do not comment or intervene while the group is working. You set aside a time near the end of the class period for the learning groups to review the content of the lesson with the observer. The role of observer rotates so that each group member is an observer an equal amount of time.

Visitors. Visitors should not be allowed to sit and watch a lesson passively. When someone visits your classroom, hand them an observation form, explain the role of the observer, and put them to work. Visitors may be roving observers or they may observe one single group, depending on the purpose of their visit.

Making a Sampling Plan for Roving Observers

Before the lesson begins you plan how much time you will spend observing each learning group. This is a **sampling plan.** You may observe one learning group for the

entire class period, collecting information on every member. Or if the class period lasts for 50 minutes and there are ten groups in the class, you may decide to observe each group for 5 minutes. Or you may observe each group for 2 minutes and rotate through all the groups twice during one class period. If you decide you should intervene in a group or with a student, you temporarily suspend the sampling plan and then resume it after the intervention is over.

Constructing an Observation Form

Observation forms or check sheets are used to answer the question, How often are certain actions or events happening? An **observation form** is used to tally the number of times a behavior, action, or event is observed in a specified time period. An example is provided in Figure 8.1. The form has to be designed so that all potential observers can use it (that is, age appropriate). A structured observation form is created by

1. Defining exactly what behaviors, actions, skills, or events are being observed (all observers have to be looking for the same thing)
2. Determining the time period during which the data will be collected (minutes to weeks)
3. Entering the actions to be observed in the first column (each action or skill is placed in a separate row, the final row is reserved for the total of the columns)
4. Making an additional column for each member of the group, and making a final column to record the total for each row on the form
5. Making sure all columns are clearly labeled and wide enough to enter data

FIGURE 8.1 Sample Observation Form

OBSERVATION FORM

Observer: _____ Grade: _____ Date: _____

Actions	Edythe	Keith	Dale	Total
Contributes Ideas				
Encourages Participation				
Checks for Understanding				
Gives Group Direction				
Other:				
Total				

Training Observers

If students or visitors are to be used as observers, they must be trained to follow observation procedures, use the observation forms, and follow the sampling plan. Minimal training can make students quite proficient observers. After observers are appointed and the observation form is constructed, the form is explained to the observers and the class as a whole. Teachers should make sure that all students understand what the observation form is and how it will be used. The following steps should be used as a guideline for learning the observation procedures.

Take a few minutes after an observation period to chat with students about what they learned in doing the observing. Occasionally, sit side by side with a student observer and check your counts against his or hers. Discuss any discrepancies. Videotaping a group working and then having everyone in the class observe it and compare their observations with classmates is an excellent way of training students. An advantage of a videotape is that it may be replayed and analyzed several times.

1. Use one observation form for each group. Place a tally mark in the appropriate row and column when a student engages in one of the targeted actions. Look for patterns of behavior in the group. Do not worry about recording everything, but observe as accurately and rapidly as possible.
2. Make notes on the back of the observation form if something takes place that should be shared with the group but does not fit into the actions being observed.
3. Write down specific positive and important contributions by each group member (to ensure that every member will receive positive feedback).
4. After the learning session is over, total the columns and rows. Transfer the totals to long-term record sheets and the appropriate charts or graphs. The observation forms should be dated and kept to assess the growth of the students and groups. When a group is observed more than once during a class session, different colored ink may be used. This allows group members to assess their skill development at a glance.
5. Give the information gathered to the group and assist group members in deriving conclusions. Show the observation form to the group, holding it so all members can see it. Ask the group, "What do you conclude about (a) your participation in the group and (b) the group functioning in general?" Ensure all group members receive positive feedback about their efforts to learn and help their groupmates learn. After small group processing, there is whole class processing.
6. Help group members set goals for improving their competence in engaging in social skills during the next group meeting by asking, "What could you add to be even a better group tomorrow than you were today?" Have members discuss the goals and publicly commit to achieving them. Emphasize the continuous improvement of students' competencies and group effectiveness.

BEING AN OBSERVER

Observing Students' On-Task Behavior

The simplest use of observation procedures is to observe each student and determine whether the student is engaged in academic learning or is off task. These observations can be made while students work individually or in cooperative learning groups. The observation form consists of a list of students in the class, two columns to indicate either on-task or off-task behavior, and a column for comments (see Figure 8.2).

FIGURE 8.2 Sample Observing On-Task Behavior Form

OBSERVING ON-TASK BEHAVIOR FORM

Class: _____ Grade: _____ Date: _____

Students	On Task	Off Task	Comments
Frank			
Helen			
Roger			
David			
Edythe			
Keith			
Dale			
Tai			
Roberta			
Phillip			
Juan			

Observing Academic Efforts: Window into Students' Minds

Many students may be unaware of their reasoning processes while they are engaged in academic work. When asked, "How do you solve this problem?" many students may respond, "I don't know; I just do it." Such an answer is usually not acceptable. If students cannot accurately describe the reasoning procedures and sequences they use before, during, and after problem solving, they have not really learned the material.

The assessment issue is, How do you make covert cognitive reasoning overt and therefore open to correction and improvement? Although paper-and-pencil tests and homework assignments indicate whether students can determine the "correct" answer, they usually do not reveal students' cognitive reasoning and depth of

understanding. The only way to determine whether students really understand a procedure or concept is to listen to them explain it to someone else. Such oral explanations can be obtained either by (a) listening to students' explanations as they work in cooperative learning groups or (b) interviewing a student and requesting a detailed explanation of reasoning processes.

Systematic observation of cooperative learning groups allows teachers to attain a "window" into students' minds and thereby

1. **Determine the extent to which students do or do not understand what they are studying.** This helps teachers to pinpoint areas of learning that need to be focused on or retaught.
2. **Make internal covert reasoning processes and procedures overt so they can be examined, corrected, and improved.** Many students, though able to derive the "correct answer," may misunderstand the basic principles and concepts involved. They may, for example, list correctly the phases of the moon without any understanding of what causes the moon to pass through different phases. Learning outcomes such as level of reasoning, mastery of problem-solving procedures, and metacognitive thinking cannot be measured by pencil-and-paper homework assignments and tests. They can only be assessed by observing students "think out loud" as they explain to each other how to solve a problem or complete the assignment.
3. **Assess aspects of learning and intelligent behavior.** Such aspects include persistence, using a variety of strategies, flexibility in thinking, metacognition, commitment to high-quality work, and commitment to continuous improvement.
4. **Assess performances.** Any performance (e.g., singing, dancing, playing an instrument, enacting dramas, giving a speech, or demonstrating athletic skills) may be better assessed with observation than with any other assessment procedure.
5. **Assess transfer and application of what is being learned.**

The procedure for obtaining a window into students' minds follows

1. Assign students to small cooperative groups and give them an academic assignment that requires them to use problem-solving and reasoning procedures.
2. Assign one member of each group the role of checker for understanding. The checker for understanding is responsible for asking other group members to explain the procedures and processes they are using to solve a problem or complete a task.
3. Construct an observation checklist. An **observation checklist** is a record-keeping device for teachers to use to keep track of the degree to which each student has demonstrated a targeted behavior, action, skill, or procedure. Checklists include students' names, space for four to five targeted behaviors, a code or rating scale to signify the level of mastery (+ = frequently; @ = sometimes; – = not yet), a space for comments or anecdotal notes, and a space to record the date so that developmental growth can be examined. Checklists may be used to observe students during lessons, on the playground, on field trips, in hallways. They can be used to observe students individually, in groups, with younger students, with older students, or with adults. An example is a checklist for observing student persistence (see page 139).
4. Move from group to group gathering observation data about the quality of the explanations and intellectual interchange occurring among group members.
5. Summarize and analyze the data to assess the effectiveness of students' efforts to learn and that of the instructional program, give students appropriate feedback, and help them reflect on how to improve their learning efforts.

Cooperative learning groups offer a unique opportunity for immediate (a) diagnosis of level of understanding, (b) feedback from peers, and (c) remediation to correct misunderstandings and fill in gaps in students' understanding. Training students to observe each other's cognitive reasoning and strategies for solving problems and completing assignments facilitates the cycle of diagnosis–feedback–remediation.

Observing Social Skills

The third use of observation procedures is to assess students' social skills. In addition to evaluating efforts to achieve academically, teachers need to assess and evaluate students' efforts to work together cooperatively. This is covered in Chapter 9.

Unstructured Observations

The use of structured observation schedules is not the only way to observe pupil behavior. As long as you are listening to or watching the class, you are observing. Informal, off-the-cuff observation is always taking place; the challenge is to become aware of it and make it as accurate and helpful as possible. Becoming more precise in your natural observing of pupils is called informal or unstructured observation. **Unstructured observation** is the recording of significant, specific events involving pupils. The emphasis is on the significant; it is not necessary to record an observation for each pupil each day. Teachers "eavesdrop" by making observations that

1. Are specific (they don't degenerate into generalities)
2. Are brief enough to write down quickly
3. Capture an important aspect of the behavior of one or more pupils
4. Provide help in answering questions about (a) students' efforts to maximize their own and each other's learning and (b) the successful implementation of instructional strategies and procedures.

Eavesdropping differs from the use of structured observation schedules in that it is concerned primarily with qualitative incidents, which may occur somewhat infrequently. You will want to develop a procedure for unstructured observation that allows you to make a permanent record of incidents as they are taking place. A stenographer's notebook, a few 3- × 5-inch index cards in a pocket, or scratch paper can facilitate the immediate recording of observations (see Figure 8.3). Such notes need to be placed in a log to organize them in a permanent way. You may want to write down positive incidents on cards and file them under the student's name (after they have

FIGURE 8.3 Sample Anecdotal Observations Record

Observer: _____ Date: _____

Note 1: Group: _____ Student(s): _____

Note 2: Group: _____ Student(s): _____

Note 3: Group: _____ Student(s): _____

Note 4: Group: _____ Student(s): _____

been used to give the student feedback). You can then access the cards during parent conferences for examples of a student's competencies and positive qualities.

Guidelines for Observing

Guideline 1. Use a formal observation sheet to count the number of times students engage in targeted behaviors. The more concrete the data is, the more useful it is to you and your students. A variety of observation instruments and procedures that you can use for these purposes appear in Johnson, Johnson, and Holubec (1998a, 1995).

Guideline 2. Try not to count too many different behaviors at one time. You may want to choose two to four behaviors from your observation sheet to record the first few times you observe. Once you have used the observation sheet several dozen times, you will be able to keep track of all the behaviors included.

Guideline 3. Sometimes you may use a simple checklist in addition to a systematic observation form. You can practice using a simple observation checklist in Activity 8.7.

Guideline 4. Focus on positive behaviors that are cause for celebration when present and cause for discussion when absent.

Guideline 5. Supplement and extend the frequency data with notes on specific student actions. Especially useful are skillful interchanges that you observe and, using objective praise, can later share with students. You can also share them with parents during conferences or telephone conversations.

Guideline 6. Train students to be observers. Student observers can obtain more complete data on each group's functioning. For very young students you must keep the system simple, perhaps having them record only who talks. Many teachers have

ACTIVITY 8.7 ■ OBSERVATION CHECKLIST

Behavior	Yes	No	Comments
1. Do students understand the task?			
2. Are students thinking out loud by explaining step by step how to complete the assignment?			
3. Are students challenging each other's reasoning and searching for new information and understandings?			
4. Are students engaging in the social and cognitive skills they are expected to practice in this lesson?			

had success with student observers, even in kindergarten. One of the more important things for you to do is to give the class adequate instructions (and perhaps practice) on gathering observation data and sharing it with the group. The observer is in the best position to learn about group working skills.

Consider one first-grade teacher who had a student who talked all the time (even to himself while working alone). He tended to dominate any group he was in. When she introduced the practice of having student observers in the class, she made him an observer. One important rule for observers was not to interfere in the task but to gather data without talking. He was gathering data on who talked and he did a good job, noticing that one student had done quite a bit of talking in the group whereas another had talked very little. The next day when he was a group member, and there was a different student observer, he was seen starting to talk, clamping his hand over his mouth, and glancing at the observer. He knew, from his own experience as an observer, what was being observed, and he didn't want to be the only student with marks. The observer often benefits by learning how to behave more competently.

Guideline 7. When you use student observers, allocate several minutes at the end of each group session for the group to teach the observer what members of the group have just learned. Often important changes are made during this review.

Guideline 8. You may want to use cooperative learning enough so that students understand how it works and how they should behave in helping each other learn before introducing student observers. Whether or not you use student observers, however, you should always monitor cooperative learning groups while they work.

Guideline 9. Be open to discovering unexpected and unplanned outcomes. Unexpected outcomes can be the most interesting, and you may want to include them in the list of expected outcomes for the next time you teach the same lesson.

SUMMARIZING OBSERVATIONS, GIVING FEEDBACK, FACILITATING ANALYSIS

Aesop tells of the consequences of not processing the effectiveness with which group members work together. A lion had been watching three bulls feeding in an open field. He had tried to attack them several times, but they had kept together and helped each other to drive him away. The lion had little hope of eating them, for he was no match for three strong bulls with their sharp horns and hoofs. He could not keep away from that field, however, for he could not resist watching a good meal, even when there was little chance of his getting it.

One day, however, the bulls had a quarrel. When the hungry lion came to look at them and lick his chops (as he was accustomed to doing), he found them in separate corners of the field. They were as far away from one another as they could get. It was then easy for the lion to attack them one at a time. He did so with the greatest satisfaction and relish. In failing to resolve their problems by working together and hence increase continually the effectiveness of their cooperation, the bulls forgot that their success came from their unity.

At the end of a lesson, (a) observations are summarized and organized to present to students and other stakeholders (such as parents), (b) each student receives (and gives) feedback on the effectiveness of his or her efforts to learn and help classmates learn, (c) students are helped to analyze and reflect on which actions were helpful and unhelpful in contributing to the achievement of their goals, (d) students make decisions about which actions to continue or change and to set goals for improving the quality of their work, and (e) students celebrate their success.

Summarizing Observation Data

Imagine you have finished observing a cooperative learning group composed of four members. You can either provide direct feedback to each student or you can show them the data and ask them to reach their own conclusions about their participation (see Figure 8.4). If you decide to give direct feedback, you might say:

> Helen contributed ten times, Roger seven times, Edythe five times, and Frank twice. Frank encouraged others to participate ten times, Edythe five times, and Roger and Helen twice. Roger summarized five times, Frank twice, and Helen and Edythe once.

If you decide to let students reach their own conclusions, you might say:

> Look at the totals in the rows and columns. What conclusions can you make concerning
>
> 1. Your participation in the lesson
> 2. The effectiveness of the group in completing the assignment

In summarizing, you might say:

> Each of you will want to set a personal goal for how you can be even more effective tomorrow than you were today. What actions did you engage in most and least? What actions were more and least appropriate and helpful under the circumstances? (Summarizing right after someone else summarizes may be inappropriate and not very helpful.) What other actions would have helped the group work more effectively? Decide on a personal goal to increase your effectiveness and share it with the other group members.

FIGURE 8.4 Sample Observation Form

OBSERVATION FORM

Students	Contributes Ideas	Encourages Others to Contribute	Integrates, Summarizes	Totals
Frank	𝍸	𝍸 𝍸	𝍸	14
Helen	𝍸 𝍸	𝍸	𝍸	13
Roger	𝍸 𝍸	𝍸	𝍸	14
Edythe	𝍸	𝍸	𝍸	11
Totals	24	19	9	52

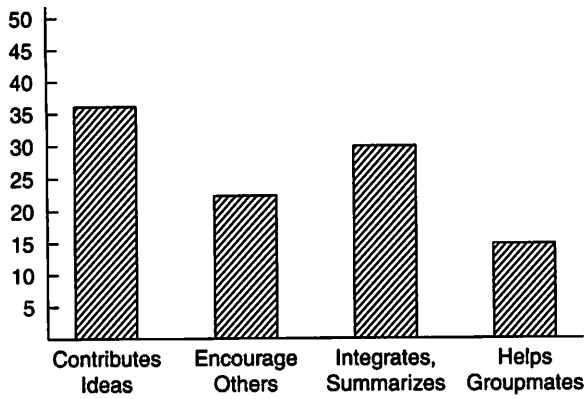

FIGURE 8.5 **Weekly Bar Chart**

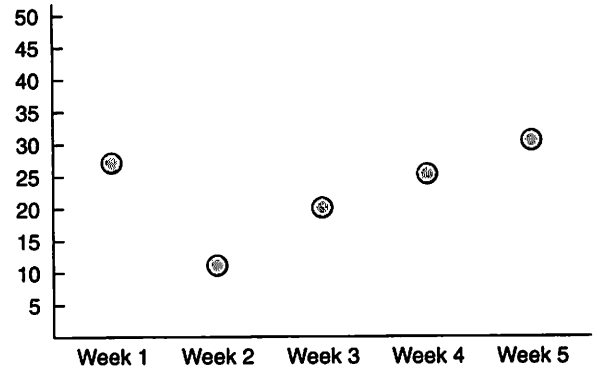

FIGURE 8.6 **Run Chart**

Charts and Graphs

Two charts are helpful to display the results of observations so that students, parents, and other interested parties may interpret them: the bar chart and the run chart (see Figures 8.5 and 8.6).

Constructing a Bar Chart.

Step 1. List the actions, conditions, or causes you wish to monitor.

Step 2. Collect the data on the number of times the actions, conditions, or causes occurred in a predetermined period of time.

Step 3. On the *y*-axis, list the measurement scale by recording the total number of actions, conditions, or causes.

Step 4. Under the *x*-axis, write the actions, conditions, or causes observed. They may be placed in descending order (the most frequently occurring action to the left and the least occurring to the right):

- **a.** Identify the action, condition, or cause with the largest total. Working from left to right,
  - (1) Label the first bar on the *x*-axis of the chart with the action, condition, or cause.
  - (2) Record the total in the blank space.
  - (3) Draw a vertical bar stretching from 0 to the total frequency of occurrence using the measurement scale on the *y*-axis as a guide.
- **b.** Identify the action, condition, or cause with the second largest total.
  - (1) Label the second bar on the *x*-axis of the chart with the action, condition, or cause.
  - (2) Record the total in the blank space.
  - (3) Draw a vertical bar stretching from 0 to the total frequency of occurrence using the measurement scale on the *y*-axis as a guide.
- **c.** Continue this procedure until every action, condition, or cause has been recorded on the chart in sequence from most to least frequently occurring.

Step 5. Students and/or other audiences make an action plan by noting which actions are engaged in at an appropriate level and which should be increased or decreased.

Constructing a Run Chart. A **run chart** is used to monitor the process over time to see whether the long-range average is changing. In a run chart data points are plotted

on the x- and y-axes in chronological order. There are two guidelines for identifying meaningful trends or shifts in the average. First, when monitoring any process, an equal number of points should fall above and below the average. When nine points "run" on one side of the average, it indicates both a statistically unusual event and the average has changed. Second, when six or more points steadily increase or decrease with no reversals, it indicates a statistically unusual event. Both cases point toward an important change the team needs to investigate. You create a run chart by following five steps.

Step 1. Mark off the time period to be used along the x-axis.

Step 2. Enter the unit of measurement along the y-axis.

Step 3. Enter the data as it becomes available.

Step 4. Analyze the (historical) trend revealed by the position of the data points (each point can be compared to the overall average).

Step 5. Make a plan as to how either to increase or decrease the frequency of occurrence of the targeted action, condition, or cause.

Giving and Receiving Feedback

Students should receive feedback on the quality of their efforts to learn and help classmates learn so they can continually improve both. **Feedback** is information on actual performance that individuals compare with criteria for ideal performance. When feedback is given skillfully, it generates energy, directs the energy toward constructive action, and transforms the energy into action toward improving the performance of the teamwork skills. (Activity 8.8 provides a list of pointers for giving feedback in helpful, nonthreatening ways.) The results may include a decrease in the discrepancy between actual and real performance, increased self-efficacy, and empowerment to be even more effective next time.

Reflecting On and Analyzing Feedback

A common teaching error is to fail to provide a time and structure for students to reflect on and analyze the quality of their efforts to learn and to help classmates learn

ACTIVITY 8.8 ■ GIVING PERSONAL FEEDBACK IN A HELPFUL, NONTHREATENING WAY

_____ **1.** Focus feedback on behavior (not on personality traits).

_____ **2.** Be descriptive (not judgmental).

_____ **3.** Be specific and concrete (not general or abstract).

_____ **4.** Make feedback immediate (not delayed).

_____ **5.** Focus on positive actions (not negative ones).

_____ **6.** Present feedback visually (such as with a graph or chart) as well as auditorially (not just spoken words alone).

and make decisions about what actions to continue or change. A list of ways to facilitate and assess this process follow.

1. Each student summarizes (a) the feedback received, (b) what actions were helpful and unhelpful in increasing his or her own and others' academic learning, and (c) what actions he or she decides to continue or change. The student then places the reflections in a folder with his or her completed academic work and hands it in to the teacher.
2. The student creates a mind map representing the secrets to his or her success.
3. The student rates him- or herself on a series of dimensions on a bar chart.

Varying the procedures for reflection and analysis keeps the processing vital and interesting. The feedback checklist in Activity 8.9 may help in assessing the effectiveness of feedback. At the end of the processing, students should set goals for improving the effectiveness of their efforts to learn and for helping others do likewise.

Setting Improvement Goals

After reflecting on the feedback received, students set improvement goals specifying how they can act more skillfully in the next course session. Students should publicly announce the behavior they plan to increase. The goal should be written down and reviewed at the beginning of the next class session. Goal setting is the link between how students perform today and how well they perform tomorrow. Goal setting can have a powerful impact on students' behavior because it creates a sense of ownership of and it establishes commitment to actions that students decide to engage in (as opposed to assigned behaviors).

Celebrating

Lessons end with students celebrating their hard work and success. Celebrations are key to encouraging students to persist in their efforts to learn. Individual, small group,

ACTIVITY 8.9 ■ FEEDBACK CHECKLIST

Feedback	Yes	No, Start Over
Is feedback given?		Was not given or received
Is feedback generating energy in students?		Students are indifferent
Is energy directed toward identifying and solving problems so performance is improved?		Energy used to resist, deny, avoid feedback
Do students have opportunities to take action to improve performance?		Students are frustrated and feel like failures

and whole-class celebrations should occur. Feeling successful, appreciated, and respected builds commitment to and enthusiasm for learning as well as self-efficacy about mastering subject matter and cooperating with classmates.

SUMMARY

Observation is aimed at recording and describing behavior as it occurs. Its purpose is to provide objective data about the quality of student performances, the processes and procedures students use in completing assignments, and the processes and procedures teachers use in conducting lessons. Using observation as an assessment tool requires that teachers understand the basis of observing, know how to prepare for observing, know how to observe, and know how to summarize and organize the data for use by students, parents, and other stakeholders.

The basics of observing include being aware of the characteristics of the setting, differentiating between objective and subjective observations, differentiating between descriptions and inferences, the phrasing of questions, differentiating between category and sign systems, differentiating between mutually exclusive and overlapping categories and between exhaustive and nonexhaustive categories, and understanding the difference between time sampling and event sampling.

Preparing for observing involves deciding what actions to observe, who will observe, what the sampling plan will be, constructing an observation form, and training observers to use the form. Conducting observations may focus on students' on-task behavior, academic efforts, or social skills. Observations may be formal or informal and structured or unstructured. In summarizing observations, the data may be displayed in bar or run charts; feedback is then given to the students or other interested parties; and recipients reflect on the feedback and set improvement goals.

TIME SAMPLING OBSERVATION FORM

Observer: _____ Grade: _____ Date: _____

Group Member	10:00	10:15	10:30	11:00	Total

EVENT SAMPLING OBSERVATION FORM

Observer: _____ Grade: _____ Date: _____

Group Member	Sits Down	Reads	Writes	Draws	Total

CHECKLIST FOR PERSISTENCE

Student's Name: _____ Date: _____

Indicators	Observed Frequently	Observed Sometimes	Not Yet Observed
Accesses Information			
Does Not Give Up			
Tries Several Strategies			
Seeks Several Solutions			
Other:			
Other:			

Comments:

WEEKLY REPORT FORM

Name: _____ Class: _____ Date: _____

Date	On-Task Work	Contributes Ideas	Integrates, Summarizes	Helps Classmates	Completes Assignments
Totals:					

Comments:

OBSERVATION PLANNING FORM

1. I will be observing the following student actions:

2. I will assign the following observers:

3. I will use the following sampling plan:

4. I will use the following observation form:

5. I will train the observers in the following way:

6. I will focus on the following observations:

7. I will portray the results as follows:

8. I will present the results to the following interested parties:

9. I will facilitate reflection and goal setting in the following ways:

MY CHECKLIST FOR COOPERATIVE GROUPS

Name: _____ Class: _____ Date: _____

1. When I knew an answer or had an idea, I shared it with the group.

   Never 1——2——3——4——5 Always

2. When my answer did not agree with someone else's, I tried to find out why.

   Never 1——2——3——4——5 Always

3. When I did not understand something, I asked others to explain.

   Never 1——2——3——4——5 Always

4. When someone else did not understand something, I explained it until he or she did.

   Never 1——2——3——4——5 Always

5. I tried to make the people in the group feel appreciated and respected.

   Never 1——2——3——4——5 Always

6. Before I signed my name to our paper, I made sure that I understood everything, agreed with the answers, and was confident that all other members understood the answers.

   Never 1——2——3——4——5 Always

OBSERVATION FORM

Observer: _____ Grade: _____ Date: _____

Assignment: _____

DIRECTIONS:

1. Write the names of the group members above each column.
2. Put a tally mark in the appropriate box each time a group member contributes.
3. Make notes on the back of the form when interesting things happen that are not captured by the categories.
4. Write down one (or more) positive contribution made by each group member.

Action					Total
Contributes Ideas					
Describes Feelings					
Encourages Participation					
Summarizes, Integrates					
Checks for Understanding					
Relates New to Old Learning					
Gives Direction to Work					
Total					

OBSERVING INDICATORS OF CRITERIA

Name: _____ Grade: _____ Date: _____

Assignment: _____

DIRECTIONS:

List the criteria you wish to observe and specify indicators that describe the criteria. Then observe the student and record the frequency with which he or she engages in each indicator action.

Criteria				Total
1.				
a.				
b.				
c.				
2.				
a.				
b.				
c.				
3.				
a.				
b.				
c.				
4.				
a.				
b.				
c.				

Comments:

WEEKLY OBSERVATION FORM

Teacher: _____ Class: _____ Date: _____

Assignment: _____

DIRECTIONS:

1. List the students to be observed in column 1.
2. List the social skill in which each student is supposed to engage in column 2.
3. Note the frequency of the use of the skill for each day of the week.
4. Total the daily frequencies.

Student	Social Skill	Mon	Tues	Weds	Thurs	Fri	Total

Comments:

TEACHER OBSERVATION FORM

Teacher: _____ Class: _____ Date: _____

Assignment: _____

Groups	Explaining Concepts	Encouraging Participation	Checking for Understanding	Organizing the Work
1				
2				
3				
4				
5				