

## Observations

An observation involves collecting data by watching a program, the presenter, or the audience. Observers pay attention to settings, behaviors, interactions, and reactions to better understand how a program is working. Observations can be made in person or via audio or video tape. In some cases, observation can even be done after the fact by noting traces of behavior, such as which trash cans are full, which exhibit cases are full of finger and nose prints, and which brochures have been taken.

There are tricky elements involved in making observations, such as consistently watching the same things, consistently taking notes, and being careful not to make assumptions about what is going on. Most observers use forms or checklists to keep their observations on track. Some people find it difficult to stay in the observer role. Indeed, some situations make it almost impossible, such as when participants ask the observer questions or when teachers assign all available adults to an instructional role! While these can become opportunities to interact with learners and gain new insights into the program, they hamper

the quality of an observation. In such situations, it might be helpful to convert the evaluation tool into an informal interview to take advantage of the opportunity. If an observation is essential, however, it may be wise to say no to requests that will pull you off task.

### ■ What to Observe

Your evaluation plan and logic model provide clues about what you might want to observe. There are several different types and styles of observation. You may want to start a program evaluation with an observation merely to become more familiar with the program. In such cases you would review the program outline and objectives and note whether the program is implemented as intended. You might also conduct a *timing and tracking study* by noting exactly what is happening at a given interval, such as every two minutes. This technique is often used at exhibits in museums and zoos (see box 3.6). You can't note everything, so you might focus on a few key things.

- How many visitors are at the exhibit?
- What are visitors doing?
- What are the visitors saying?

### BOX 3.6

#### Making Meaning Out of Observations

Observations and interviews were used to identify the observable characteristics that suggest learning during family visits at science museums, zoos, or aquariums. A pilot study with 25 families was used to identify 13 observable behavioral categories—approach, call over, point, ask question, answer question, comment/explain, read aloud, read silently, climb on, handle, express like, express dislike, withdraw. Observations and interviews were conducted with 129 families visiting four informal science institutions. Interview questions given immediately after families left the exhibit area asked for each person's reactions to and perceptions of the exhibit. Their comments were coded into three levels of learning—identifying, describing, and interpreting or applying.

Only five of the 13 behaviors were significantly different between these levels of learning. Asking questions, answering questions, and commenting or explaining behaviors were more frequent among those who could describe the exhibit's message than those who could only identify elements of the exhibit. Reading aloud and reading silently were more frequently associated with those who could interpret and apply the exhibit's message than with those who could describe it. These five behaviors can be used as indicators of learning in other exhibits.

Source: Borun, Chambers, and Cleghorn (1996).

You can observe staff in order to provide suggestions about how to improve their program delivery or enhance a volunteer training program. You might create a *checklist* of all the skills a good instructor would demonstrate and then rate the person you are observing on each. Your observation form might look like the sample in table 3.1.

Instead of rating how well each skill is being performed, you could also make a list of what teaching skills you expect to observe if this is quality education and then check the frequency of each one—how often you detect it. This will help you describe the instructional components of the program and provide evidence of its high quality. In this case, your observation form might look like the example in table 3.2.

Instead of a checklist, some observers merely divide their note paper into two columns. The left side is

where they note what they see, as in “90% of children are looking at the teacher, teacher is explaining concept with props, many hands in the air to answer question.” The right side of the page is where observers record how they interpret this evidence. Because we believe that listening, watching, and responding to questions are indicators of learning, we might be tempted to “observe” that children are learning. They probably are, but what we observe and what we infer from our observations should be noted in two different columns, with “children are learning” going on the interpretation side of the paper. For example, one could observe that facilitators engaged participants in seven different activities. During each activity, participants were intently involved in the group experience and completed their tasks. From this observation one could infer that participants seemed to enjoy the activities and likely learned new information.



### 3.9 CHECK FOR UNDERSTANDING

A community zoo was interested in improving its popular exhibits. Before developing a new exhibit plan, the staff observed how visitors used and interacted with the existing exhibits. What interpretation might you be able to make from the following four observations? What could a zoo consider doing to improve these exhibits?

1. A steady stream of families with young children entered the exhibit. When children were confined in backpacks or strollers, the adults stopped to observe the lions when and where the adults wanted. When the children were mobile, the adults stopped where the children chose and stayed as long as the children were interested.

Interpretation:

Recommendation:

2. Twenty family groups were observed at the elephant exhibit. They stayed for an average of three minutes when the elephants were shuffling around or eating but stayed for an average of 11 minutes when the zoo staff were interacting with the animals.

Interpretation:

Recommendation:

3. The shark tank is a popular exhibit and is usually always busy. If new visitors stand next to people who are reading the text, they tend to read also. Adults read the text for approximately 30 seconds before interacting with their children or watching the sharks. Only 25% of the visitors returned to the text after their first interruption.

Interpretation:

Recommendation:

4. Those visitors who noticed the questions at the first exhibit and read them to their children were observed to spend more time looking for the answers and talking through the information with their children than those who did not read the initial questions.

Interpretation:

Recommendation:

*Answers are found in appendix A.*

**TABLE 3.1** Form for Observing Staff

Observer directions: Please observe the program staff member for one entire session, noting how well he or she does on each of the following criteria. Use the code to score each item and provide a comment if appropriate.

n/a = not applicable      0 = could have but didn't      1 = did but not well      2 = did okay      3 = did well

CRITERIA	SCORE	COMMENT
Was appropriately dressed	n/a 0 1 2 3	
Was friendly and positive	n/a 0 1 2 3	
Faced the audience while speaking	n/a 0 1 2 3	
Encouraged sensory investigation	n/a 0 1 2 3	
Spoke so everyone could hear	n/a 0 1 2 3	
Used hands to direct attention	n/a 0 1 2 3	
Used props appropriately	n/a 0 1 2 3	
Modeled appropriate behavior	n/a 0 1 2 3	
Gave accurate information	n/a 0 1 2 3	
Listened carefully to questions	n/a 0 1 2 3	
Encouraged questions	n/a 0 1 2 3	
Encouraged answers	n/a 0 1 2 3	
Solved problems gently and effectively	n/a 0 1 2 3	
Closed the presentation effectively	n/a 0 1 2 3	

**TABLE 3.2** Form for Observing Programs

TRAIT	NOT EVIDENT	OCCASIONALLY EVIDENT	OFTEN EVIDENT	ALWAYS EVIDENT
Instructor introduces concepts with relevant examples				
Instructor uses appropriate language				
Instructor engages learners with questions				
Program involves learners in an experience				
Program gives learners an opportunity to reflect on the experience				
Program allows learners to apply concepts in a novel situation				
Instructor concludes program with a summary or conclusion				



### 3.13 APPLICATION EXERCISE

Return to your evaluation plan. What aspect of your evaluation may be appropriate for an observation? What exactly will you observe? Develop a form or checklist to help keep your observations consistent. You can use the Observation Form Checklist in worksheet 3.4 at the end of this chapter to critique your form. Also take a look at figure 3.6 for an example of a program observation form. If your original plan does not lend itself to an observation, imagine that you will be observing your program staff to improve their instructional effectiveness. Revise the sample observation form in table 3.1 to suit your needs.

**FIGURE 3.6** Lagoon Quest Study Tour Observation Form

Recorder \_\_\_\_\_ Date \_\_\_\_\_ Site \_\_\_\_\_

Weather:  Sunny     Rainy     Cloudy

Wind:     None     Slight     Moderate     Gusty

Air temperature: \_\_\_\_\_

Water temperature: \_\_\_\_\_

Name of the school: \_\_\_\_\_

Names of teachers: \_\_\_\_\_

Student #: \_\_\_\_\_    Chaperone #: \_\_\_\_\_

# Creatures caught	# Creatures seen
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

How was the overall species diversity?     Poor     Average     Excellent

Were the teachers prepared for the study trip?     Yes     No

Comments

\_\_\_\_\_

\_\_\_\_\_

Were the students prepared for the study trip?     Yes     No

Comments

\_\_\_\_\_

\_\_\_\_\_

The bus was     on time     early     5-15 minutes late     > 15 minutes late

Comments about program or students

\_\_\_\_\_

\_\_\_\_\_

*For more information, see the Lagoon Quest case study in appendix B.*

## ■ Pilot Testing Your Observation Form and Procedures

If you are developing a checklist or form, test it to make sure you are able to record information efficiently, that the information you note is useful, and that the observations will help you to answer your evaluation question.

If more than one person will be observing programs, it is important that they discuss what they are looking for and how they will go about recording information. Since everyone sees different things, several trainees should observe the same program and compare notes. If they work on looking for the same program characteristics, their observations will be more useful: differences in their reports will be due to differences in programs, not in observers.

## ■ How Many Observations?

Observations are often difficult to orchestrate and schedule. You might end up observing as many programs, exhibits, visitors, or participants as possible, or you might be satisfied when your reports are no longer turning up new perspectives. If programs vary in predictable ways—by sites, by volunteers, by weather, and so on—you should observe at least two to four versions of each variation. In all of these cases, you will purposefully sample from your set of programs to observe those that will give you the most useful information—just as you would for an interview. In the rare case where you intend to generalize your observations to the population, you should randomly select enough programs or people to meet the sampling size guidelines in figure 2.2 on page 38.



### 3.14 APPLICATION EXERCISE

Go back to your evaluation question and the observation form that you drafted in the previous application exercise. Which programs or program elements do you need to observe? Do you want to generalize your results to the population or understand specific qualities? How many repetitions of this program or how many people should you observe? How will you decide?

## ■ What Next?

Observation results run the risk of being underutilized because they represent one person's (the observer's) perspective on a few cases. Nonetheless, observation can be a powerful tool, because it describes what really happens rather than what people remember. In order to leverage this potential power, it is important in all of your observations to use systematic documentation techniques. This is perhaps the most important characteristic of good observation. In terms of producing program data, you can convert observations and interpretations into narrative descriptions of your program. You can also convert your observations into numbers—the average time spent, the number of people observed looking at the instructor, or the number of questions asked. In both cases, using the techniques described in chapter 5, the narratives and the numbers should be further analyzed to answer your evaluation questions. See box 3.7 for another example of using observation as a tool in program evaluation.

### BOX 3.7

#### Observing Student Questioning

Observations of elementary school field trips at a national park were used to record the questions students asked, which could lead to insights into what students were thinking. Unfortunately, the chaperones asked more questions than the students, and the guides gave students little time to think of questions. Each portion of the program was deftly summarized and a transition was provided to the next activity, leaving students little opportunity to mull over what they had just experienced or learned. Students asked few questions during the outdoor portion of the field trip. The students showed more willingness to ask questions in indoor settings, however, perhaps because of the similarity to a classroom. The observation reports enabled program organizers to reflect on what was working well and what might be improved. The activities clearly engaged students quite well in very specific tasks, like rolling bandages or sending messages with signal flags. Interviews with students, however, suggested that students lost track of the bigger picture and needed to be reminded what the Civil War was all about.

Source: Monroe et al. (1997).

## ■ Quality Assurance

As an evaluation tool, observation can be powerful because it provides insight into actual occurrences from an outsider's perspective, rather than from the perspective of a program participant, such as an instructor, student, or stakeholder.

Observations can provide important data for evaluations if

- the observations are consistent;
- the observers are trained to observe and record in the same fashion; and
- the observers are careful to separate what they see from what they think is going on.

## Focus Groups

**F**ocus groups are group interviews designed to encourage participants to build on each other's responses. Most of the guidelines for developing interviews are true for focus groups. The questions should be carefully developed, the participants should be purposefully selected, the site should be neutral, and the discussion should be recorded.

Focus groups are useful in evaluations at any stage of a program's development—front-end, formative, and summative—though they are most often used in front-end evaluations. They allow program developers to collect opinions and ideas quickly when little is known about the need for a program. Focus groups are often used to build a survey. The quality of the responses, however, depends on the skill of the moderator and the willingness of the participants to share their views. It is not possible to generalize focus group responses to a larger population, so they are not often used in summative evaluation. In some cases, however, focus groups are used for gaining insight into outcomes achieved through a program (see box 3.8).

Focus groups tend to last from one to two hours and involve six to ten people. They can be a relatively quick and inexpensive way to build a richer understanding. The purpose is not to obtain agreement, but to engage people in exploring their perceptions, feelings, and opinions. Focus groups are good at eliciting experiences and ideas, particularly about a draft program or concept. As a result, they use questions that are open ended and exploratory in nature.

- What would you like to see in a museum like this?
- What are the problems associated with suburban sprawl?
- What bothers you about the environment?
- What would you like to know more about?
- How similar to you is the character in the video?
- Which brochure is most interesting, and what makes it interesting?
- What would make this poster more attractive?

A focus group is not the best tool for every audience. Political leaders, for example, may not wish to participate; young children are apt to become distracted; and adolescents might feel pressure to agree with the most popular

participant. Organizing groups of participants who don't already know each other might be useful, but it will not overcome all of these concerns.

You might be able to attract participants who care enough about your program and its success that an incentive won't be necessary. On the other hand, some folks may need an incentive to give you an hour of their time. Snacks after school, dinner on a weekday, and a \$30 coupon for a local restaurant have been successfully used to entice people to participate.



### 3.15 APPLICATION EXERCISE

What aspect of your evaluation looks appropriate for a focus group? Go back to your evaluation plan and consider what types of questions could be answered with a group discussion. What broad questions do you want answered through a focus group? If your original plan does not require a focus group, imagine what you might ask a group of stakeholders that would help them generate useful information for improving your program.

## ■ Question Wording and Sequencing

Focus group questions usually begin with something easy, such as asking people to introduce themselves. This opening question—like “Tell us your name and how long you have been coming to the center”—should make people feel comfortable in the group.

Once participants are at ease, your questions should guide them to focus on the topic. Focusing questions often involve getting participants to describe their experience. You can start with a more general question and then ask questions that require people to be more specific. At that point, encourage sensory details, and ask each person how their experience was similar to or different from another's. You might ask, “How did you first hear of the center?” and “What do you remember about your initial visit?”

The important questions should come next. While you may only have a handful of them (say, three to five), these questions are the essence of your focus group and should take the majority of your time.

- What do you remember about this program?
- Did anything from this experience change your teaching?
- How do you use PLT activities in the classroom?
- What would help you use PLT activities more often?

It is important to follow such questions with prompts that enable you to clarify a comment or explore a bit deeper. You can also ask if others in the group have had similar experiences.