



**ACTION RESEARCH**  
SESSION 4.4  
**DATA COLLECTION  
THROUGH  
OBSERVATIONS**



# Objectives

At the end of the session, teachers should be able to:

- 1 Describe how data are collected through observation;
- 2 Differentiate types of observations;
- 3 Identify tools for recording data collected from observations; and
- 4 Use observation for data gathering.



# Key Understandings

- 1 Observation uses physical senses to record behaviors or actions of respondents.
- 2 Observations may be conducted under controlled conditions, in natural settings, and as a participant.
- 3 Records of observations may be made based on event sampling, time sampling, and instantaneous (or target time) sampling.
- 4 Tools for recording observations include field notes, audio and/or video recordings, rating scales, checklists, and anecdotal records.

# Materials

- Observation form
- Laptop
- Projector
- Copy of the video clip for the task under Activity (should already be loaded in a laptop)
- Copies of the “Observation Notes” worksheet for the task under Application
- Poster showing the “Observation Notes” worksheet



## TIME ALLOTMENT

120 minutes/ 2 hours



# References

**Kawulich, Barbara. 2012.** “Collecting Data through Observation.” ResearchGate (website). Accessed May 21, 2018. [https://www.researchgate.net/publication/257944783\\_Collecting\\_data\\_through\\_observation](https://www.researchgate.net/publication/257944783_Collecting_data_through_observation).

**McLeod, Saul. 2015.** “Observation Methods.” Simply Psychology (website). Accessed May 12, 2018. <https://www.simplypsychology.org/observation.html>.

**Mertler, Craig A. (2011) 2014.** *Action Research: Improving Schools and Empowering Educators*. Thousand Oaks, California: SAGE Publications.

**Mills, George E. (1999) 2017.** *Action Research: A Guide for the Teacher Researcher*. New York: Pearson.

**Nugent, Glenda, Sakil Malik, Sandra Hollingsworth. 2012.** *A Practical Guide to Action Research for Literacy Educators: Using Action Research to Improve Literacy Instruction in Classrooms Around the World*. Washington, DC, USA: Global Operations Unit, International Reading Association.

**Silverman, David. (1993) 2001.** *Interpreting Qualitative Data*. Thousand Oaks, CA: SAGE Publications.

## Introduction

Begin the learning session by saying: “Good \_\_\_\_\_, everyone. Welcome to another exciting LAC session. I am \_\_\_\_\_, your facilitator for today’s session. We will be continuing our discussion on data collection methods for Action Research. Our focus will be the use of observation method in gathering data.

At the end of this session, you are expected to be able to describe how data are collected through observation; identify tools/instruments in recording observations; and use observation method to examine environment in natural settings to gather data.”

## Activity (20 minutes)

As pre-discussion task, have the participants watch the video titled “Philippines, A Day at School.” Play the videoclip by accessing this link: [https://www.youtube.com/watch?v=OL156voW\\_YQ](https://www.youtube.com/watch?v=OL156voW_YQ). Remind the participants to remember the events in the video. You may choose to replace the video clip with something similar if it would not be possible to stream the one suggested, as long as it will still be about Philippine school setting.

## Analysis (10 minutes)

Lead the participants in processing the viewing material that they just watched by asking them the following guide questions.

- 1 What was the video clip about? (how school children spend the day in school [from going to school to having flag ceremony and to attending class])
- 2 Where do you think were the scenes? (in a rural area)
- 3 What events were shown in the video clip? (children walking to school, flag ceremony, class, etc.)
- 4 What did you notice about the school children? (some were wearing uniforms; others were wearing ordinary clothes and slippers)
- 5 What impression did you get from the scenes in the video clip? (Some children have difficulty going to school, but in class, they listen to their teachers and do a lot of the classroom chores)
- 6 What conclusion can be derived from the video clip? (Going to school may be troublesome and inconvenient to some children, but the learning and values they acquire in school are worth it)

## Abstraction (60 minutes)

Proceed to the discussion part of the session by saying: “We will now proceed with the main topic of our session for today; that is gathering data through observation.”

## OBSERVATION AS DATA COLLECTION METHOD

Observation is a systematic way of collecting data for Action Research in which researchers use all of their senses to study people, usually conducted in natural settings or naturally occurring situations. Watching what people do is an obvious method of carrying out research in education. Generally, observations are relatively inexpensive to conduct, because the researcher needs only a few resources. However, they can also be time consuming and physically demanding.

When Action Researchers use this data collection method in the field setting, it involves the following conditions:

- prolonged engagement in the setting or social situation
- clearly expressed, self-conscious notations of how observing is done
- methodical and planned creativeness in order to accomplish the task
- standardized recording of one's observations

## METHODS OF OBSERVATION

The Action Researcher can conduct observations either in an overt or a covert method. In overt observations, the participants know that they are being observed, the identity and purpose of the researcher are revealed, and permission to observe them is sought.

In Covert Observations, participants are neither informed about nor aware of the observation. The study is conducted “undercover.” The identity and purpose of the researcher are also concealed or undisclosed. The researcher sometimes acts as if he or she was a genuine member of the group being observed.

### Types of Observations

Below are the different types of observations.

#### 1 Controlled Observations

As the name implies, controlled observations are usually carried out in a laboratory setting. These are called “controlled” because the researcher determines the place and time of the observations, the participants who will be observed, and the circumstances where they will be observed using a standardized procedure. In this case, the participants can be randomly “assigned” or “exposed” to situations of interest.

Observations are usually overt in this type of observations as suggested by the set-up itself. Even if the observation is conducted behind a one-way mirror, students may deduce that they are being observed when their class is held in a room with this special feature (one-way mirror). Given the format of controlled observations, the researcher avoids any direct contact with the group and keeps them in a distance (e.g., observing behind a two-way mirror); thus, it can be said that the researcher is a non-participant.

Instead of writing detailed descriptions of all behaviors observed, a predetermined structured observation instrument is used. Codes are already prepared for behaviors to be observed to standardize notes. Using the codes, the researcher organizes the behavior they observe into distinct categories. Coding might involve numbers or letters to describe a characteristic. The categories on this type of observation sheet are coded so that the data collected can be easily counted and turned into statistics. Some researchers may want to use a rating scale to measure behavior intensity. Others may choose to employ a checklist in which observed behavior are marked as present.

Among the strengths of controlled observations is the easy replication of other researchers by using the same observation procedures and tools. The standardized observation tool makes it possible to determine inter-observer (between observers) or intra-observer (within an observer) reliability. Another strength is that these are easily and quickly analyzed; both data coding and data analysis are less time-consuming for the researcher. A third advantage is that these can be conducted in a short time, which will enable the researcher to do more observations and include more participants. If the sample size is large and representative of the population, generalizations can be made. However, one limitation of controlled observations is that they may be subject to so-called Hawthorne effect or demand characteristics. Participants tend to act differently when they know they are being observed. Therefore, data obtained may lack validity.

## 2 Naturalistic Observations

Naturalistic or unstructured observation entails studying spontaneous behavior of participants in their natural surroundings. The researcher merely records whatever he or she sees that is relevant to the purpose of the observation or to the research question that guides it. The researcher also observes students in places where they are naturally found (e.g., in their own classrooms, in the

playground, in the cafeteria, in the laboratory) instead of behind a one-way mirror in a laboratory classroom (as in the case of controlled observations)..

One of the strengths of naturalistic observation is that there is “ecological” validity in the data collected because behavior flows naturally. Another strong point is that it can spawn new ideas for interventions for future implementation in Action Research. Thus, this type of observation is not only functional in collecting data about an intervention implemented, but also in conducting preliminary investigation prior to the installation of an innovation. The researcher is given a chance to study the situation, which may lead to paths of new inquiry that have not been previously considered.

Despite these advantages, naturalistic observations have a few limitations. One is the fact that these observations are often conducted on a small (micro) level such as one or a few classrooms in the researcher’s school. This means that the sample population may not be enough to be considered representative of the accessible population; thus, it does not permit the generalization or application of conclusions to other groups. The usefulness of the intervention to other settings may be somewhat restricted. Another is that observations collected in natural settings are often less reliable than those conducted in controlled or contrived set-ups. There are other variables that are at play that are difficult to control, much less to identify. Thus, if another researcher wants to implement the same intervention in his or her classroom, he or she may not obtain the same results and come to the same conclusions. Technically, repeatability or replication of the intervention may not be as precise as the original implementation. Another disadvantage is that researchers who apply naturalistic observations may have to undergo training to be able to appreciate distinctive aspects of a situation that are worth further attention. However, the major limitation of naturalistic observation is that the researcher cannot manipulate variables or control extraneous variables, unlike in controlled observations where these are both possible. Thus, inferring cause-and-effect relationships between independent variable (the intervention or innovation) and the dependent variable (student achievement or behavior) is rather tenuous.

### 3 Participant Observations

Participant observation is similar to naturalistic observation in the sense that it also focuses on studying participants’ behavior in their natural surroundings except that in the former, the researcher actually joins in and becomes part of the group. “Participation” gives the researcher the opportunity to get deeper

insights into the lives of the group. This is actually the strength of this type of observation. As for limitations, finding the opportunity and privacy to record one's observations is quite difficult when the researcher chooses to participate in the group activities. Taking notes openly is avoided since this might "blow the researcher's cover" and expose his or her identity. He or she also has to depend on his or her memory and wait for some time alone to write the notes from recollection. One problem here is that some details may be forgotten. It is less likely that direct quotations will be remembered. Another constraint for participant observations is that the researcher may lose his or her objectivity and become biased when he or she becomes too involved with the group. One consequence of biased observations is that the researcher may "see" what he or she wants or expects and may engage in "selective" observation instead of reporting everything. This will downgrade the validity of data collected.

Among these three types of observations, the naturalistic and participant observations are most applicable to Action Researchers. Controlled observations are also possible, if a classroom with one-way mirror is available.

### **SAMPLING METHOD AND DATA TO BE RECORDED**

Both random and nonrandom sampling methods are applicable for observations. In controlled observations, random sampling may be used since the observation takes place in a setting that has been specially prepared or arranged by the researcher. The researcher can randomly select the students who will participate and who will be observed.

However, in naturalistic and participant observations, nonrandom methods, such as purposive, accessible, quota, and snowball sampling, are more common and feasible. In these types of observations, the student-participants cannot be pre-selected or pre-arranged by the researcher. He or she will have to choose those who will be specifically observed from among the students already present in the observation situation.

Aside from the sampling of participants, the observer also has to decide on the sampling of behavior to be recorded. There are three ways of deciding which specific behavioral data will be collected.

- 1 **Event Sampling.** This refers to the preselection of the types of behavior or events the researcher is interested in. He or she then records all of their occurrences. All other types of behavior are disregarded. One type of behavior



that may be selected for observation is disruptive behavior in the classroom. The observer focuses only on all behaviors considered “disruptive” and pays no regard to other types of behavior.

- 2 Time Sampling. The researcher decides in advance the specific period of time during which the observation will be carried out. For example, the researcher may plan to observe behavior during the first 10 minutes of each hour in the morning. Thus, all behavior exhibited during this period, and this period only, will be recorded.
- 3 Instantaneous (Target Time) Sampling. Moments during which observation will take place are selected ahead of time. Only the behaviors that occur during these moments are recorded. Behaviors that appear before or after these moments are not attended. Everything that happens in other times is overlooked. One example of these moments is when students are engaged in group work. The observer concentrates on observing the students during the time that they get together in small groups to do class work.

## DATA COLLECTION METHODS

There are various tools that can be used to record data from observation. The following are just some of them.

- Field Notes—Literal descriptions on what the observer has seen, heard, and experienced including utterances that are considered important are written in a notebook. Such data have to be transcribed in full prior to data analysis.
- Audio and Video Recordings—Observations are captured electronically using a tape recorder or a video camera. Like field notes, contents of these recordings should be fully transcribed before data analysis is performed.
- Rating Scales—Intensity, prevalence, or degree of behavior as observed are indicated along a scale by the observer.
- Checklists—Lists of important behaviors or actions to be observed are used. Only those that are manifested are marked as present (usually with a check mark under a “yes”, “present” or “observed” column).
- Anecdotal Records—Short stories or narratives of significant incidents that have been observed are prepared, with detailed descriptions of specific behaviors but without any interpretations.

## DATA ANALYSIS TECHNIQUES

Below are the different data analysis techniques one can use in analyzing data collected through observations.

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- Qualitative data analysis is applied to field notes, audio and video recordings, and anecdotal records. Themes are derived from cursory reading of the transcripts. After which specific behaviors or utterances are classified according to the identified themes. A frequency count of behaviors under each theme may be derived.
- Quantitative or statistical tools are used to treat data obtained from rating scales and checklists. Measures of central tendency (mode, median, and Mean) and variability (range, variance, and standard deviation) are computed for each item and/or the entire scale or checklist. Correlation coefficients between variables of interest may also be calculated if these are relevant to the study. Moreover, inferential statistics, such as t-test and F-test, may be employed if group comparisons are desired.

These data analysis techniques will be discussed in detail in the sessions designated for them.

## **GUIDELINES FOR CONDUCTING OBSERVATIONS**

Below are suggested guidelines in conducting observations to collect data.

- 1** Be unnoticeable. It is important to ensure that your participants do not notice you as an observer except in controlled observations. It is good practice to spend some time with the students that you will be observing before you commence the study to allow them to get used to your presence.
- 2** Be objective & specific. When jotting down notes to describe behavior, use terms or words that are clear, precise, and formal. Remember to focus on the behavior that you need to observe, not on your interpretation of it.
- 3** Be systematic and thorough. Your observation notes or recordings should be exact. They should be logically sequenced and complete and should include only what you saw and heard. Remember to separate your observations from your interpretations.

## **ETHICAL CONSIDERATIONS**

Like in other methods of data collection, researchers should observe and should conform to the highest ethical standards when conducting observations.

- 1** Permission  
Permission from parents, administrators, and others concerned should be sought prior to conducting observations.

## 2 Confidentiality

Protection of the rights of participants should be central in the mind of the observer. Full names of student-participants who are observed should be replaced with code names or pseudonyms. Confidentiality of data obtained should also be maintained. Field notes, audio and video recordings, rating scales, and checklists used and prepared should be kept in a secure place. At no time should these be shared with other individuals except with fellow researchers or teachers in the research team for the project.

### Application (25 minutes)

Lead the participants in applying what have discussed about observation as a data collection method by doing the following activity titled “For Your Eyes Only.” Observe the following instructions.

- 1 Ask the participants to find a spot or corner inside the school premises where they can view people and observe their activities. Give them ten (10) minutes to do their observation.
- 2 Distribute copies of the worksheet titled “Observation Notes” (presented below) to the participants. Ask them to record their observations on the provided worksheet. Tell them to write what they see and hear on the space labeled “Observation.” You may also share the worksheet to the participants through by preparing a poster.
- 3 Have the participants return to the study area after ten minutes. Then, ask them to complete the information asked in the worksheet, including the column labeled “Interpretation/Analysis.”

Observation Notes	
Date:	Time:
Location:	
Content /Topic:	
Observation	Interpretation/Analysis
Students are actively participating in the sports activity	They are interested with the sport; the method seems to work well

- 4** After 10 minutes, call time and have everybody prepare for sharing. Call on volunteers to share their observation experiences. After a few participants have shared their experiences, summarize the exercise by asking everyone following questions.
- a** How did you decide where to sit and observe? What was your purpose in choosing the specific spot?
  - b** As you began your observation, how did you feel?
  - c** How did you select the focus of your observation?
  - d** What in our activity did you find difficult?
  - e** What problems did you encounter in this activity?
  - f** From the exercise, what conclusion can you derive about Observation as a data collection method for Action Research?

### Closing (5 minutes)

End the learning session by saying: “It was Maria Montessori who once said, ‘We cannot create observers by saying ‘observe,’ but by giving them the power and the means for this observation, and these means are procured through education of the senses.’ Let me also quote Wallace Stevens who said: ‘Accuracy of observation is the equivalent of accuracy of thinking.’ Thank you for your participation in today’s LAC session. See you again in our next LAC meeting. Goodbye, everyone.



Prepared by:

ARNEL L. POJA

Senior Education Program Specialist  
Division of Valenzuela  
Department of Education–National Capital Region

Edited by:

FE' JOSEFA G. NAVA, PhD



# BEST Basic Education Sector Transformation



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