

Lecture: Classroom observation

Definition

Classroom observation is the process where an observer visits a classroom to assess teaching methods, students' engagement, and overall class environment. The purpose is to provide feedback, evaluate teaching effectiveness, and support professional development.

Types of classroom observations

We have many types of classroom observation.

Formal observation: It is a planned observation conducted according to a predetermined schedule. It involves collection of numerical data to analyze various aspects of classroom behavior, such as frequency of teacher talk, student talk, student engagement level, and time spent in different activities.

Informal observation: It is unscheduled, spontaneous, and it is used just to gather information.

Quantitative observation: A quantitative classroom observation involves using numerical data and metrics to assess various aspects of teaching and learning within a classroom. This could include measures such as the number of questions asked by the teacher, the amount of time students spend actively engaged, or the frequency of specific teaching strategies used. Usually an observation schedule is used.

Characteristics of classroom observation schedule

An observation schedule should be:

Clear in terms of objectives: Clearly demarcated and formulated objectives for the observation.

Structured: Specific criteria and pre-specified categories are used to guide the observation.

Flexible: Can be adapted to different levels, grades, subjects, and domains.

Comprehensive: encompasses various aspects of the classroom or research topic.

Guiding: Provides clear instruction to the observer on what to focus on during the observation.

Timely: Scheduled at an appropriate time.

Consistent: Remains consistent across multiple observations.

Example of classroom observation schedule

Observer: (researcher's name)

Date:					
Time:					
Grade:					
Subject/focus of observation:					
Categories/questions	1	2	3	4	5
Use of group work					
Use of paired activities					
Student-student interaction					
IRF interaction					
Peer-assessment					
Self-assessment					

Postitive feedback					
Other(s)					

Qualitative classroom observation: It focuses on the quality of interaction, behaviours, and experiences within the classroom.

Characteristics of qualitative data

Qualitative observations are descriptive and do not involve numerical measurements. Here are some characteristics:

Subjective: They rely on subjective judgment rather than statistical data.

Descriptive: They describe qualities, characteristics, and properties.

Non-statistical: They do not involve numerical measurements or quantities.

Contextual: They often include the factors influencing the observed topic.

Prose-based: They are expressed using prose rather than numbers.

Exploratory in nature: They are often used to generate hypotheses or gain insights.

Analysis of classroom observation: The analysis of classroom observation depends on the nature of observation approach espoused.

Quantitative analysis of classroom observation data

Qualitative analysis of classroom data involves analyzing statistical data such as observations, interviews, and open-ended responses to identify patterns, themes, and trends. This analysis can provide valuable insights into student behavior, learning styles, and instructional effectiveness. Key steps in qualitative analysis include data coding, theme identification, and interpretation of findings.

Equally, the principles of grounded theory could be used to effectively analyze data. This method involves the following steps:

Open coding: It involves analysing data line by line, identifying and labelling concepts or themes

Axial coding: It involves connecting open codes into broader categories and identifying core concepts.

Selective coding: It involves identifying central or core categories that could be used to explain or account for the problem under study.

Quantitative analysis of data

Quantitative analysis involves many steps

Data Preparation: It involves organizing and refining data the data. This may involve coding the data and entering it into a spreadsheet or statistical software.

Descriptive calculations: Calculate descriptive statistics such as means, standard deviations, and frequencies to sum up the data.

Comparative Analysis: it involves comparing the observed data across different time periods, groups, or conditions. This could involve comparing observations between different classrooms, subjects, or teaching methods.

Statistical Analysis: It involves Using statistical tests to determine if there are significant differences or relationships in the data. This could involve t-tests, ANOVA, correlation analysis, or regression analysis, depending on the research questions and design.

Interpretation: It is about the Interpretation of the results of the analysis and the draw of conclusions about the effectiveness of teaching strategies, classroom management techniques, or student engagement.

Reporting: The researcher presents the findings of the analysis in a clear and concise manner, using tables, charts, and written description

Lecture:Sampling

Sample

Sampling refers to the process of selecting a subset of individuals or items from a larger population to represent that population. It allows researchers to make inferences about the larger population based on the characteristics of the sample.

Population

Population refers to the entire group that you want to draw conclusions about, while the sample is a subset of that population that you actually study. For example, if you study the average height in a country, the population would be everyone in that country, while the sample would be the people you actually measure.

Sampling Ratio

Sampling ratio, or fraction, is the proportion of the population included in the sample. It is calculated by dividing the size of the sample by the population. For instance, if the population is 1000 and the sample is 100, the sampling ratio would be 100 out of 1000, which makes 0.1, that is, 10%.

Ideal Sample

There is no size fit all or ideal sample. It depends on the level of precision required, objectives, and resources. Usually, it is around 5 to 10%.

Approaches to Sampling

There are two major approaches to sampling. One is *probability sampling*, which includes a variety of sampling methods.

- It is based on statistically random sampling.

- It involves a predetermined process,

- It involves no discretion of the researcher.

- It is quantitative research

- It allows generalization.

The second is *non-probability sampling*

- Not statistically random

- It involves the discretion and judgment of the researcher

- It is qualitative in nature

- It is marked by richness and depth.

Probability Sampling

1. *Random sampling* is like pulling names out of a hat, and it is easy and cheap. This sampling is a method of selecting a sample from a population in which every individual or item in the population has an equal chance of being chosen. For instance, if we have a sample of 1,000 and we give numbers for each of those 1,000 individuals or items,

and we randomly choose, for instance, 50 individuals, then this is what is called random sampling.

2. *Stratified sampling* is a method of sampling in which the population is divided into subgroups or strata based on certain characteristics, such as age, gender, income, and level. When random samples are taken from each group, each group is proportionally represented.
3. *Cluster sampling* is a sampling technique where the entire population is divided into groups or clusters and a random sample of these clusters is selected. Then all the elements within the selected clusters are included in the sample. For example, if we investigate all the students of the university, then we can select one class from each department. Hence, those selected classes are taken entirely and represent the target population

Non-probability sampling

It includes also many sampling methods.

1. **Purposive or judgmental sampling.** This is subjective sampling. The researcher selects participants based on his or her judgment or the purpose of the study, e.g., if the researcher wants to see the impact of a teaching method on high achievers, then he/she chooses the students who scored in the top 10% of the classes over the past two years. This selection is based on what the researcher thinks are the best or the high student achievers, i.e., subjective standards. However, such an approach or method is prone to subjectivity and it not generalizable.
2. **Convenience sampling:** The participants are selected in accordance to their availability or accessibility. Here, we choose the participants according to two major factors. One is accessibility and the other is availability. For instance, if you want to investigate the effectiveness of a teaching method in Algerian schools; and we choose only to work on those schools that are located in our region or neighboring regions, ignoring the rest of the Algerian schools, then we are using convenience sampling.
3. **Snowball sampling method:** It is used when it is difficult to access a particular population because of the sensitivity of the research topic or when the participants are unlikely to open up. For instance, if we want to investigate the patients affected by AIDS, it is difficult to get those patients because they might hide their identity. If we manage to get one informant, this participant is asked to help us find other potential participants. And, every new recruited could assist us in identifying more subjects. This is what is called the snowball effect.

