

# Significance of Observation in Educational Research



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### Abstract

Observation is the backbone of research but for which no real research is possible. It is the very basis of scientific research. The model research is one in which the researcher first observes the the occurrence of the problem being studied by him, and then research focusing the interpretation of the various causes and effects is carried out with hypothesis in mind to be tested through the work to be done. It does not matter whether in nature the research is qualitative or quantitative, experimental or interpretative, observation method is adopted by the researchers in order to study the problem.

All the three types of observation, namely, participant observation, semi-participant observation and non-participant observation are characterized by their own features, and are used more or less, in all the researches, whether they fall in the category of natural science research or social science research.

The paper was designed and prepared keeping in view the importance of observation in research, types of observation and the relevance of each of its types, and the special significance of observation in the experimental research. A theoretical study at root, the paper highlights and covers all the major aspects of the observation method. The study is a review study of the various research papers on one or the other of the aspects of the theme of observation available on the various internet sites. All the steps that acclaim the scientific nature of work were systematically used and adopted. Findings of the study reveal that observation forms the basis of each and every research, and that without observation, no real research is possible.

**Keywords:** Observation, Participant, Semi-participant, Non-participant, Data, Primary Data, Secondary Data, Sources, Collection, Classification, Analysis, Interpretation.

### Introduction

OECD defines research as a "creative and systematic work undertaken to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." In a research, data play a vital role. In their nature, the data that are collected for the first time by a researcher for the purpose of using them in his own research work are primary, while the data that have already been collected and used by some other researcher, and that are already available in the manuscript or printed form are secondary. For the collection of both the types of data, there are several traditional and modern sources. For instance, the popular sources of the primary data collection include observation, schedule, questionnaire, interview, video conferencing etc., while of the secondary data collection include books, diaries, journals, newspapers, dissertations and theses and the internet sites. In every type of both the types of data are collected and used. The secondary data enables the researcher to be well-familiar with the various aspects of the theme to be studied, while the primary data bring new knowledge about the selected subject or theme.

The systematic collection and analysis of data related to the field of education is called educational research, which may involve a variety of methods and various aspects of education including student learning, teaching methods, teacher training, and classroom dynamics. The educational research is generally qualitative, and the attempt is made to study the behavioral aspects of students and teachers during the process of teaching and learning. Educational research attempts to solve a problem, involves gathering new data from primary or first-hand sources or using existing data for a new purpose. An educational research is based on observable experience and demands accurate observation and

description through carefully designed procedures and rigorous analysis. It emphasizes the development of generalizations, principles or theories.

Hence, it requires expertise and familiarity with the field chosen for the study as well as the competence of the researcher in methodology.

As in the researches relating to the other subjects or disciplines, observation methods help the researchers study and understand the problems, in the field of educational research too, observation methods play a very important role. Educational experimental research is very popular these days. This type of research is conducted in order to find results relating to several problems relating to the students and the teachers through experiments and through a scientific analysis. Previously, the experiments were made in the natural science research, but these days, with the change in the research trends, in several disciplines including education experiment based studies or researches are made. Literally, observation is the action or process of closely observing or monitoring something or someone. When applied to research, it involves the researcher's seeing the problem to be studied with his own eyes and observing all the related aspects of the problem with a view to arriving at findings. Generally, observational studies are considered to be only qualitative aiming at the observation of the units of information, but it is not so. Observations can be qualitative if only the absence or presence of a property is noted, or quantitative if some specific numerical value is attached to the observed phenomenon by counting or measuring. In educational researches, both the types of observation are common.

Of the various types of observation used for the collection of the primary data, namely, participant observation, semi-participant observation and non-participant observation, the participant observation is considered most reliable as it allows the researcher to be a witness to the situations that befall in the life of the units of the study. Under the participant method, the researcher directly visits the study area for the sake of seeing the conditions of living or working of the members of the targeted group. Adopting more or less the same behavioral patterns which are followed by the members of the targeted group, he seems to have become a member of that group. Such a behavioral pattern helps him develop a rapport with the units which makes it easy for him to make interaction with them and to collect the primary data required for the study. As far as the other types of observation are concerned, they allow the researcher to be in touch with the units of the study or the targeted group to be studied only to a little extent.

#### **Objectives of the Study**

1. To produce the history of observation in research
2. To make the reader familiar with the various types or forms of observation
3. To highlight the features and characteristics of each of the types of observation
4. To discuss the advantages and disadvantages of the different types of observation

5. To let the reader know the significance of observation in research

#### **Review of Literature**

Laura Shankland<sup>2</sup> observes that Researchers are examining the circumstances under which educators use evidence, what factors encourage and discourage the use of evidence, and how to create a school environment conducive to the use of evidence. Because of the increased demand for evidence-based practices in education, the amount of rigorous education research has increased. Taking the next step, researchers have now begun looking at educators' use of this research. Specifically, researchers are examining the circumstances under which educators use evidence, what factors encourage and discourage the use of evidence, and how to create a school environment conducive to the use of evidence.

Deborah Allen<sup>3</sup> discusses that the increase in the probability of obtaining a degree between students who had research experiences and those who did not was largest for Hispanic and African-American students, indicating to the authors that research participation may be particularly helpful in preparing minority students for graduate study and careers in science. Additionally, the analyses revealed that participation in research more than once, or during or after the third year, was strongly associated with persistence toward degree completion; in some of the statistical analysis models, participation during the first 2 year had either as strong or stronger associations.

Jinfa Cai, Anne Morris, Charles Hohensee, Stephen Hwang, Victoria Robison, and James Hiebert<sup>4</sup> hold that within the educational research community, impact on students has been conceptualized and measured in many ways. For example, sometimes impact on students has been examined by looking for gains on standardized test scores. Other times, impact has been examined through gains on measures using open-ended tasks. Sometimes impact on students has been measured by economic indicators, such as students' later-life earnings, or by the contributions individual students make to society. Impact can also be defined as empowering students to change aspects of their communities or society to be more just and equitable.

Jing Liu<sup>5</sup> proves that, though under different teaching approach, the two groups of students do not show much difference, and the two different methods do not affect the scores of the subjects. The study says that it is obvious to everyone that traditional mode or singular form of classroom teaching can no longer effectively fulfill the needs of students. As a response to the call of higher quality language delivery and then in turn cultivating global competitor for the soaring economic development in china, a considerable number of teachers of College English are trying every means to find some suitable approaches to enhance their teaching quality. Thanks to the overall development of hardware, more and more computers and multi-media equipment installed classrooms have been set up and put to use, whereby students now have access to modern equipment.

Hence, a lot of direct and exciting improvements can be found here and there in English language classrooms. Needless to say, the big change is of vital importance viewed from historical perspective of English teaching.

Melanie Wakefield, Daniella Germain, Sarah Durkin, Lisa Henriksen<sup>6</sup> found that widespread in-store tobacco advertising can influence and distort adolescents' perceptions regarding popularity, use and availability of tobacco. The study also finds that adolescents exposed to retail tobacco advertising perceived significantly easier access to cigarettes than a control group. The sample of 605 students consisted of 51% females, 41% of students had tried smoking cigarettes and 9% currently smoked. Of those who had not yet tried smoking, 11% said they would probably or definitely try a cigarette soon and 8% reported they would probably or definitely try smoking during the next year.

Jen Katz-Buonincontro and Ross C. Anderson<sup>7</sup> bring to the notice that without quality research using observation methods, it is difficult to understand creativity processes in action, especially in the field of education. In education, observation of student creativity focuses mostly on talented and gifted student identification (Plucker and Makel, 2010), with lesser attention to the classroom context and interactions among teachers and students.

Barbara B. Kawulich<sup>8</sup> observes that observation, particularly participant observation, has been used in a variety of disciplines as a tool for collecting data about people, processes, and cultures in qualitative research. In recent years, the field of education has seen an increase in the number of qualitative studies that include participant observation as a way to collect information. Qualitative methods of data collection, such as interviewing, observation, and document analysis, have been included under the umbrella term of "ethnographic methods" in recent years. Observation methods are useful to researchers in a variety of ways. They provide researchers with ways to check for nonverbal expression of feelings, determine who interacts with whom, grasp how participants communicate with each other, and check for how much time is spent on various activities.

Thomas Szulewicz<sup>9</sup> discusses that observational methods play a significant role in scientific research, and in educational research for example, there have been many observational studies that have been specifically designed to describe specific educational phenomena. However, in educational psychology practice observations are conducted, but they often seem to be considered blurred and time-consuming. The point of argument is that observing children in their common trajectories across different social practices potentially brings about other perspectives to the understanding of children. Observations thus hold the potential to maintain the focus on, not only what is going on between adults and professionals, but also on what is going on among children.

Barbara L. Paterson, Joan L. Bottonoff, Roberta Hewat<sup>10</sup> observe that an important data

collection approach in qualitative research is observation involving the systematic collection and examination of behaviors in a social setting (Marshall & Rossman, 1995). Two common observational strategies are participant observation, or the in-person observation by a researcher (Marshall & Rossman, 1995), and video recording of behaviors and interactions as they occur. Participant observation has been used by researchers in recent years to collect data about characteristics of participants that are not easily accessible using other methods, to identify outcomes of specific practices, and to document physiological and psychological processes.

Onur Asan & Enid Montague<sup>11</sup> highlight the benefits of using video techniques, such as multi-channel recording and video coding, and compared "unmanned" video recording with the traditional observation method in primary care research. With the new technological improvements, video-based observation research is becoming a promising method in primary care and HFE research. Video recording has been under-utilised as a data collection tool because of confidentiality and privacy issues. However, it has many benefits as opposed to traditional observations, and recent studies using video recording methods have introduced new research areas and approaches.

#### **Hypothesis**

1. Observation is at the root of research
2. Observation is made in different ways
3. Observation helps the researcher understand the problem to be studied
4. Sense and degree of observation in all the types of research is not same
5. Observation is relevant and significant in research

#### **Methodology**

Designed and prepared with the specific objective to reflect all the major aspects of observation method, the paper is a review study made on the basis of ten randomly selected research papers on the theme of observation and its significance in research available on the various sites of internet. The start was made with the selection of the topic, that is, Significance of observation in educational research. The other steps that steered the work included the study of the related literature found available in the various research papers, content analysis with a special focus on the findings, discussions and observations of the selected studies, formulation of hypothesis which was tested through the work that followed, designing of the research as a theoretical review study with a special reference to the educational research. For it, the theme was elaborated in a way that the study could be called a review study. The study came to a close with the findings on the selected theme. The paper is all scientific in spirit as the rules of scientific research were adhered to while conducting the study and preparing the paper.

#### **Findings**

1. Research is a master key over the understanding and controlling of the natural and social phenomena

2. Observation is the sole basis of all research without which no real and reliable research is possible
3. At the beginning observation method was adopted by the scientists in order to understand the natural phenomenon in the context of the natural science research
4. At present the necessity and validity of observation is accepted for all the types of researches
5. Educational research is very wide which includes both qualitative and quantitative researches, descriptive, exploratory, interpretative and experimental researches
6. Observation method is the backbone of each of the types of educational research
7. There are three types of observation-1. Participant observation 2. Semi-participant observation and 3. Non-participant observation. Each of the types of observation is important in itself, and adopted for a specific purpose
8. Under participant observation, the researcher has to adopt the various behavioral modes of the targeted group to be studied so as to resemble as a member of the group, and has to stay there for the sake of face to face and natural interaction with the members of the targeted group
9. Under the semi-participant observation, the researcher visits the targeted group on occasions and thus, observes the problem in question
10. Under non-participant observation, the researcher makes observation while placing himself away from the members of the group so as to make a real observation without coming in direct contact with the members of the targeted group
11. In educational researches, as per the need, all the forms of observation can be adopted
12. In experimental educational researches, participant observation is more effective and more reliable than any other type of the observation method.

**Endnotes**

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