What is Educational Research?

Educational research is a type of systematic investigation that applies empirical methods to solving challenges in education. It adopts rigorous and well-defined scientific processes in order to gather and analyze data for problem-solving and knowledge advancement.

J. W. Best defines educational research as that activity that is directed towards the development of a science of behavior in educational situations. The ultimate aim of such a science is to provide knowledge that will permit the educator to achieve his goals through the most effective methods.

Characteristics of Education Research

While educational research can take numerous forms and approaches, several characteristics define its process and approach. Some of them are listed below:

1. It sets out to solve a specific problem.
2. Educational research adopts primary and secondary research methods in its data collection process. This means that in educational research, the investigator relies on first-hand sources of information and secondary data to arrive at a suitable conclusion.
3. Educational research relies on empirical evidence. This results from its largely scientific approach.
4. Educational research is objective and accurate because it measures verifiable information.
5. In educational research, the researcher adopts specific methodologies, detailed procedures, and analysis to arrive at the most objective responses
6. Educational research findings are useful in the development of principles and theories that provide better insights into pressing issues.

Types of Educational Research

Educational research can be broadly categorized into 3 which are descriptive research, correlational research, and experimental research.

Descriptive Educational Research

In this type of educational research, the researcher merely seeks to collect data with regards to the status quo or present situation of things. The core of descriptive research lies in defining the state and characteristics of the research subject being understudied.

Because of its emphasis on the "what" of the situation, descriptive research can be termed an observational research method. In descriptive educational research, the researcher makes use of quantitative research methods including surveys and questionnaires to gather the required data.

Correlational Educational Research

This is a type of educational research that seeks insights into the statistical relationship between two research variables. In correlational research, the researcher studies two variables intending to establish a connection between them.

Correlational research can be positive, negative, or non-existent. Positive correlation occurs when an increase in variable A leads to an increase in variable B, while negative correlation occurs when an increase in variable A results in a decrease in variable B.

When a change in any of the variables does not trigger a succeeding change in the other, then the correlation is non-existent. Also, in correlational educational research, the research does not need to alter the natural environment of the variables; that is, there is no need for external conditioning.

Examples of educational correlational research include:

- Research to discover the relationship between students' behaviors and classroom performance.
- A study into the relationship between students' social skills and their learning behaviors.

Experimental Educational Research

Experimental educational research is a research approach that seeks to establish the causal relationship between two variables in the research environment. It adopts quantitative research methods in order to determine the cause and effect in terms of the research variables being studied.

Experimental educational research typically involves two groups – the control group and the experimental group. The researcher introduces some changes to the experimental group such as a change in environment or a catalyst, while the control group is left in its natural state.

The introduction of these catalysts allows the researcher to determine the causative factor(s) in the experiment. At the core of experimental educational research lies the formulation of a hypothesis and so, the overall research design relies on statistical analysis to approve or disprove this hypothesis.

Examples of Experimental Educational Research

- A study to determine the best teaching and learning methods in a school.
- A study to understand how extracurricular activities affect the learning process.