

TYPES OF RESEARCH -Part 2

Course - M.A Education

Semester - 4th

Paper 401



3. Correlational Studies:

As the name indicates, the purpose of correlational studies is to explore whether there is any relationship or interdependence between two variables or characteristics and to ascertain the degree of such relationships.

- The value of correlational research is to discover relationships among phenomena.
- They enable us to measure the extent to which variations in one variable are associated with variations in another.
- Ranges between -1 to +1
- Correlational studies are generally intended to answer the following three questions.
 1. Is there a relationship between two variables (or two sets of data)? If yes', then two other questions follow: a. What is the direction of the relationship and is it positive or negative?
 - b. What is the magnitude of the relationship as indicated by the coefficient of correlation?
- The correlational statistics will help test the researcher's hypothesis about the relationship between two variables and assess the magnitude of the relationship.

4. Experimental research:

- It is research conducted with a scientific approach using two sets of variables. The first set acts as a constant, which you use to measure the differences of the second set.
- It is quantitative research.

5. Explanatory Research:

- Explanatory research attempts to answer how and why between two aspects of a situation or a phenomenon.
- Explanatory research is an attempt to connect different ideas and to understand the different reasons, causes, and effects.
- Mostly the research starts from exploratory research, then descriptive research and then explanatory research. Explanatory research is an attempt to find the question of why?
- Some important methods of explanatory research design include the followings.
 1. Depth Interview
 2. Case Analysis Research

3. Focus Group Research

4. Literature Research

- Examples of explanatory research
- Descriptive research can tell that 30% of the students are failed in the exam. Explanatory research can tell that what is the reason behind this failure.
- Descriptive research answers that a computer system with more RAM has more speed. Explanatory research answers the question that why a computer system with more RAM more speed has as compared to a computer system with less RAM.

6. Basic Research:

- Basic research is the research to find the basic knowledge or to refine the basic knowledge.

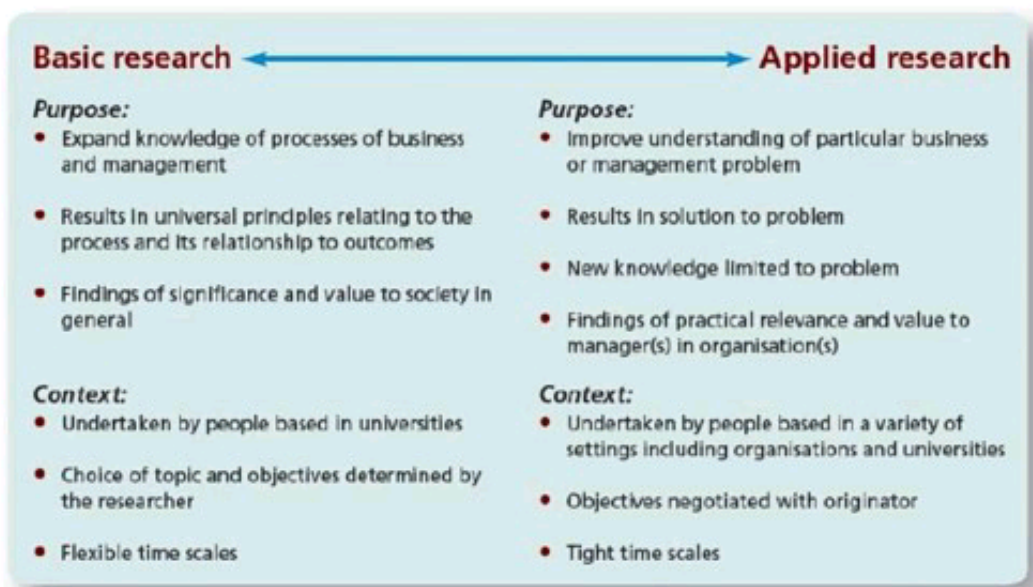
Basic research is also called pure research and fundamental research.

- The basic purpose of this research is to expand knowledge.
- Basic research can be descriptive, explanatory or exploratory.
- Basic research creates new ideas, new principles, new theories that are not immediately applied in practical life. But later this basic research helps in applied research where scientist uses this basic research to utilize it in practical life.
- Answer to how, when and what.
- Advancement of a theory
- Results in Universal Principles
- For example: Studying crystal structure of some metal or metallic compound just to gain Greater Understanding

7. Applied Research:

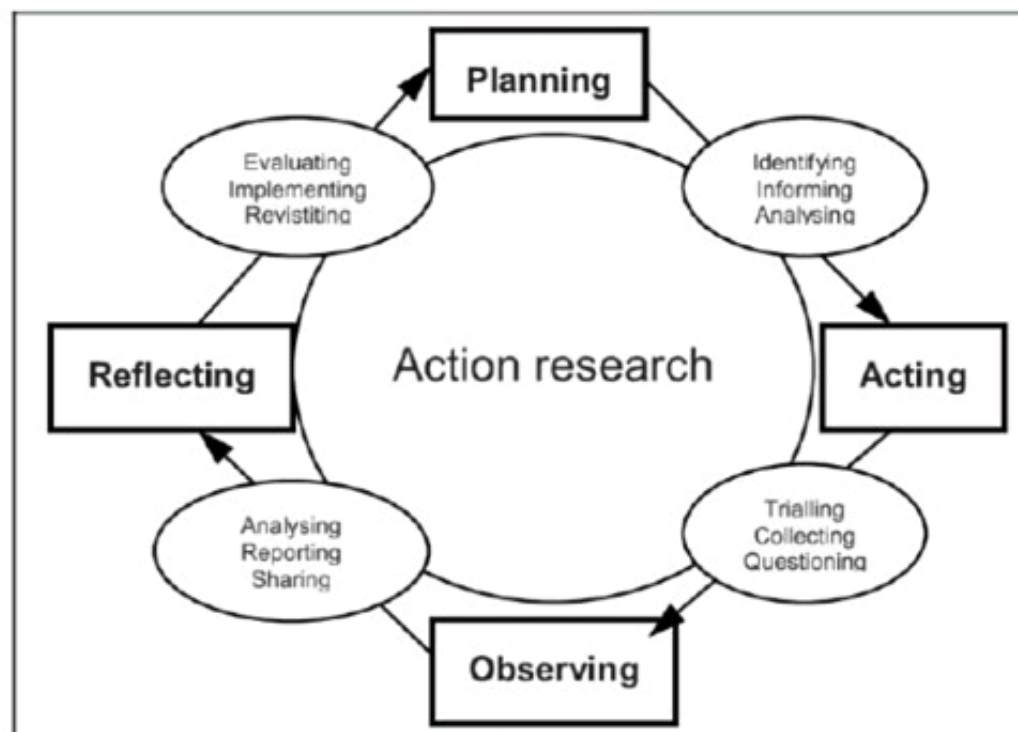
- Applied research is research that is useful for human beings. Applied research is conducted for solving practical life problems.
- Generalized Application, we can apply the findings\outcomes in other similar situations.
- Examples of applied research:

- How to improve computer speed?
- How to makes the search mechanism more efficient?
- How to make the robot more intelligent?
- For example, Coronavirus is the spreading disease in China in the month of January in 2020. The research conducted for the patients of coronavirus in Wuhan (China). Doctors from all over China are trying to prepare a vaccine as a treatment for the benefit of human beings.



8. Action Research:

- Action Research focuses on solving practitioners' local problems.
- Part of Applied Research.
- Immediate Action
- It was coined by Kurt Lewin.
- Process of Action Research is: PAOR (Plan, Act, Observe, Reflect)



9. Quantitative Research:

- It is Research involving the use of structured questions where the response options have been predetermined and many respondents are involved.
- It Counts or measures things.
- Also known as Linear or structured Research. techniques of qualitative research
- Surveys
- Experiments
- Using Existing Statistics

10. Qualitative Research:

- It is collecting, analyzing and interpreting data by observing what people do and speak.
- It refers to the meaning, concepts, definition, characteristics, symbols, metaphors and description of things.
- It is subjective in nature and uses different methods of collecting information, mainly in-depth interview and focus-group.
- Represents the data in the form of pictures and words and results are judged through theoretical judgment.

- A small number of samples is required.
- mainly done to find relationships and to define things in a qualitative way. techniques of

11. Qualitative Research

- Case study
- Focus Group Discussion
- Field Research
- Interviews
- Observation
- examples of qualitative research
- An interview conducted to observe the experience of the user after using a touch screen mobile phone.



12. Inductive Research:

- Inductive reasoning moves from specific observations to broad generalizations
- Also known as the Bottom-up approach
- When there is little to no existing literature on a topic, it is common to perform inductive research because there is no theory to test.
- The inductive approach consists of three stages:
 1. Observation
 2. Observing a pattern
 3. Develop a theory.

- Limitations of an inductive approach A conclusion is drawn based on an inductive method can never be proven, but it can be invalidated.

13. Deductive research approach:

- When conducting deductive research, you always start with a theory (the result of inductive research). Reasoning deductively means testing these theories. If there is no theory yet, you cannot conduct deductive research.

- **Stages**

1. Start with an existing theory.
2. Formulate a hypothesis based on existing theory.
3. Collect data to test the hypothesis.
4. Analyze the results: does the data reject or support the hypothesis?

Limitations of a deductive approach the conclusions of deductive reasoning can only be true if all the premises set in the inductive study are true and the terms are clear.

- **Example**

- All dogs have fleas (premise)
- Benno is a dog (premise)
- Benno has fleas (conclusion)

Based on the premises we have. The conclusion must be true. However, if the first premise turns out to be false, the conclusion that Benno has fleas cannot be relied upon.

