

Educational Research



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Introduction

A student needs to practice and take efforts innovatively to gain information and knowledge and for these efforts the student gets guidance from teachers, parents and also from friends. On the basis of acquired guidance and experiences students search information and knowledge. Science helps in solving problems in day to day life. By taking this support to solve educational problems, Scientific Method is used. On the basis of science, study of educational problem are taken into consideration and here educational research comes in the discussion as a subject.

7.1 Concept of Educational Research

Change as per time is indivisible part of human life. The root cause of this changes is research. To solve the problem, to make a change in present situation, invention of new knowledge are the main functions of research.



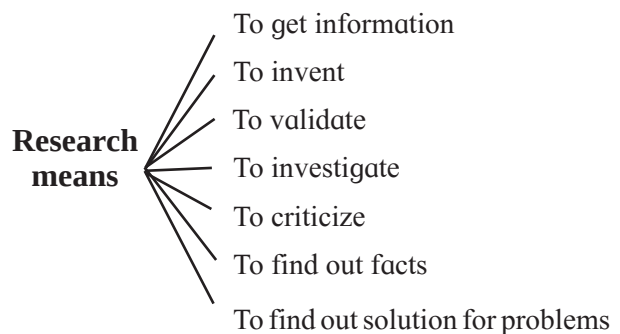
Let's Recall

- What is Invention?
- Which inventions do you know?
- What are the problems faced in day to day life?



7.1 : Different Inventions

• Meaning of Research



7.2 : Meaning of Research

In research to find out the new facts and for checking the previous facts, critical and systematic study is done. Detail discussion is done on findings of such study. The detail inquiry and experiment of the findings from the study is called research. This means that the things which are already in existence but not known are brought in front of all; this is called Research.



Do you know?

The word “Research” in English is derived from French word “Cerchire” which means “search” and search means to discover again & again.



Remember it

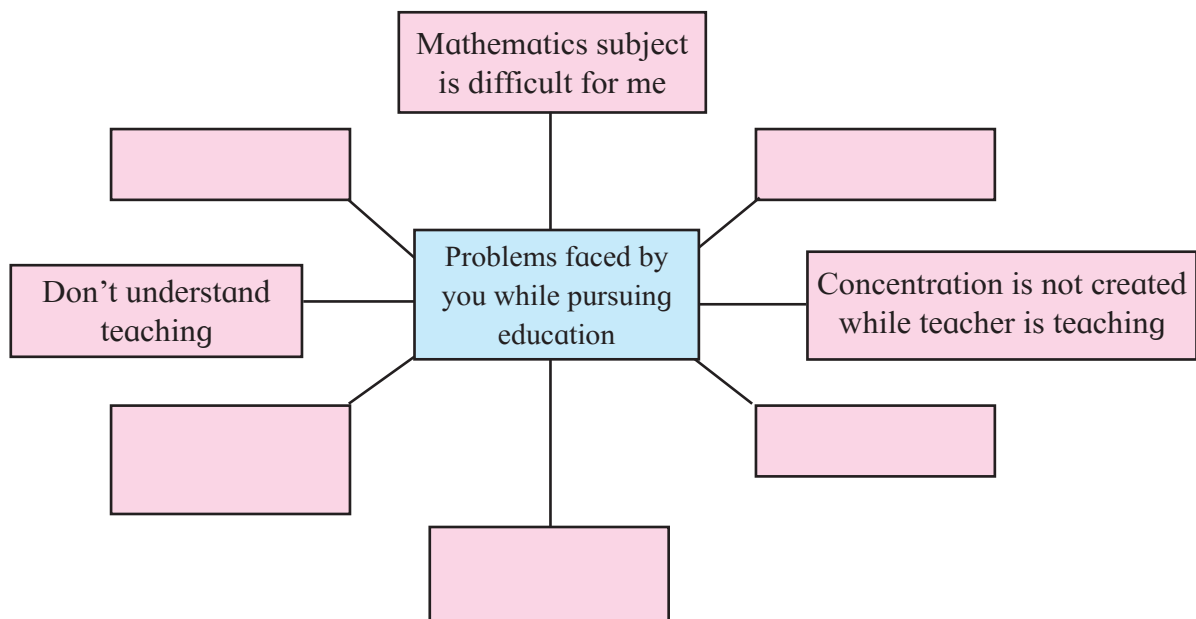
- To solve the problem with the help of scientific method is called ‘Research’.
- Research means critical analysis, testing and continuous and systematic study for searching facts and principles.
- Research means well pre-planned efforts taken for solving research problem

7.2 Meaning of Educational Research

Students will be enriched with knowledge when they are fulfilled with accurate concept, subject, innovative programme and information in the field of education. For enrichment of knowledge, teaching learning is the main process. The main components of this process are students and teachers. So it is necessary to undertake research. Due to this educational problems may be solved and quality of education process will be increased. Education research means the research which solves the various problems in the process of education and increased the quality of education.



Complete the Chart



7.3 : Problems while pursuing Education



Remember it

Educational Research is an arrangement of different activities to search for characteristics and co-relations required for making educational process more effective.

Educational research is that activity which is directed towards the development of science of behaviour in educational situations.

• Areas of Educational research

Following areas are taken into consideration while doing Educational Research :

- Educational Philosophy
- Educational Psychology
- School Administration
- History of Education
- Education for Marginalised/Deprived group.

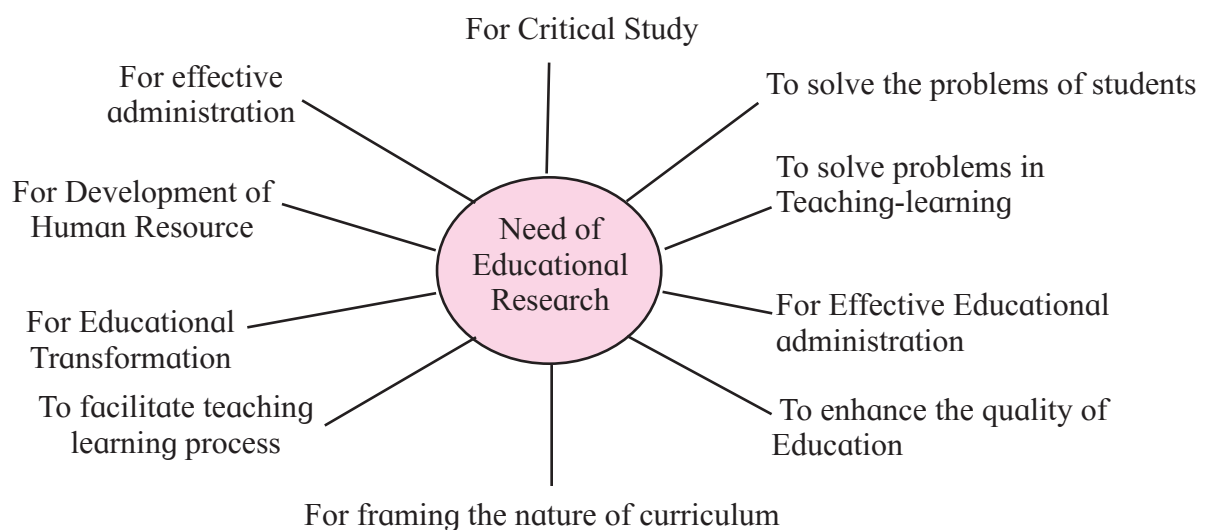
- Educational Technology
- Teacher Education
- Formal Education
- Curriculum Development
- Educational Sociology
- Educational Evaluation
- School Management
- Economics of Education
- Vocational Education
- Social Sciences
- Teaching-learning process
- Comparative Education

7.3 Need of Educational Research

'Educational Research' is conducted to increase reliability in teaching-learning process and evaluation. The Education Research is for following reasons.



Discuss and Understand



7.4 : Need of Educational Research



Do you know?

- Research is done for solving problems in teaching learning process.
- Educational research is a cause of progress in the field of education.
- It is necessary for educational changes.
- Educational Research is necessary for quality improvement of education.



Think and Discuss

- Can students understand better, if teacher uses technology in teaching?
- How recurrent educational problem can be solved by taking efforts again and again?
- How can we make optimum use of time by doing time management?

7.4 Characteristics of Educational Research

• To Solve Educational problem

The main objective of educational research is to solve problems faced by main components in education process, i.e. teachers and students. Educational research is useful to mobilize the education process.

• Scientific Approach

While doing educational research scientific method is used. Using scientific methods, educational research is conducted in a systematic manner.

• Based on previous knowledge

While doing educational research available information and knowledge is used. The application of previous knowledge is done while doing process of research.

• Educational Research is purposeful

Educational Research is done by keeping objective in mind. To achieve this purpose scientific method is used.

• Objective and Accurate

The researcher tries to solve the problem objectively. The information received/found in the research is objective and accurate. If the treatment and activities implemented by the researcher are objective then only acquired results will be accurate. Subjectivity like prejudice and personal benefits do not come in research.

Apart from this, rational explanations and prediction are also the characteristics of educational research.

7.5 Basic concepts in Educational Research

(1) Research Problem

The research problem is the problem faced by teachers or stake holders. It can also be an issue related to new concepts or any challenge in theoretical and practical aspect.

(2) Research Title

The title of the research is the expression of research problem in clear, meaningful and precise words.

(3) Variables in Research

'Variables' are anything that can affect or change the results of a research study.

This term is used in educational research after the study of situation to measure individual property of things, quality and characteristics. Measurable things in a research title are the 'variables' i.e. the things in research which can be measured are called variables in research. eg. Health related habits, scores in examination, computer assisted programs,

writing skill etc.

(4) Objective of Research

The arrangement of sub questions in the form of statements related to selected problem for research are called objective. Eg. To know the health habits of XI std. students.

(5) Research Assumptions

It is unexamined statement in research which depends on previous experience and previous knowledge. eg. Students are not aware enough regarding proper habits about health and hygiene.

(6) Research Hypothesis

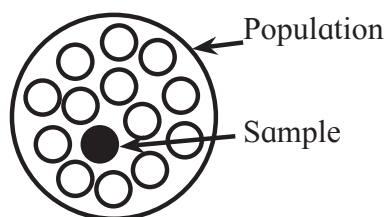
Hypothesis is probable answer of research problem. eg. If we guide XI std. students about health-related habits, there will be improvement in their health-related habits.

(7) Research Population

The research population is the total number of respondents out of which the researcher has selected the respondents for the research. The result obtained from the sample of the research are applicable to the total population of research. eg. 'All Students of XI std.

(8) Research Sample

Sample is selected group for research which includes all characteristics of population. e.g. The group of students selected for research from XI std.



7.5 : Population and Sample



Collect information

You want to examine/check reading capacity of students of Std. I to Std. VII of one school in your area. For that how will you determine population and sample?

(9) Tools of data collection

Tools of data collection are the means through which data collection is done from the respondents for the research study. eg. Questionnaire, psychological tests, achievement tests, rating scale etc.

(10) Data Analysis

Data analysis is analysing the data according to the objectives of research and coming to final conclusions.

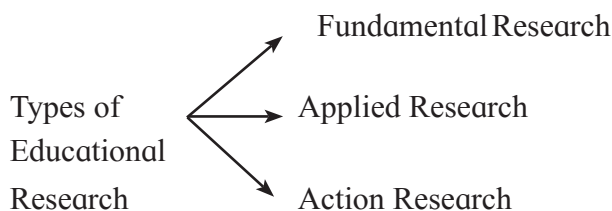


Make a List

- Which are good health habits?
- What are the tools of collecting information for research?
- Which problems arise while getting education?

7.6 Types of Educational Research

We have already discussed about meaning, definition and basic concepts in educational research. Now we will understand about types of Educational Research. Actually these types of research are applicable to research in general; hence here they are also applicable to field of education.



7.6 : Types of Educational Research



Make List and Discuss

Till now you have studied about various scientists and their inventions. Now prepare a list of various scientists and their inventions.

7.6.1 Fundamental Research

Fundamental research deals with creating laws, theories or basic knowledge of the concerned subject. It goes deeper into the problems and gives the integrative solution of it.

Fundamental research concerns with acquiring the knowledge about natural and social phenomena. It interprets them and establishes hypotheses and assumptions about them.

Acquisition or creation of knowledge is main objective of Fundamental research.

E.L. Thorndike's Laws of Learning

- (1) Law of Readiness
- (2) Law of Exercise
- (3) Law of Effect

7.6.2 Applied Research



Remember It

Use in day to day life is the main objective applied research. Emphasis is not given on acquisition of knowledge but to solve the problem.

The research done for problems arising by using various finding, laws, principles, theories acquired by fundamental research is called applied research.

eg. To encourage pre-primary level students to learn interaction with peers on the basis of theory of Jean Piaget.

7.6.3. Action Research

Action Research is one of the types of applied research.

Action research is scientific method of action oriented study for getting guidance about our decisions and activities for improving and applying them in a proper way. eg. To find out the problems faced by students solving Algebraic equations and to suggest remedies.

Action research means the research about problem in teaching learning process faced by the teachers in their day to day life.

7.7. Difference between types of Educational Research

Fundamental Research	Applied Research	Action Research
Related to principles, rules and theories of Education	Related to day to day Professional life of Education	Related to Education field
Not concerned with utility and applications but it deals with exploring the basic knowledge.	It is related to exploring and finding out 'why' and 'how' of issues in actual social life.	It is inclined to evaluating one's own development, daily situations and relevant improvements in it.
Main objective is to acquire knowledge and to create knowledge	Application of knowledge is main aim	It is more related to application than knowledge
Indirect impact	Direct impact	Immediate and direct impact
Generalization of findings	Findings are applicable to population	Findings are applicable to related sample only.

7.7 : Difference between types of Educational Research

Q.1 Rewrite the sentence choosing proper alternative from the following:

- (1) Probable answer of the Research problem is _____.
(a) Conclusion (b) Hypothesis (c) Variable (d) Assumption
- (2) A Representative group of a population for the Research means _____.
(a) Method (b) Sample (c) Tools (d) Variable
- (3) Acquisition of knowledge is the main objective of _____ research.
(a) Fundamental Research (b) Applied Research
(c) Action Research (d) None of these
- (4) Measurable thing in the Research title means the thing which can be measured is called as _____.
(a) Sample (b) Variable (c) tools (d) Hypothesis

Q.2 Explain the Concepts:

- (1) Educational Research (2) Variables in Research
- (3) Sample of the Research (4) Research population

Q. 3. Complete the chart by using the proper word from the following bracket:

- (1) (Knowledge Creation, Related to educational problem, Laws of learning, Direct use of Principle, Measurable fact of Research)

Fundamental Research	
Applied Research	
Action Research	

- (2) Clear and meaningful arrangement of Research problem, total number of respondents, tool of data collection, tentative answer of problem, measurable fact of research, related to Industrial area.

Questionnaire	
Hypothesis	
Population	
Title	
Variable	

Q.4 Write Short Notes:

- (1) Fundamental Research (2) Action Research (3) Applied Research

Q. 5 Write the answer in brief:

- (1) Explain the characteristics of Educational Research.
- (2) Explain the Basic concepts of Educational Research.

Q. 6 Write the answer in details:

- (1) What is Educational Research? Explain the need of Educational Research.
- (2) Make arrangement of fundamental concepts of educational research you have studied as per following subject.
Title : Effect of student's study habits of their educational achievement.
- (3) Suggest different ways of solving problems faced in educational area.

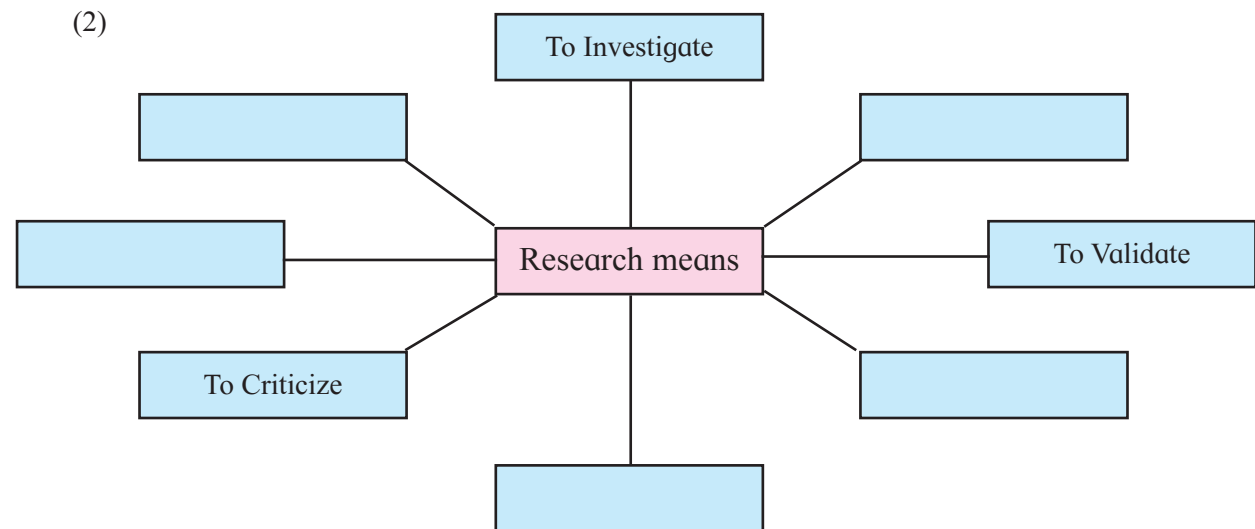
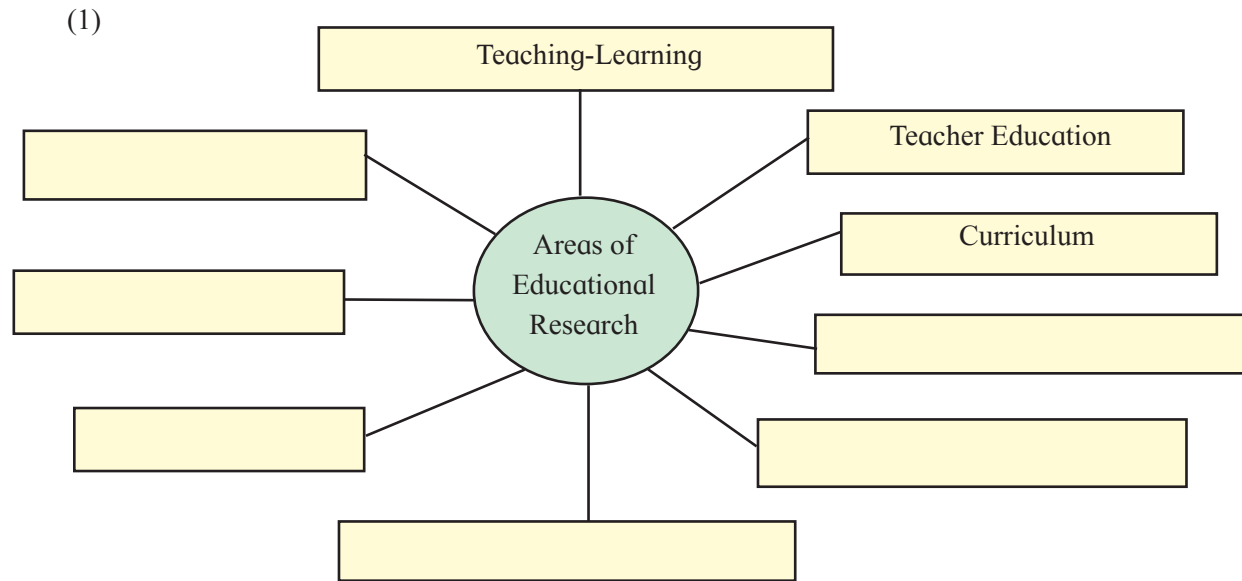
Q.7 Distinguish between:

- (1) Fundamental Research and Applied Research
- (2) Fundamental Research and Action Research

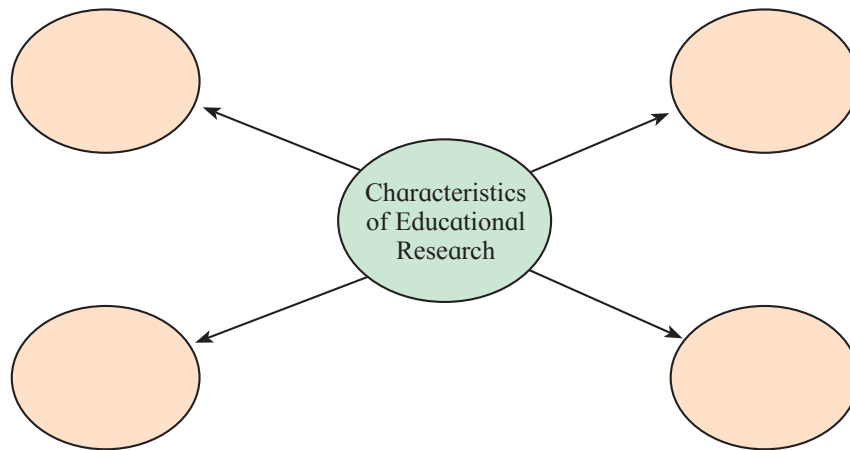
Q.8 Note down your opinion according to the following factors:

- (1) For Educational development usability of Research is important.
- (2) Action Research is useful to solve the school problems
- (3) Research is helpful factor for Human development.

Q.9 Complete the following Flow Chart:



(3)



- (4) Meaning of Concepts of Educational Research is given in column 'A'. Write the names of these concepts in column 'B'.

Column 'A'

Column 'B'

- | | |
|---|------------------------|
| (1) Arrangement of sub questions in the form of statements. | → <input type="text"/> |
| (2) Measurable thing | → <input type="text"/> |
| (3) Through which data collection is done | → <input type="text"/> |
| (4) Total number of respondents | → <input type="text"/> |
| (5) On which experiments are done | → <input type="text"/> |

Q.10 Activities:

- (1) Make a list of problems in learning teaching as per subjects.
- (2) Prepare questionnaire for searching health related problems of school students.
- (3) Write your opinion on the importance of Educational Research.
- (4) Make a group of five students, prepare PPT on Educational Research and present it in the class room.
- (5) Prepare PPT on types of Educational Research and present in the class room,
- (6) Visit the following websites and make review of Research information available on websites related to Educational Research.
 - (1) <http://www.mscert.org.in>
 - (2) <http://www.ncert.nic.in>
 - (3) <https://shodhganga.inlibnet.ac.in>
 - (4) <http://www.sanshodhanchetna.com>
 - (5) www.maa.ac.in
 - (6) https://en.wikipedia.org/wiki/educational_research

