

3. Application Objective

The research having application objective does not contribute a new knowledge in the fund of human knowledge but suggests new applications. By application we mean improvement and modification in practice. For example if anyone gives a new application of electricity then such type of research has application objective.

CLASSIFICATION OF RESEARCH

In actual practice, research is conducted at different levels and for different immediate purposes. The level at which a person operates in the field depends on the objectives he intends to accomplish. Generally research has two levels:

1. Basic level and
2. Applied level.

1. Basic Level

Trevers has defined basic level as basic research. It is designed to add an organized body of scientific knowledge and does not necessarily produce results of immediate practical value.

2. Applied Level

Applied research is undertaken to solve an immediate practical problem and the goal of adding to scientific knowledge is secondary.

A common mistake is to assume that levels differ according to complexity and that basic research tends to be complex and applied research. Some applied research is quite complex and some basic research is rather simple.

KINDS OF RESEARCH

There are various bases to classify the research.

A. On the Basis of Objectives of Research

On the basis of objectives of research they are of two types:

1. Fundamental research and
2. Action research.

B. On the Basis of Approach of Research

On the basis of approach of Research they are of two types:

1. **Longitudinal research:** Historical research, case study, genetic comes under longitudinal approach of research.
2. **Cross sectional research:** Experimental research, survey are the examples of cross sectional research.

C. On the Basis of Precision in Research Findings

On the basis of precision (accuracy) the researches are:

1. Experimental research and

2. Non-experimental research.

Experimental research is precise while non-experimental is not.

D. On the Basis of Nature of Findings

On the basis of findings Researches are of two types:

1. **Explanatory research:** Such researches explain more concerned theories, laws and principles.
2. **Descriptive research:** These are more concerned with facts.

E. According to National Science Foundation

These National Science Foundation formulated a three-fold classification of research.

1. **Basic research:** Those researches which embrace origin or unique investigation for the advancement of knowledge.
2. **Applied research:** Which may be characterized as the utilization in practice.
3. **Development research:** It is the use of scientific knowledge for the production of useful materials, devices, systems, methods for processes excluding design and production engineering.

F. Another Classification

1. **Adhoc research:** Adhoc research is the class of inquiry used for a purpose alone and special.
2. **Empirical research:** Empirical research is that which depends upon the experience or observation of phenomena and events.
3. **Explained research:** Explained research is that which is based on a theory.
4. **Boarder line research:** Boarder line research is that which involves those main two branches or are as of science. For example study of public school finance.

TYPES OF RESEARCH

There are three types of objectives of research: theoretical, factual and application. The first two types of objectives of research contribute new knowledge in the form of new theory and facts in a particular field of study or discipline.

The third objective does not contribute to knowledge but suggests new application for practical problems. Thus, the researches are classified broadly into two categories:

1. Fundamental or Basic research, and
2. Action research or Applied research.

Meaning and Definition of Action Research

The concept of action research is very old but Stephen M. Corey has applied this concept first in the field of social studies. He has defined the term action research:

“The process by which practitioners attempt to study their problems scientifically in order to guide, correct and evaluate their decision and action is what a number of people have called action research.”

According to Corey—“Action research is a process for studying problems by practitioners scientifically to take decision for improving their current practices.”

“Research concerned with school problems carried on by school personal to improve schools practice is action research.”

– Sara Blackwell.

According Mc. Threte —“Action research is organized, investigative activity, aimed towards to study and constructive change of given endeavour by individual or group concerned with change and improvement.”

On the basis of these definitions of action research, the following characteristics may be enumerated :

1. It is a process for studying practical problems of social studies.
2. It is a scientific procedure for finding out a practical solution of current problem.
3. The practitioner can only study his problem.
4. It is a personal research for clinical research work.
5. The focus is to improve and modify the current practices.
6. The individual and group problems studied by action research.
7. It does not contribute to the fund of knowledge.

Origin of Action Research

The concept of action research is based on the ‘Modern Human Organization Theory.’ This organization theory is task and relationship centred. It assumes that worker of the organization has the capacity to solve the problem and take decision. He brings certain values, interest and attitudes in the organization. Therefore, the opportunities should be given to the workers of the organization to study and solve the current problems of their practices so that they can improve and modify their practices.

The effectiveness of an organization depends on the abilities and skills of the workers. They have to encounter some problems and can realize the gravity of the problems. The practitioner can only study and solve the problems of the current practices. The workers’ will be efficient when they will be given freedom for improving and modifying their practices.

The origin of action research is also considered from the field of psychology or social psychology. Kurt Lewin explains life space in terms of person and goal. There is a barrier in between person and goal. He was to overcome the barrier to achieve the goal. ‘It depends on the abilities of the person to achieve the goal. The person’s activities are governed by the goal. The practitioner has to face this type of situation.

The concept of action research is being used in Social Studies since (1926). Backingham has mentioned this concept first in his book ‘Research for Teachers’. But Stephen M. Corey used this concept for solving the problems of Social Studies for the first time.

Steps of Action Research

The research work is done by reflective thinking and not by traditional thinking. The reflective thinking functions systematically. The steps of research are drawn from reflective thinking.

The following are the six steps of research:

1. Selection of the problem.
2. Formulation of hypotheses.

3. Design of research.
4. Collection of data.
5. Analysis of data.
6. Formulation of conclusions.

First Step

The problem is selected and defined. The feasibility of the problem depends on its delimitations. Hence, the problem is also delimited in this step.

Second Step

Some tentative solutions are given for the problem when these solutions are based on certain rationale they are termed as hypothesis. Therefore, in this step hypotheses are formulated.

Third Step

These hypotheses are subjected to verification. A design of research is developed for collection of data or evidences for testing the hypotheses. It involves method, sample and techniques of research. The appropriate method and techniques are selected for this purpose.

Fourth Step

The observations and research tools are administered on the subjects and their responses are scored out. Thus, the obtained data are organized in tabular form.

Fifth Step

The appropriate statistical techniques are used to analyse the data so that some decisions may be taken about the hypotheses. The results are used to draw some conclusions.

Sixth Step

The results are discussed and some conclusions are drawn in the form of new information, theory, facts and solution for the practical problems.

These steps are followed in both types of research: fundamental and action research, but there is significant difference between the two. The comparison of fundamental and action research has been provided in the tabular form on next pages.

Objectives of Action Research

The action research projects are conducted for achieving the following objectives:

1. To improve the working conditions of school plant.
2. To develop the scientific attitude among teachers and principals for studying their problems.
3. To develop the scientific attitude among students and teachers for understanding and solving their problems.
4. To bring excellence in school workers.
5. To develop the ability and understanding among administrators to improve and modify the school conditions and make it more conducive to learning.
6. To root out the traditional and mechanical environment of school.
7. To make the school system effective for generating a healthy environment for student learning.
8. To raise the level of performance and level of aspiration of the students.

Fields of Action Research

The action research projects may be designed in the following field of Social Studies:

1. In improving and modifying the classroom teaching strategies, tactics and teaching aids.
2. In developing interests; attitudes and values of the students towards their studies.
3. In dealing the classroom problems and school problem relating to discipline and code of conduct.
4. In assigning the home work so that students should take interest in completing them.
5. In improving the spelling errors and wrong pronunciation.
6. In dealing with the problems of poor attendance in class as well as In school and coming late in school.
7. In developing the habit of completing class notes and active participation.
8. In removing the practice of copying in the examination.
9. In solving the personal problems of students relating to school situations or poor adjustment.
10. In dealing with the problems of school administration organization.

Characteristics of an Investigator

A good research worker should possess the following qualities:

1. He should have the full understanding about the functions and activities of his job.
2. He should have the reflective thinking about various dimensions of his job activities.
3. He should be sensitive towards his job. A sensitive person can perceive the problem. Most of the teachers are problem blind because they are not sensitive towards the job.
4. He should be creative and imaginative. These abilities are essential in formulating the action hypotheses for his problem.
5. He should have the knowledge and training of action research. .
6. He should have insightful into his area. During his teaching experience he can identify the real problem on the basis of his insight.
7. He should have the scientific attitude for studying and observing things.
8. There should be an objectivity in his thinking.
9. His behaviour should be democratic. The action research design should not intervene the activities of other teachers of school activities.
10. The most important characteristics is the patience and pursuant of the investigator.
11. He should have knowledge and skill of measuring instruments and elementary statistics.
12. He should have open mind so that he can discuss his problems with his colleagues and experts of the field to have correct picture of the problem.
13. He should have an urge to bring about excellence in job economical performance.
14. He should be economical in designing the project from time, energy and money point of view.

Steps of Action Research

In designing and conducting action-hyper-research project the following steps are followed :

1. Identification of Problem

A teacher should be sensitive towards job activities. The problem is isolated from the broad field. The investigator must realize the seriousness of the problem.

2. Defining and Delimiting the Problem

After Identifying the problem, it should be defined so that action and goal may be specified. The delimitation means to localize the problem in terms of class subject, group and period in which a teacher perceives the problem.

3. Analysing Causes of the Problem

The causes of the problem are analysed with the help of some evidences. The nature of the causes is also analysed whether it is under the control or beyond the control of the investigator. This helps in formulating the action hypothesis.

4. Formulating the Action Hypotheses

The basis for the formulation action-hypotheses are the causes of the problem which are under the approach of the investigator. The statement of action-hypothesis consists of the two aspects: action and goal. It indicates that the action should be taken for achieving the goal.

5. Design for Testing the Action Hypothesis

A design is developed for testing the most important action-hypothesis. Some actions may be taken and their results are observed. If the hypothesis is not accepted second design is developed for testing another hypothesis. In action-research one hypothesis is tested at a time. The design of action-research is flexible and can be changed at any time according to the convenience of the researcher.

6. Conclusions of Action Research Project

The accepting or rejecting the action-hypothesis leads to draw some conclusions. The statement of conclusion indicates some prescription for the practical problem of school or classroom. The conclusions are useful in modifying and improving the current practices of school and classroom teaching.

The National Council of Research and Training has been taken interest in the action research projects. The extension departments of NCERT have been conducting seminars and workshops for in service teachers for imparting knowledge and skill of action research projects. It has developed Its own paradigm of action I research projects.

A Paradigm of Action Research Projects

The steps and sub-steps are proposed by NCERT for conducting action research projects:

1. Topic of the project.
2. Objective of the project.
3. The system of the project work.
4. Evaluation of the project.
5. Estimation of expenditure for the project.
6. Name of the institution, number of students enrolled with sections.
7. Number of teachers in different subjects.
8. The available facilities in school for the project work.
 - (a) Background for the project work.
 - (b) The importance of the project for the school.

- (c) Identification of problem.
- (d) Defining and delimiting the problem.
- (e) Formulation of action hypotheses.
- (f) Testing the action hypotheses.
- (g) Conclusions of the project work.
- (h) Remarks by the investigator.

On these lines the teacher plans an experimental project, after conducting the experiment he writes a report of his project work.

Experimental Project of Action Research

The experimental project is designed for solving the problem of English teaching.

1. Topic of the Project

A study for improving the spelling errors in English.

2. Investigator

An experienced teacher of English.

3. Background for the Project Work

The English teacher has observed and experienced that students commit more errors in English spellings. He has noted several types of spelling errors in student's home assignments compositions, translation and their written work.

4. Objectives of the Project

This project is designed and conducted for achieving the following objectives:

- (i) To make sensitive to students for their spelling errors in English.
- (ii) To improve the English spellings of the students.
- (iii) To promote the level of achievement in English.
- (iv) To realize the need and importance of correct spellings in English language.

This project is directly conditioned by these objectives.

5. The Importance of the Project for the School

English is the second language but it is the international language.

Even in our country we can exchange the ideas with the persons living in every corner. It is only the media of communication in our country as well as abroad. It is an important language. Therefore students must learn English correctly.

6. Field of the Problem

The field of project is the spelling errors in English language.

7. Specification of the Problem

The problem is located in class IX A, period second at DAV Inter College Dehradun. The students of this class commit several types of spelling errors in English.

8. Analysing Causes of the Problem

The causes of the problem are identified objectively so that tentative solutions may be developed for the problem. The causes are analysed with the help of following table.

	<i>Causes</i>	<i>Evidence</i>	<i>Nature</i>	<i>Control</i>
1.	The students do not complete their written work attentively and seriously.	By observing the written work of students in English Language.	Fact	Under the approach of the teacher
2.	They do not give due attention to spelling during their study.	By administering recognition or recall types test.	May be fact of Conjecture	Under the approach of the teacher
3.	The teachers do not give due importance to spellings during their teaching.	Inquiring from the students and supervising their written work.	May be or Conjecture	Under the approach of the teacher
4.	The students are lacking in the pre-requisites do not have clear understanding of English grammar.	Oral questions may be asked on English grammar and previous knowledge	Fact	May be or may not be under the approach of teacher.

The analysis of the causes of the problem provides the basis for the formulation of action hypotheses.

9. Formulation of Action Hypotheses

The following two action hypotheses have been developed by considering the causes which are under the approach of the English teacher.

First Action Hypothesis: The modification and improvement may be done in English spelling errors by proper correction of English written work.

The first part of Action Hypothesis indicates goal and later part is the action to be taken for achieving the goal.

Second Action Hypothesis: The spellings of words and their meanings should be emphasized by the teacher to improve the spelling errors in English teaching.

The first part of this action hypothesis refers to the action part and second part indicates the goal.

The action hypotheses are tested by using separate designs of the project.

10. Design for Testing Action Hypothesis

The first action hypothesis is tested by employing the following design of the project.

The data are collected during the project work if the evidences indicate significant improvement in spellings of English words. There is no need to test the second hypothesis.

11. Evaluation

The evaluation of the project work is done in terms of accepting and rejecting the hypothesis. The bar diagrams are prepared for the spelling errors. The percentages of errors are calculated to analyse the

improvement in English spellings. Some spelling tests may be administered to examine the significance of improvement in english spellings.

The conclusions may be drawn in the form of remedial measures for the problem.

	<i>Initiation of Activities</i>	<i>Technique</i>	<i>Source</i>	<i>Time</i>
1.	The teacher will prepare a list of different types of written work of English.	He will discuss this issue to other English teachers	Text-books and prescribed syllabus.	Two days
2.	The teacher will prepare an outline of his written work of his whole session or semester.	By considering the papers of English which has been assigned to him.	Programme of the whole session and time table.	Three days
3.	The teacher will assign written work I every week of different nature.	The students work load may be considered in assigning the written work.	By consulting the teachers of other subjects regarding home work.	Four weeks
4.	The teacher has to check the written work of English properly and will assign some grades or marks.	The written work may be checked before the students or in their absence.	He can take help of good students of English.	Four weeks

12. Comments of the Investigator

After testing the hypothesis teacher may improve the teaching techniques and instructional procedure. The teacher can minimise the English spelling errors. He can promote the level of achievement in English.

Suggestions for Action Research Project

In developing an action research project the following suggestions should be kept in mind:

1. The nature of the project should be decided whether it is developmental project or experimental project.
2. The investigator must be directly associated with the problem to be studied.
3. The form of problem should be real.
4. The project should be so planned that it should not intervene the functioning of other school working.

5. The project should be concerned directly with qualitative improvement and level of performance of the students.
6. The project should be evaluated objectively by employing reliable and valid tools.
7. The action hypothesis should be formulated by considering the causes of the problem which are under the approach of the investigator.
8. The design of action research project should be economical from money, time and energy of view.
9. The problem should be selected objectively and studied scientifically.
10. The causes of the problem should be isolated objectively on the basis of some evidences.

Difference between Action Research and Fundamental Research

The Research has two main functions:

- To contribute new knowledge in Social Studies.
- To improve the Social Studies practices.

The first function is of fundamental research and second function of action research. Difference between the two has been given in the tabular form.

Difference between Fundamental Research and Action Research

<i>Action Research</i>	<i>Fundamental Research</i>
<p>1. Purpose The improvement in school and classroom teaching process.</p>	Fundamental Research Contributes new knowledge in the form of new theory, facts and truth.
<p>2. Investigator The person is in the job teacher, principal inspector and administrator. Investigator must be directly associated with the problem. There is no pre-requisite of academic qualifications.</p>	The investigator should have postgraduate degree in the subject. He should have specialization in the field. He may or may not be related with the problem.
<p>3. Problem The form of the problem is very narrow. It is a local problem. It is practical problem. The problem is selected and finalized by the worker or investigator himself. No external approval is required.</p>	The problem is broad and relates to the broad field of Social Studies. The problem may be selected by the researcher but it is approved by the external experts.
<p>4. Hypothesis The action hypotheses are formulated on the basis of the causes of the problem. An action hypothesis needs one design of research. One hypothesis is tested at one time.</p>	The hypotheses are formulated on the basis of some rationale. All the hypotheses are tested by one design of research. The hypothesis is not essential in all types of research.
<p>5. Design The design of action research is flexible. It can be changed according to the convenience of the worker. It includes certain steps and measuring tools.</p>	The design is rigid and it can not be changed. Theoretical and practical knowledge is essential for the researcher. It involves method, sample and techniques of research.

<i>Action Research</i>	<i>Fundamental Research</i>
<p>6. Sampling There is not problem of sampling in action research, accidental or incidental sample is used. The students of a class or school is the sample of action research. Non-probability techniques is used.</p>	<p>It is the basis of research and sampling is the major problem. The knowledge and training of sampling techniques are essential, usually probability sampling techniques is employed. The true representative sample is selected by using an appropriate technique of sampling from the population.</p>
<p>7. Data Collection Observation and teacher made tests are used for collecting data in action research. The standardized tool may be used if it is available.</p>	<p>Usually the standardized tests are used for collecting data in basic research. If the tools of such types are not available the investigator has to prepare the tools and its reliability and validity are estimated.</p>
<p>8. Analysis of Data The data are analysed by using statistical technique to draw some results. Simple statistics: percentages mean mode, S.D. and graphical representation are employed for this purpose. The decision is taken about solution of the problem.</p>	<p>The parametric statistical techniques are used for analysing the data. The knowledge and understanding are essential. The decision is taken about the hypotheses on the basis of data or evidences.</p>
<p>9. Conclusions Some conclusions are drawn about the solution of the problem. The conclusions are in the form of remedial measures for improving the current practices. It does not contribute to the fund of knowledge.</p>	<p>The conclusions are in the form of generalization. The generalization may be a new theory or new fact or new truth or new interpretation. Thus, the conclusions may be the new knowledge in the field studied.</p>
<p>10. Evaluation The action research project is evaluated by the investigator himself and no external evaluation is required. Its results are in the form of improvement in the job and current practices.</p>	<p>A panel of examiners is appointed for examining the report of fundamental research. It may be approved, or revised or rejected. The degree of Ph.D., D.Sc. or D.Phil. is awarded for the worth contribution in the field studied.</p>
<p>11. Finances The finances for the action research are met out by the school or investigator himself. The extension deptt. of NCERT are also financing such projects.</p>	<p>The U.G.C. is awarding Junior research fellow and senior research fellowships for fundamental research in all the, subjects. The NCERT is financing research projects of Social Studies. The U.G.C. is also giving financial, assistance to college teachers for their research work. An investigator also bears the expenses himself.</p>
<p>12. Training The teachers are trained in B.Ed. and L.T. programmes for the knowledge and skill of action research concept. The extension departments are organizing workshops for action research projects for in-service teachers.</p>	<p>There is a compulsory paper of Research Methods and Statistics of M.Ed., M.B.A. and M.Phil. levels for the knowledge and understanding of research methodology. During this programme the students have to submit a dissertation for the practical knowledge of conducting research work.</p>

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<p>13. Scope The field of action research work is very narrow. It deals with the problems of classroom teaching and school. The field is local.</p>	<p>The field for basic research is broad. It deals with the basic problems of Social Studies and teaching learning situations.</p>
<p>14. Examples The problem of assignment, spellings, pronunciation and poor attendance. The enrolment of school is reducing rapidly are the major problems of action research in the field of Social Studies.</p>	<p>(a) Teaching skills for different subject teachers (languages, social studies science). (b) Behaviour patterns or effective teachers and creative teachers. (c) Difference between trained and untrained teachers performances.</p>
<p>15. Importance The major importance for solving the local problems of school and classroom teaching.</p>	<p>The major importance is to answer the basic questions and contribution to the field of knowledge by solving the basic problems of Social Studies.</p>

Exercises

1. Define the term 'Research', Enumerate the characteristics of research. Give a comprehensive definition of research.
2. Define the term 'Research'. Describe the specific features of Research,
3. Enumerate the main objectives of research and explain them in detail.
4. Describe the various classification of research, Differentiate between fundamental research and action research. Elaborate your answer with examples.
5. Describe the steps of research. Enumerate the objectives of action research.
6. Plan an action research project and describe the various steps which are followed in completing the project.