



# ***Action Research***

***(A document..)***

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## UNIT – I

### RESEARCH : MEANING, TYPES AND METHODS

- 1.1 Meaning of Research
- 1.2 Types of Research
- 1.3 Research Methods

#### 1.1 Meaning of Research

The term “research” comprises of two words : ‘re’ + ‘search’. Generally ‘re’ means ‘again’ and ‘search’ means ‘to find out’. According to concise Oxford Dictionary, the prefix ‘re’ means ‘frequentative and intensive’ and ‘search’ means ‘enquiry’, ‘investigation’ or ‘test’. The meaning of ‘search’ as per Advanced Learner’s Dictionary of Current English is “a careful investigation or inquiry specially to search for new facts in any branch of knowledge”. Research is a systematic attempt to obtain answers to meaningful questions about phenomena or events through the application of scientific procedures. All types of organizations including educational, business, banking, marketing etc. need objective and reliable information which is collected through scientific procedures for taking sound decisions. Research uses impartial empirical and logical analysis which lead to the development of generalizations, laws, principles or theories. Therefore the terms ‘research’ and ‘scientific method’ are sometimes used interchangeably. However, ‘research’ is more formal systematic and intensive process which is not satisfied with isolated facts, but seeks to integrate and systematize findings for objective verifications of generalizations concerning a phenomena. Such a verification requires application of the following formal steps:

- Identification of the problem (may be overcoming an impediment or understanding an unusual phenomenon).
- Stating and defining the problem (in operational terms).
- Formulation of hypothesis (an intelligent guess for the solution of the problem based on inductive process i.e. previous studies or experiences.)
- Implication of hypothesis through deductive reasoning (to deduce the implications of hypothesis through observation, testing and experimentations).
- Collection and analysis of evidences by collecting relevant data related to them through observation, testing and experimentation.
- Conclusions or generalizations drawing inferences.

These steps reflect that research is a more systematic activity that is directed towards discovery and the formulation of generalizations principles, or theories, resulting to same

extent in prediction and context of event, that may be consequences, or causes of specific pheromone.

Best and Kahn (1992,pp18-20) summarized the following characteristics of research to clarify its spirit and meaning.

1. *Research is directed towards the solution of a problem. The ultimate goal is to discover cause-and-effect relationship between variables.*
2. *Research emphasizes the development of generalizations principles of theories that will be helpful in predicting future occurrences. Research is more than information retrieval, the simple gathering of information.*
3. *Research is based upon observable experience of empirical evidence. Research rejects revelation and dogma as methods of establishing knowledge and accepts only what can be verified by observation.*
4. *Research demands accurate observation and description. Researchers may choose to use quantities measuring devices or qualitative descriptions of their observations. Only reliable and valid data gathering procedures should be utilized.*
5. *Research involves gathering new data from primary or first-hand sources or using existing data for a new purpose. It should add to what is known.*
6. *Research activity is more often characterized by carefully designed procedures that apply rigorous analysis. It is rarely a blind, shotgun investigation or an experiment just to see what happens.*
7. *Research requires expertise. The researcher knows what is already known what is already known about the problem, has searched related literature carefully and is also thoroughly grounded in the terminology, concepts and technical skills necessary to understand and analyze the data gathered.*
8. *Research strives to be objective and logical, applying every possible test to validate the procedures employed, the data collected and the conclusions reached. The researcher tries to suppress bias and emotions in analysis.*
9. *Research involves the quest for answers to unsolved problems. However, previous important studies are deliberately replicated to confirm or to raise questions about their conclusions.*
10. *Research is characterized by patient and unhurried activity. It is rarely spectacular.*
11. *Research is carefully recorded and reported. Each important term is defined limiting factors are recognized, procedures are described in detail, references are carefully*

*documented, results are objectively recorded, and conclusions are presented with scholarly caution and restraint.*

12. *Research sometimes requires courage. Many scientific discoveries were made in spite of the opposition of political and religious authorities. Modern researchers in such fields as genetics, sexual behaviour and even business practices have aroused violent criticism from those whose personal convictions, experiences or observations were in conflict with some of the research conclusions.*

These characteristics highlight rigorous standard of research which set up goals for every researcher.

Research has reduced the limits of ignorance by discovering new truths, leading to better predictions, better ways of doing things and new and better products. The fruits of research include better consumer products, better ways of preventing and treating diseases, better ways of understanding the behaviour of individuals and groups, better modes of communication and transportation, and a better understanding of the world in which we live. In the field of education, research provides us better understanding of the individual and the educational process by improving its efficiency. Since education is a behavioral science, the major concern of research in this area has been to understand, explain and to some degree predict and control human behaviour. Knowledge about education generated through research enable educators to determine just what teaching and other learning conditions to provide in order to produce desired aspects of learned behaviour among young people who attend schools and other educational institutions, formal as well as non-formal.

## **1.2 Types of Research**

Research is conducted at different levels for different purposes and using different methods for collecting of information generating different type of data. Its types may be classified from many points of view; the discipline to which applied: history, psychology, economics, biology, philosophy, etc., purpose: description and determination of status and causes; place where it is conducted: in the field or in the laboratory; data gathering tools or techniques employed: quantitative, qualitative etc., mode of recording information: numerical, symbols etc., and objectives or purposes the research intends to accomplish: pure research, applied research, action research.

Research types when classified in this manner give rise to a comprehensive list with much of overlapping away the different types. However, despite the lack of clear-cut distinction among the types of research, we mostly agree on the following categories:

### **1. Fundamental or Basic Research**

The purpose of this type of research is to generate new knowledge in the form of new theory, facts and truth. This approach generally leads to knowledge for knowledge's

sake and may or may not result in changes in the policies and practices. This type of research has no immediate or practical application. Its major concern is to identify, gather and use the empirical data to formulate, expand or evaluate theory. This research is also termed as pure or theoretical.

Fundamental research is usually carried on in a laboratory or other sterile environment, sometimes with animals, employing sophisticated procedures, tools and techniques, exercising controls and arriving at generalizations. It employs careful sampling procedures and a rigorous structured type of analysis in order to extend the findings beyond the group or situation and thus develop thesis by discovering proved generalizations or laws. Discovery of such useful concepts as motivation reinforcement, concept formation and social environment in learning are the results of fundamental research.

## **2. Applied Research**

When the purpose of research is improving a product or a process testing theoretical concepts in actual problem situations, it is called applied research. It is performed in relation to actual problems and under the conditions in which they are formed in practice. Applied research has most of the characteristics of fundamental research but its findings are evaluated in terms of local applicability and not in terms of universal validity. Most educational research is applied research, for it attempts to develop generalizations about teaching – learning processes and instructional materials. The problems generally faced by teachers, policy planners and administrators are mostly solved by applied research.

## **3. Action Research**

The aim of fundamental research is the development of theory and that of applied research is on its general application whereas the action research is focused on immediate application of theory. Action research placed its emphasis on the solution of a problem here and now in a local setting. It is a systematic method of solving problem or making practices better. Action research is concerned with the real problem faced by the practitioners, followed by attempts made to find solutions of the problems. It is flexible and conducted in informal contexts to bring improvement in the existing situation. The goal of action research is both diagnostic as well as remedial. The objective of action research, by teacher for example, will be to identify problems and then to improve classroom practices himself. For example, as a teacher in a primary school you may find some children in class V who face certain difficulties in learning mathematics despite your best efforts. The situation is so specific that the solutions are not available from many source. As a teacher you have to identify the causes and provide remedial measures.

The methodology of action research is not as rigorous as that of pure or applied research, the person facing the problem, the teacher or administrator, can undertake it himself. But it may be noted that action research does apply scientific method to

solve real-life problems and helps in bringing a great improvement in teachers' subjective judgments and decisions. The next units are devoted to the discussion on the necessary of action research, its characteristics and uses.

### **1.3 Research Methods**

After discussing the meaning of research and its types (found mental, applied and action), the next step is to acquaint a researcher with concept of research methods. Research methodologies are divided into two basic paradigms : (i) Logical positivism and (ii) phenomenological inquiry. Logical positivism, while mostly dominates educational research, is based on the assumptions of the natural sciences. It uses experimental and quantitative methods in which the data concerned are collected and analysed in terms of numbers. By synthesizing data, quantitative methods facilitate the derivation of conclusions and formulation of generalizations.

Quantitative research is based on the assumption that anything that exists in nature is quantifiable and therefore, can be measured. The nature of quantity is such that it goes with precise definitions, objectivity in data collection and analysis, that can be replicated, the findings can be confirmed or disconfirmed, that are systematic resulting in knowledge for predicting and controlling the effects of treatments or interventions in the form of various strategies or programmes. The quantitative method is mostly used in studies wherein quantifiable measures of variables of interest can be gathered, where hypothesis can be formulated and tested which ultimately lead to drawing inferences regarding samples draw from population. Different quantitative methods which are used in research need to be seen keeping in view the nature of data, scale of measurement (nominal, ordinal, interval or ratio), the nature of enquiry, nature and scope of hypothesis, and nature of inferences to be drawn.

The use of various statistical (quantitative) methods in studies in education involve descriptive as well as inferential statistical analysis. In case of descriptive statistical analysis, data are collected from surveys (field studies, achievement surveys, opinion surveys, attitude or opinion studies etc.) or experimental studies (studying the effect of various teaching strategies on students achievements, etc.). The main objective in such studies is only to describe the sample or small group characteristics using various measures, viz., central tendency (mean, median, mode); dispersion (range, average deviation, standard deviation); and relationships (product moment correlation, rank correlation etc.); percentiles and percentile ranks; skewness and kurtosis; graphical representation of the data etc.

A vast number of educational studies are based on sample surveys or experimentation (using two or more groups) for making comparisons and drawing inferences about populations for improving educational practices, for using psychological tests with norms for population which are non existent at the time of standardizing the tests, and in certain cases for policy planning and implementation of policies. In such situations the analysis is based on the use of inferential statistical methods which include the application of E-test, F-test (analysis of variance or co-variance), multiple correlation,

and other multi-variant analysis techniques. It may be noted that when the data are parametric, parametric statistical tests are used whereas in case of non-parametric data, non-parametric tests like chi-square test, sign test etc. are used in the data analysis. The main objective in quantitative methodology is the prediction of social phenomena.

Phenomenological inquiry is derived from the tradition of anthropological field studies. Using the techniques of Indepth, open-ended interviewing and personal observations, this paradigm relies on qualitative data, holistic analysis and description derived from close contact with the targets of study. The main objective in qualitative research is understanding of social phenomena.

Qualitative research methodology has to do with the kind of data or information collected as a result of : (i) detailed description of situations, events, people, interactions, and observed behaviours; (ii) direct quotations/narrations from people about their experiences, attitudes, beliefs and thoughts, and excerpts or entire passages from documents, correspondence, records, and case histories.

The application of qualitative research paradigm in education involves the use of qualitative data which describe the experience of people in depth and detail. These data reopen ended in order to find out what peoples' lives, experiences and interactions mean to them in their own terms and in their natural settings. Qualitative data emerge from responses to open ended questions on a questionnaire, direct quotations as a result of unstructured interview, description of events of a participant observation etc. In the field of education, the data emerging from historical and philosophical studies, descriptive studies and case studies are largely qualitative in nature. The analysis of these data generally aim at exploration, discovery and inductive logic. The attempts is to make sense of the situation without imposing pre-existing expectations or categories on the phenomenon under study.

Research methods (quantitative and qualitative) are helpful to a researcher in planning and describing various steps to be adopted in solving a research problem, such as the manner in which the problem is formulated, the definition of key terms, choice of subjects for investigation, the validation of data-gathering tools, the collection, analysis and interpretation of data, and the processes of inferences and generalizations. The uses of quantitative and qualitative methodologies in the context of educational research are not mutually exclusive. Studies in the field of education mostly involve elements of observation, description, and the analysis of what happens under certain situations. The application of research methods in educational studies when classified from the points of view of the purpose, place, data gathering tools, methods of analysis and interpretations give rise to a comprehensive test with much of overlapping among the research approaches falling under the domain of either quantitative or qualitative research paradigms. Practically all educational studies fall under one, or a combination of the following categories:

1. **Historical research** involves a method of investigation of discover, describe and interpret what existed in the past. It provides an accurate account of the past, a clear

perspective of the present and to a limited extent, an anticipation of the future. Historical studies in the field of education include bibliographic research, studying of the history of ideas, institutions and organizations, and legal research. The data are collected from primary sources, viz; personal records, official records, oral testimony of traditions and events, pictorial records, remains or relics. At times, primary sources are not available and in such situations secondary sources are used to provide accounts of events provided by a person who did not directly observe the event, object, or condition. The genuineness and authenticity of the data are established by external criticism whereas the validity, credibility, or worth of the context of the source material is tested through internal criticism.

2. **Descriptive research studies** are of two types : quantitative and qualitative. In the quantitative research we use quantitative methods to study describe and interpret what exists at present. Statistical techniques are used to make some types of comparison or context for discovering relationships between existing non-manipulated variables. Qualitative descriptive research uses qualitative methods like open ended questionnaires, observation, interview etc. for gathering data which provide useful and depth answers to the research questions of decision makers and information users.
3. **Experimental research** derives basic relationships among phenomena under controlled or manipulated conditions. It may be noted that deliberate manipulation is the essential characteristics of experimental research. Here the researcher has some degree of control over the variables involved and the conditions under which the variables are observed. The researcher defines a problem and proposes a tentative answer or hypothesis. He tests the hypothesis with the help of appropriate statistical test (s) and accepts or rejects it in the light of the controlled variable relationship that he has observed. For example, suppose a researcher wishes to study the efficacy two methods of teaching on the achievement in mathematics of fifth grade students. For this he has to frame two groups of students, which are identical in every respect except the way in which they are taught mathematics. Since it is impossible to have two absolutely identical groups of subjects, the research will try to establish two groups that are as identical as possible in respect to those variables that are related to the achievement in mathematics. For this he may select the variables of intelligence, study habits etc. and ignore other variables that are highly unrelated to achievement in mathematics. After matching the students for the relevant correlated variables, the two groups are taught by two different methods for a stipulated time. At the end of the experiment, the two groups are compared for their mean achievement in mathematics using appropriate statistical test.
4. **Case studies** are intensive investigation of a social unit which may be an individual, a family, a school, a group of slow learners, drop outs etc. In a typical case study, the researcher examines a unit in depth by gathering pertinent data about its present status, past experiences and other factors that contribute to the behaviour of the individual or social unit, and how these factors relate to one another. The qualitative

analysis of these data is helpful in castrating a comprehensive picture and integrated picture of the unit.

5. **Ethnographic studies** are used in seeking information about the culture of a group. In its early application, ethnography used participant observation, group interactions and interviewing to study the cultural characteristics of primitive people. Presently, it has shown significant development in its techniques in the study of behaviour in the schools and other educational institution and also study of cultural feature, such as language, marriage and family life, child-rearing practices, religious beliefs and practices, and social relations. Ethnographic studies and nonverbal interaction between group members, interviewing and content analysis of field notes and other documents. The ethnography study report provides a rich and holistic description of the culture of the group under investigation.
6. **Phenomenology** is the descriptive study of how individuals experience a phenomena. In this study, researcher tries to gain access to individuals life worlds, which is their world of experiences. In depth interviews is a common method for gaining access to individuals' life-world experiences. The researcher then research the invariant structure, of individuals' experiences and identifies commonalities across individuals rather than focusing on what is unique to a single individual. For example, what are the essences of children's experiences of an uncaring teacher in a primary school? After analyzing the phenomenological research data, the aim of the researcher is to write a report that provides rich descriptive/ narrative report of how individuals experience a phenomena.

In conclusion, the use of quantitative and qualitative research methodologies in educational studies largely depend upon the nature of the problem, type of research questions/ hypothesis (es), type of data (figural or symbolic) and tools of data collection and analysis. It may be pointed out that research in education as in other social sciences, is dominated by largely unquestioned, natural science paradigm of quantitative methodology (i.e. hypothetico – deductive methodology). This paradigm uses quantitative measurement, experimental designs, and multivariate parametric and non-parametric statistical analysis. By way of contrast, the alternative to the dominant hypothetico – deductive paradigm (quantitative methodology) is inductive – deductive methodology (qualitative methodology) which uses techniques of in-depth – open ended interviewing and participant observation. This alternative paradigm mostly relies on qualitative data (symbolic), holistic analysis and detailed description derived from close contact with the target groups so as to have a better understanding of social phenomena. Since data in educational studies are figural (numerative) as well as symbolic, it is worthwhile to use both research paradigm (qualitative and quantitative) so as to get a comprehensive view of the human behaviour which is mostly fluid, dynamic, situational, social, contextual and personal.

## UNIT – II

### ACTION RESEARCH

- 2.1 Introduction
- 2.2 Meaning of Action Research
- 2.3 How Action Research differs?
  - 2.3.1 Difference between action research and other researches
  - 2.3.2 Difference between action research and everyday actions
- 2.4 Characteristics of the action research
- 2.5 Types of action research
- 2.6 Steps involved in action research
- 2.7 Benefits of action research
- 2.8 Summary

#### 2.1 Introduction

***"Teachers often leave a mark on their students, but they seldom leave a mark on their profession"***

**-(Wolfe, 1989).**

A teacher is an important person in the life of data students and can help them to become better human beings. Therefore, it becomes all the more important for him to keep improving the teaching process and practices for the all round development of your students. There is one such tool in the hands of teachers about which we hear quite often in education i.e. action research. Researchers have defined the term “action research” differently. In this unit, we will discuss the meaning of action research.

In order to understand the meaning of the action research, let us first understand, from where the term has originated. The history of the concept of action research can be traced back to the early works of John Dewey in the 1920s but the idea of using research in a “natural” setting can be also linked to Kurt Lewin, a social psychologist in 1940s in the United States. But the credit of using the action research in the education goes to Stephen Corey and others at Teachers College of Columbia University in 1949. Corey observed ‘*the need for teachers and researchers to work together improve the practices rather than reading about what someone else has discovered of his teaching*’.

As a teacher of you think about your role in the classroom, you will find yourself as a knowledge disseminator, solving problems of your students and also providing your students a better learning environment. But, what happens when you come across the problem of discipline in your class? Then, your role will change to an inquirer who is capable to bring changes in the classroom environment leading to better learning. You can make changes in your classroom, if you use action research. Therefore, it is important to you as a teacher to be familiar with these practices. In this unit, you will be familiarized with the concept of the action research and how to carry out action research

in your classrooms. But, before starting you must understand that this type of research is not very rigorous or difficult and time consuming. Action research is an approach that can empower you to overcome problems and innovative in tackling the problems of access, enrolment, retention and learning among your students relating to your day to day classroom activities.

## **2.2 Meaning of Action Research**

You would agree that when teachers find answers to the problems in their school or classrooms then their decisions bring about improvement and positive changes with school environment. Teachers are generally interested in making their profession productive by developing all round personality of their students. All their activities in and around school focus on the achievement of this objective. For this they attempt to make teaching-learning process more interesting and attractive. By undertaking various activities in the school, the teachers try to know how effective they are through many direct or indirect sources. The identification of deficiencies by the teachers and their desire to improve help them to perform better and better. This type of systematic effort by the teachers by reflecting on their own practices and making needed changes is called 'Action Research'. While undertaking the action research a teacher may work alone on his own specific problem. For example if a language teacher may find a pronunciation problem in his/her class, then problem is specific which needs immediate solution by the teacher. It is also possible to work collaborately on the same problem with the support and guidance from his colleagues, administrators, university scholars, and others. At times, whole school may decide to undertake a school-wide study to address a common issue, or join with others to look at district-wide issue. This will be discussed later in this unit. By, now it may be noted that action research can be undertaken individually or with the help of others.

Thus, action research is defined as a collaborative activity among colleagues who are searching for solutions to everyday, real problems such as low attendance in the classroom, poor reading habits among the students mostly experienced in their schools. Action research allows a teacher to deal with the problems practically aspect in order to address those concerns, which can exhibit some influence and make change. Suppose a teacher tries a new activity in the class to help students understand a concept they are being taught. After the class the teacher reflects on how well the activity helped the students' understanding of the concept. On the basis of feed back, the teacher modifies the activity for the next time so as to make it more effective. Therefore, action research helps a teacher to become the practitioner of the knowledge to improve instruction and increase student achievement.

Stephen Corey (1953) defined action research as the process through which practitioners study their problems scientifically in order to guide, correct and evaluate their decisions and actions. In the educational setting i.e. school, the practitioners are the teachers and his other colleagues who work to improve instruction. Thus, action research is very much a needed component for the quality education and is not separate activity beyond his duties.

Borg (1965) has also emphasized that teachers should be aware of their problems in their own classrooms and get involved in this solutions for the improvement of teaching – learning and evaluation processes. This is through, action research the teachers examine their own educational practices systematically and carefully, using the techniques of research. When we say it is systematic and scientific, it means there are some logical steps to be followed while conducting action research. Action research helps a teacher or a practitioner to perceive understand and assess a problem in a class or school, and they help in working out a desirable solution. It is diagnostic and remedial. Action research can be used for improving local school practices, and for teacher growth and professional improvement. It is a decision oriented research in which the researcher is the same person as the practitioner who will make and live with decisions.

### **Who are involved in Action research?**

It has been highlighted in the earlier discussions that action research can be useful for all those practitioners who are interested to improve their practices. Therefore, action research can be conducted by:

1. Workers in community development
2. Practitioners in any field who wish to improve their own practices
3. Teachers in the school setting who wish to improve instruction and motivate learners
4. Researchers who wish to conduct the applied research for solving local specific problems.

Practitioners in educational set up could be classroom teachers, heads (headmasters or principals) of schools, block education officers, district education officers, inspectors of schools or teacher educators. These functionaries may be interested to bring change for improvement in those operational areas where they has any functional responsibility. For example, teachers are expected to interact with students in classrooms in a planned way to bring desirable changes in their behaviour (cognitive, affective and psycho meter). Teachers help students to learn identified competencies in the subjects like mathematics and languages. In the non-formal and distance education mode, instructors/counselors are expected to understand the needs of the distance learners and provide those functional competencies with which they can face problems in a social set-up. A block education officer may be interested to bring certain amount of change in the form of enhanced achievement in a village primary school. He may introduce some interventions (through some programmes) with the help of teachers.

### **2.3 How Action Research differs?**

Whenever one has to understand the concept, it is important to find the commonalities and differences with the existing data. Keeping this in mind, in the following section, we will discuss the difference between action research and other researches and how action research differs from everyday actions.

### **2.3.1 Difference between action research and other researches**

The difference between action research and other researches is in emphasis, not in the method or spirit. However, there is a need to understand how does it differ from other researches. Action research is the research undertaken by practitioners so that they may improve their practices. It has most of the characteristics of fundamental or applied research. But its methodology is not as rigorous as that of fundamental or applied research. The findings of action research are evaluated in terms of local applicability. The application of findings is 'here' and 'now'.

Action research is *not* a library project in which you learn about a particular topic by collecting information from either the books available in the library or by using the Internet. For example, if you want to undertake a project about finding out the 'life during the Indus valley civilization', then you would go to the library, collect the relevant data and write the report in the narrative form.

Action research also does not aim at finding a solution to the problem in the sense of trying to find out what is wrong, but rather its aim is to suggest the measures about how to improve one's own situation.

Action research is not just doing research on or about people, but it aims at finding all available information on a topic of immediate concern so as to arrive at correct answers. For example, when you as a teacher face a discipline problem in your classroom, you may come across a lot of studies conducted on improving discipline problems but those results cannot be applied to your situation of specific nature as they have been conducted in different situations. Therefore, in action research, people work to improve their skills, techniques, and strategies for applying them in their own situation by understanding their own needs. Since, while conducting the action research, a practitioner is solving his/her own problem, the results cannot be generalized i.e. can't be used in the others' situation, which makes it different from other researches. But in action research we follow the same systematic methodology as is used in all other researches. This means that in action research the same steps as in the other researches are followed which include identification and statement of the problem, statement of objectives, data collection, analysis and interpretation of data and finally writing the report of the study. These steps will be discussed in detail in the proceeding part of the unit.

### **2.3.2 Difference between action research and everyday actions**

If we say that the action research is not as rigorous as other researches then it does not mean that action research is just an everyday activity. Kemmis and McTaggart (1992) distinguished action research from everyday actions of the teachers in the following manner:

- It is not the usual thinking when you think about your teaching i.e. what are you going to teach in your class or which teaching aids should be used? Rather, action research is

more systematic and collaborative in collecting evidence on which to base rigorous group reflection about the problem faced by the teacher in the classroom.

- Action research also involves problem posing, not just problem solving.
- Action research is not research done on other people. It is research by particular people on their own work, to help them to improve what they do, including how they work with and for others.

## 2.4 Characteristics of action research :

Action research has the following characteristics:

1. It enhances the *competencies* of the practitioners. Action research enables them to have a clear vision of the problematic situation, which is helpful in identifying ways and means to tackle the problem.
2. It is *collaborative*, i.e. everyone's view is taken as a contribution in understanding the situation. Moreover, if a problem is faced by a practitioner in a particular situation (say a school), action research can be collaborative where practitioners facing similar problems in nearby schools can collaborate to find solutions of a problem.
3. Action research seeks to understand particular complex social situations whether it is a class, school or community.
4. It requires *reflective critique*, which is a process of becoming aware of our own perceptual biases and own practices.
5. Action research seeks to *improve the quality of human relationships*.
6. *It is a systematic and scientific process* but not very rigorous.
7. Action research allows us to identify remedial measures for improvement. It is specific in nature, i.e. specific to a particular class, school or situation. Therefore, results cannot be generalized.
8. Action research helps a teacher to bring about desired changes on specific aspects of their curriculum and in their transactional strategies.
9. It helps in the professional development of the teachers by enabling them to engage in intellectual pursuits and become continuous learners.
10. Action research helps in systems planning and restructuring. For example, if a primary teacher finds that in his/her class the students are not able to concentrate. The teacher starts finding the reasons for the same. After, analyzing the situation, the teacher finds that the classroom window is open towards in the playground and hence most of the children often observe the other children playing in the playground and so they not able to concentrate in their studies in the class. Now, what do you think a teacher should do? Well, in such a case a teacher can change the seating plan of the classroom. This a way a teacher gets involved in restructuring the class.
11. Action research is a small-scale intervention. Its objective is to bring out changes in the functioning of the practitioner himself/herself. It may or may not have applicability for others. Action research is a narrowly focused research undertaken by teachers and other practitioners in a given specific situation and context.

12. “Contextual nature” is an important characteristics of action research. For example, a teacher of a particular school may face a particular problem in the form errors committed by third grade students multiplication in a school but the same problem may not be observed by him/her in other schools.
13. In action research, teachers makes use of quantitative and qualitative methodologies to know their students well, interact with them, observe them, and collect relevant data for analysis and interpretation.

## **2.5 Types of Action Research**

It has been discussed in the introduction of this unit that there could be involvement of one or many participant (s) in the conduct of action research. A plan of action research can involve a single teacher investigating an issue in his or her classroom, a group of teachers working on a common problem, or a team of teachers and others focusing on a school- or district-wide issue. Therefore, based upon the nature and focus of the problem, action research may take any one of the following types:

### **1) Individual Action Research**

As the name suggests the focus would be on a single issue in the classroom. For example, any teacher may be seeking solutions to various problems of classroom management, such as discipline, students involvement instructional strategies, use of materials, or student learning in his own classroom. These problems can be addressed on an individual basis but the teacher may have to seek support of the school administrators or external agencies. The teacher collects data either quantitatively or qualitatively or both. The results after analyzing and interpreting the data lead the teacher to implement changes in the classroom at his own level which determine the success and usefulness of the research in improving the area of focus in the classroom.

#### **Major drawbacks of the individual research are:**

1. Results may not be shared with others unless a teacher / practitioner makes formal presentation of his research findings at a faculty meeting or publish them in a journal or newsletter.
2. It is possible for several teachers working concurrently on the same problem with no knowledge of the work of others.

### **2) School-Wide Action Research**

The school wide action research focuses on issues, which are common to all i.e. teachers, principle of the concerned school. Since the problem is common, a team of staff members work together to help each other. The members of the research team may vary from as few as two people to several teachers and administrators working with parents and students. This type of research is more in-depth than

individual teacher research, since it investigates different dimensions or aspects of a research problem. The team would collaboratively narrow down the research question, gather and analyze the data, and decide on a plan of action. You might be thinking that in individual action research also, you can take help from your colleagues then what is the difference in two approaches. The difference lies in the nature of the approach. In an individual action research, the problem is individualistic in nature but in the school-wide action research the problem is school based. For example, a school may be concerned about the lack of parental involvement in school activities. Team members including teachers, administrators will make contributions to develop a process to involve parents in the school. Here, when the problem is solved, there will be a sense of ownership and involvement in the results, which would be owned collect by all the team members.

### 3) **District-Wide Action Research**

As the area of the research increases the focus of the problem chosen also becomes wider in nature. The resources utilized in such type of the research are far more complex. The issues chosen are based on the organization or community. In a district wide action research a problem may be common to several schools or one organizational management.

For example, a district may be facing the problem of high drop out rate in the primary schools. Since the number of schools and number of people involved are large, the data collection from all participants requires more time and great effort. The main advantage of such research is that it can bring real school reform based on a common understanding through inquiry. Because of involvement large number of people in this research, there is a genuine stake holding of the results.

**The following table I presents a summary of the different types of action research along with other details:**

**Table I : Summary of Types of Action Research**

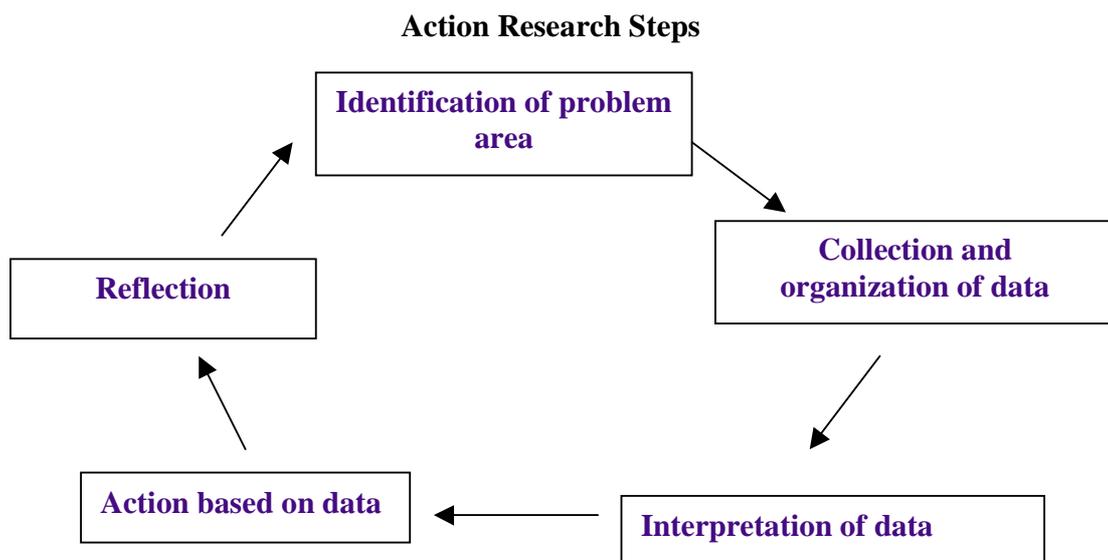
	<b>Individual teacher research</b>	<b>Collaborative action research</b>	<b>School-wide Action research</b>	<b>District-wide action research</b>
<b>Focus</b>	Single classroom issue	Single classroom or several classrooms with common issue	School issue, problem, or area of collective interest	District issue Organizational structures
<b>Possible support needed</b>	Coach/mentor Access to Technology	Substitute teachers Release time Close link with	School Commitment Leadership Communication	District Commitment Facilitator Recorder

Assistance with data organization

	Assistance with data organization and analysis	administrators	External partners	Communication External partners
<b>Potential impact</b>	Curriculum Instruction Assessment	Curriculum Instruction Assessment Policy	Potential to impact school restructuring and change Policy Parent involvement Evaluation of programs	Allocation of resources Professional development activities Organizational structures Policy
<b>Side effects</b>	Practice informed by data Information not always shared	Improved collegiality Formation of partnerships	Improved collegiality, collaboration, and communication Team building Disagreements on process	Improved collegiality, collaboration, and communication Team building Disagreements on process Shared vision

## 2.6 Steps in conducting Action Research

As it has been discussed earlier that action research is a systematic process for finding the solution of the problem. It can be conducted either by you individually alone or you can collaborate with others. In order to carry out the research plan, you need to understand following steps which are involved in the process:



## **1. Identification of the Problem Area and Developing a Focus:**

As a teacher you may have several questions, which you wish to investigate such as poor reading ability in your students, pronunciation problem among your students, effective monitoring of the various programs and many more. Therefore, the focus of action research is on what students are experiencing or have experienced? For example, a teacher can study how to improve problem-solving skills in mathematics among the students or increase reading ability among students; or to improve the quality of student writing. It will become very difficult for you, if you select your problem, which is very vast. Therefore, it is important to choose the problem which is meaningful and limit the same so that it can be solved in the stipulated time of your daily work. It may be noted that careful planning at this first stage will limit false starts and frustrations. The need for action research is a result of perceived dissatisfaction with an existing situation. It is followed with the idea of bringing out improvement in the situation. The focus is on the following: (i) what is the cause of problem? (ii) Why is it happening? (iii) As a practitioner or teacher, what can I do about it? (iv) What steps can I take to solve the problem? The answers to all such questions are helpful in perceiving a problem as it exists which is a pre-requisite for undertaking any action research problem.

## **2. Formulating the problem**

Once, the problem is identified, the next step is to formulate it. The practitioner tries to find causes underlying that problem along with various issues that are related to causes. These probable causes need to be stated in concise and unambiguous terms. At this stage the practitioner also needs to identify and spell out various factors and suggest possible strategies with which the problem can be solved in an effective way.

## **3. Stating the Research Questions and Development of Propositions**

After formulating the problem, the practitioner needs to state the research questions and develop a tentative theory in the form of propositions keeping in view the genesis of the problem. It is necessary to develop a conceptual and functional relationships, tentatively to understand and explain the given situation. This step is helpful in facilitating the conduct of action research.

## **4. Data Collection**

The collection of data is the most important step in deciding what action is needed for solving the problem. In the school, there could be multiple sources of data, which a practitioner can use to identify causes and developing, and implementing remediation measures.

The sources that a practitioner can use for collecting various data are under:

- Videotapes and audio tapes
- Report cards,
- Attendance, samples of student work, projects, performances
- Interviews with the parents, students etc
- Cumulative records and Anecdotal records
- School Diaries
- Photos
- Questionnaires
- Focus groups discussions
- Checklists
- Observation schedules

Select the data that are most appropriate for the study. But, use at least three sources of data for making the basis for actions; this process is called data triangulation. Data triangulation allows developing comprehensive perspective about the knowledge and understanding of the learner and the learning environment. By using multiple sources, we can strengthen the clarity and depth of our understanding while we minimize the weaknesses of any single source.

After collecting the data, these are arranged on the basis of gender, classroom, grade level, school, etc. The practitioner may use purposive samples of students or teachers from each grade level in case of larger groups.

## **5. Analysis and Interpretation of Data**

After the data has been gathered, the next step is to analyze the data in order to identify trends and themes. The qualitative data obtained on the basis of the interviews taken, or from the cumulative records of the students, opinions, attitudes, or checklists can be reviewed to take out the common elements or themes and may be summarized in the suitable table formats.

The quantitative data can be analyzed with the use of simple statistics such as percentages, simple frequency tables, or by calculating simple, descriptive statistics. A teacher can also take the assistance from the technical staff. Thus, the information from these analyses directs immediate and long-term action and allows determining if there are group differences among learners in the school (i.e. gender, race/ethnicity, socioeconomic, etc.).

At this step, the data is turned into information, which can help the practitioner or the faculty in making decisions. Therefore, this stage requires maximum time. A teacher either discusses the analysis with his/her colleagues to determine priority area(s) for action; and to decide what can be done or he/she can do at his/her own level. After the analysis, it becomes clear that what important points do these data reveal and which important patterns or trends are emerging.

## **6. Discussions and Evaluating Actions**

After the careful analysis of the data review of current literature is done for taking decisions and necessary actions. Following points should be kept in mind while conducting the literature review:

- i. Identifying topics that relate to the area of the study and would most likely yield useful information.
- ii. Gather or collect research reports, research, books and videotapes relating to the problem.
- iii. Organise these materials for drawing inferences in the light of result of the action research study.
- iv. Determine the most promising actions schools can employ for improving classroom and school practices.

Suggesting a plan of action that will allow the practitioner to make a change. This is well informed decision – making. The actions/innovations selected ultimately improves student learning. Also, a practitioner may select one to three innovative strategies focusing primarily on the improvement of instruction, curriculum and the administrative set up that need to be integrated for the improved health of the organization. For example, after the careful analysis a practitioner may find the ways to control the indiscipline in his class which include: changing the teaching style, by encouraging more students participation, by becoming more audible to the students etc. Here, it may be noted that there are many suggestive actions but it is important to mention that if several changes are made at once, it will be difficult to determine which action is responsible for better outcome. Hence it is advisable to suggest one action at a time and then observe its outcome in improving the situation.

A practitioner will get report on each action, which he/she has taken but to choose one of thee the practitioner has to judge the better action on the basis of the effects of the intervention and improvement that has occurred. If there is improvement, do the data clearly provide the supporting evidence? If no, then think further about what changes can be made to the actions to elicit better results.

### **2.7 Uses of Action Research**

Action Research can be a worthwhile pursuit for educators for a number of reasons. Foremost among these is simply the desire to know more. Good teachers are, after all, themselves students, and often look for ways to update their existing knowledge. Let us discuss some benefits of action research.

**(i) Professional development**

Action Research influences thinking skills, level of efficacy, willingness to share and communicate, and attitudes toward the process of change. Through, action research teachers learn about themselves, their students, their colleagues, and can determine ways to continually improve.

**Interactions and Sharing of thoughts**

Through, action research the teachers team up together that allows them to talk with others about teaching and teaching strategies. During their discussions the teachers describe their own teaching styles and strategies and share their thoughts with others, which in turn develops a stronger relationships. It is through action research, we see increased sharing and collaboration across departments, disciplines, grade levels, and schools.

**(ii) Potential to Impact School Change**

Most researches are often criticized that one away from the ground realities. When teachers conduct action research they look at questions that mostly address school and district contexts and concerns. This develops better communication, and sharing among the teachers and thus teachers learns from their own and others experiences, which can create a positive impact on the school culture.

**(iii) Reflect on own Practice**

Action research provide a chance to practitioners to evaluate themselves in schools in an informal manner. It is conducted to investigate what effects their teaching have on the students learning, how they could work better with other teachers, on the whole how can they work to change the whole school for the better.

**(iv) Improved Communications**

Teamwork within the school or district brings individuals together for a shared purpose. Educators involved in action research become more flexible in their thinking and more open to new ideas (Pine, 1981). Studies by Little (1981) suggest that interactions and sharing of information bring positive changes in patterns of collegiality, communication, and networking.

**Summary**

Action research is an important area for the teachers. It is seen as a significant vehicle to empower teacher and also act as the tool for the reflection for his or her own practices. The action research is a systematic process involving various steps from the identification of the problem to the conclusions and decision making.

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## Internet Resources

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2. <http://www.ericdigests.org/1993/researcher.htm> retrieved on 16.04.07
3. [http://ousd.k12.ca.us/netday/links/Action\\_Research/begin\\_guide\\_action\\_research](http://ousd.k12.ca.us/netday/links/Action_Research/begin_guide_action_research)

## UNIT – III

### CASE STUDIES IN SCHOOL ENVIRONMENT

- 3.1 Introduction
- 3.2 Nature of case study
- 3.3 Steps for case study
- 3.4 Ways of using case studies

#### **3.1 Introduction**

A case study can be viewed as an in-depth study of interactions of a social unit in an enclosed system. The unit may be a person, a family, a social group, a social institution, or a community. It would involve a single person, a group of people within a setting, a class within a school, a school within a city. The objective is to understand in-depth the life cycle or a significant part of the life cycle of the unit. A case study is not different to a survey, but instead of collecting data about few factors from a large number of units the researcher makes a depth and intensive study of a single case or a limited number of cases. It is limited in scope but more exhaustive and more informative as compared to survey. Case studies are also used in action research for diagnosing problems of typical cases in schools. For example, a teacher may use case study to identify the causes of failure in mathematics of a group of three students in class V of a village primary school who continuously failed in three unit tests. The teacher will study these cases in detail in order to arrive at the specific causes of the failure of these students and then take a decision about the remedial measures, which may be taken to overcome the problem of failures. It may be noted that a case study helps a practitioner or action researcher to understand the whole 'case' in totality of the school environment by thoroughly probing not only the present status of the 'case' but also his/her past.

#### **3.2 Nature of case study**

A typical case study is an intensive study of a unit. The unit may be related to social group such as a family, a school, an individual or special group. In the past years, this method was originally used for clinical psychology to examine the patient's previous history regarding his health status. To know about the patient's physical and mental health, it is very important to know about the patient's past and present environment. Freud used case study method to assist his subjects in solving personality problems. The detailed accounts of interviews with subjects and his interpretations of their thoughts, dreams and action provide excellent examples of case studies. Guidance counselors, social workers and other practitioners conduct case studies for diagnosing particular condition or problem and recommending remedial measures. They collect data from a particular individual and confine their interest to the individual as a unique case or collect data from a small group of individuals, which form a unit for depth study.

Case studies approach reality. Some of these have been conducted in school environment, which have mostly centered on behavioral problems of children. Observation, interviews, psychological tests and inventories have been used for collecting relevant data about the case or cases. However, subjective bias is a constant threat to objective data gathering and analysis techniques. The researcher must be thoroughly familiar with the skills which are associated with the conduct of case-studies.

### **3.3 Steps for case study**

The following steps are used in the conduct of a case study:

#### **1. Determining the present status of the case or cases**

The first step is to determine the present status of the case or cases through direct observation. In addition to physical examination of the case or cases, a psychological evaluation is required to determine the general ability level etc. For example, to make a case study of a 'slow learner', the first thing to do is to determine the present status of the child by making an assessment of his physique cognitive factors through direct observation and psychological test.

#### **2. Identifying the most probable antecedents of the case or cases**

Determining the most probable antecedents of the case or cases is the next important steps. This information helps in formulating a workable hypothesis or a set of hypothesis. For example, in case of 'slow learner' cited in Step 1, the researcher may formulate a hypothesis that occurrence of slow learning behaviour in the child is due to unhealthy home environment, bad study habits and poor teaching in the school.

#### **3. Verification of Antecedents/Hypotheses**

The case is then checked for the presence or absence of the antecedents supposed to apply to situation of under study. For example, the behaviour of slow learning of the child. This involves multi-method approach, which includes observation, past history of the case, interview etc.

#### **4. Diagnosis and Remedial Measures**

After the verification of the antecedents or hypothesis (es), the next step is directed towards the diagnosis of the causes (e.g. causes of slow learning) and suggesting remedial measures in the light of the causes.

#### **5. Follow-up of the case or cases**

The last step of the case study is the follow-up of the case (es) to study the impact of remedial measures. If impact is positive, the diagnosis is taken to be correct.

### 3.4 Ways of using case studies

There are different ways of using case studies, which are given below:

- i) **Writing analysis of case study** : The most careful analysis of a case study is probably obtained when it is made in writing. Case studies can be used as term papers with other related readings and bibliographies.
- ii) **Panel of experts** : Although group members miss the advantages of participation, listening to a panel of experts a case may be useful especially as an introduction to the case method. A variation of this technique would be to bring in a panel of experts to analyse a case after a group had already done so.
- iii) **Analysis of similar case studies**: Another variation of case discussion is to collect from the group members incidents from their experience similar to the case under consideration. Generalizations drawn from the case under consideration may carry over to the experiences of other members.
- iv) **Cross examination** : By cross examination group members with questions prepared in advance, they will discover that it is necessary to do careful thinking and preparation before entering into case study. This technique, especially appropriate for use with cases containing a great deal of detail, gives the researcher many opportunities to ask individuals to defend their points of views in terms of the data presented.

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## UNIT – IV

### ACTION RESEARCH METHODOLOGY

- 4.1 Introduction
- 4.2 Methodology for Action Research

#### 4.1 Introduction

The Sarva Shiksha Abhiyan gives greater emphasis on quality in elementary education. The major goal of SSA includes the attainment of universalization of elementary education through quality classroom transaction. Infact, the classroom is place, where the children from the diverse sections of the society - having diverse socio-economic strata, and individual differences interms of their psychological make up are sitting together. Here the teacher finds itself in the stressful situation to adopt a style suitable to all the students in terms of their comprehension, understanding, reaction time and even make them learn the basic requisite competencies.

Here the teacher needs to be active in exploring the solution for making the classroom useful for each and every student irrespective of their diverse need and status. The teacher or any other practitioner may be involved in search of various strategies for the benefit of the students at large, teachers and the other related professionals. In a professional term, this action of the teacher may be called an Action Research. Some problems faced by teachers are listed below in the boxes: Illustrations I and Illustration II which need solution by the teachers.

#### ILLUSTRATION I

- Reading with Proper Pronunciation is an important element of language learning.
- It was observed in Class IV that some students could not pronounce some difficult word properly.
- As a result it was difficult for them to write the spelling of these words.
- Ultimately not successful in the learning of language.
- Therefore to identify the reasons and minimize the problem, action research is needed.

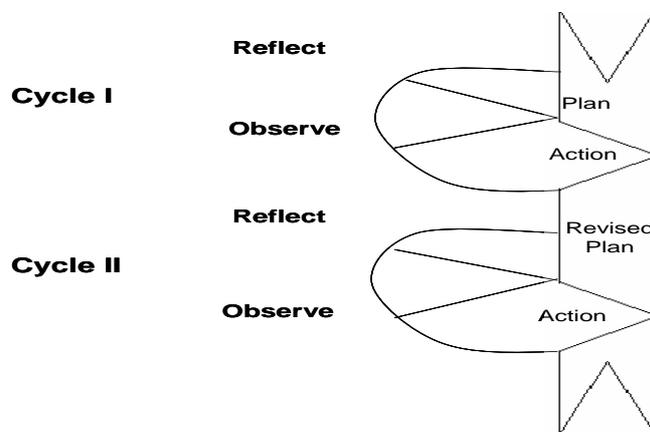
## ILLUSTRATION II

- To receive quality education, students must come to school regularly.
- As irregular students cannot acquire the competencies.
- As a result irregular students will be deprived from getting quality education
- Chances for drop out are greater.
- It becomes essential to undertake a study to overcome the problem of irregular attendance of students.

In this situation the procedure or methodology to be adopted by the teacher becomes most important. In other words it can be said that methodology become the core component through which teacher as an action researcher can find the solution for implementation within shortest possible time.

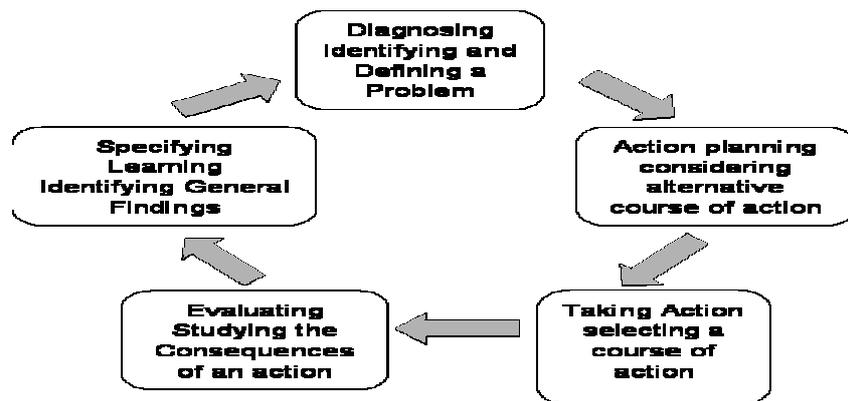
The experts have the different opinions about the procedures and steps to be followed for action research.

Since, our action research is meant for the improving the quality in teaching as well as learning, Stephen Kemmis (1995) has developed a simple model of the cyclical nature of the typical action research process. Each cycle has four steps: plan, act, observe and reflect, which are presented in the following figure 4.1.



***Fig. 4.1 Simple Action Research Model (from Maclsac, 1995)***

Gerald Susman (1983) has provided somewhat more elaborate listing. He distinguishes five phases to be conducted within each research cycle. Initially, a problem is identified and data is collected for more detailed diagnosis. This is followed by a collective postulation of several possible solutions from what a single plan of action emerges and is implemented. Data on the results of the interventions are collected and analyzed, and the findings are interpreted in light of how successful the action has been. At this point, the problems are reassured, and the process begins another cycle. This process continues till the problem is resolved. These phases are presented in the following figure 4.2.



*Fig. 4.2 Detailed Action Research Model (adapted from Susman, 1983)*

## 4.2 Methodology for Action Research

The methodology for action research involves the following steps:

### Steps I: Question Identification

It is an important basic steps, which provides to a good base for action research. A good question has the following three major qualities:

- Question should be significant to the researcher situation.
- Research finding should lead to action eg. Retaining or changing a teaching strategy.
- Question should lead to programme that is feasible in terms of time, effort and resources.

### **Some Illustrations**

- Whether special care to the identified students will help in improving their attendance?
- Whether activity based child-centered and joyful teaching learning process will help to minimize the irregularity?
- What type of methods in classroom transaction can help the teacher in handling the problem?
- Whether use of required TLM with help in solving the identified problem?
- Whether there was sufficient writing practices done during classroom transaction?

## **Steps 2 : Review of Literature**

The question identified need background information. A brief review of secondary sources is adequate for this propose. The major source of information is books on teaching and database on educational resources available at the different level of Management Information System.

## **Steps 3 : Objectives**

The objectives sets for the action research must be stated with special reference to the problems (questions) identified for the research. Action research may have a single objective or more than one objective must be stated in behavioural terms. The explanation of the objective is given to fence the research question.

### **Some Illustrations**

- To identify the number of irregular student in class III.
- To develop skill to identify the location of places situated on the river bank.
- To find out the causes for leaving the school after recess.
- To inspire the identified students to remain at school after recess.
- To identify the students having problem in reading words with vowel sounds.
- To encourage the students for developing competencies in mathematics.

## **Steps 4 : Hypothesis**

Hypothesis is a focused statement which predicts an answer to the research question. When formulated researchers are guided in the selection of research methods (sample, data collection, instruments, etc.) by their hypothesis. In this way the hypothesis gives direction and focus to the action research.

Sometimes researchers choose to state their hypothesis in “null form”. This may seem to run counter to what the researchers really expect – but it is a cautious way to operate – when this null hypothesis is disproved or falsified, the researcher may then accept a “alienate hypothesis”.

A good hypothesis has several basic characteristics. Some of these are

- It should be reasonable.
- It should be consistent with known facts or theories.
- It should be stated in such a way that it can be tested and found to be probably true or probably false.
- It should be stated in the simplest possible terms.

In fact, the research hypothesis is a tentative answer to a question. It is an educated guess or hunch, generally based upon prior research and/or theory, to be subjected to the process of verification or disconfirmation.

Since action research aims at identifying specific problems relating to particular areas and specific situation, the formulation of hypothesis is not so necessary. However, if some researcher need to frame the hypothesis, it should be based on bottom up approach. Some of the examples of action hypothesis are given below.

### **Example I**

#### **The problem**

Removing difficulty related to the concept of Matras of students of class I

The Action hypothesis framed are:

- Use of proper method of teaching – Learning process may help in removing the difficulty.
- Use of proper teaching-learning materials may give a solution to the problem.

### **Example II**

#### **The problem**

Removal of spelling mistakes in dictation among students of Class III.

The Action hypotheses framed are:

- Proper practice and drill will remove the spelling mistake.
- Remedial teaching on spelling will remove the spelling mistakes.

### **Steps V : Sampling**

The primary purpose of the research is to discover principles that have universal applications. But it is not practicable to study whole population to arrive at a generalized solution. This has only been possible through the process of sampling which makes it possible to draw valid inferences or generalization on the basis of careful observation of variables within a relatively small proportion (sample) of the population. A measures

value based upon sample data is a “statistic’. A population value inferred from a statistic is a ‘parameter’.

A sample is a small proportion of the population selected for observation and analysis. By observing the characteristic of the sample one can make certain inferences about the characteristic of the population from which it is drawn. Samples are not selected haphazardly rather they are chosen in a systematically random way so that chances or the operation of the probability can be utilized.

Randomization has two important applications in research:

1. Selecting a group of individuals for observation who are representative of the population about which the researcher wishes to generalize, or
2. Equating experimental group and control group in an experiment. Assigning individuals by random assignment is the best method of attaining equivalence of the groups.

These are many ways of random sampling. The important among are:

- i) Sample Random Sampling – Individual Observations or individuals are chosen in such a way that each has an equal chance of being selected and each choice is independent of any other choice.

For example: To select 50 students from a population of 600 students enrolled in a school, the name of the 600 students would be placed in a container and blind folded draws one name at a time until the sample of 50 is selected.

- ii) Random Number : A more convenient way of selecting a random sample is by use of Random Numbers table.

As an illustration let us assume that a sample of 30 is to be selected from a serially number population of 800. Using a portion of table of random numbers, 30 three-digit numbers are selected by reading from left to right.

- iii) The Stratified Random Samples : It is advisable to sub divide the population into a smaller homogenous groups to get more accurate representation. This method result in the stratified random samples. Such types of sample basically used for the study related to income and wage earner in the community.
- iv) Cluster Sample : The cluster sample is the variation of simple random sample i.e. particularly appropriate when the population of interest is infinite or when a list of

members of population does not exist or when the geographical distribution of the individual is widely scattered.

- v) **Non-Probability Sample** : Here the availability of the subjects is used rather than following a specific subject selection process. Some non probability sample procedure may produce sample that do not accurately reflect the characteristics of the population of interest. Educational researcher often use available classes as samples. The status of group may be equated by using statistical technique as the analysis of covariance. In some types of descriptive studies the use of available samples may restrict generalization to similar populations. Since, action research is context specific, it is a usual practice that researcher use purposive and judgment sample for getting the immediate solution of the problem.

### **Steps – VI – Tools**

Since action research is more of a holistic approach to problem solving, rather than a single method for collecting and analyzing data, it allows the use of several different research tools for collection of data. Questionnaire related to the research questions, interview schedule, Focus Group Discussion, Standardize Psychological Test etc. may be used as tools for collection of data pertaining to research question. The selection of the tool (s) mostly depends upon the nature of the problem.

### **Step VII – Analysis of Data**

Action research data are quantitative as well as qualitative in nature. Statistic provides the use of techniques or processes for gathering, organizing, analyzing and interpreting numerical data. It will involve the use of simple statistics groups. The qualitative data in the form of symbols, sentences, paragraphs and field notes are descriptive. These data are analysed with the help of content analysis.

### **Steps VIII : Decisions and Sharing of Results**

The impact of action taken is evaluated to enable the researcher to draw conclusions and take decisions. The results of the action research are also shared with colleagues, administrators and others who may find the study useful.

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## UNIT V

### IMPLICATIONS OF ACTION RESEARCH

- 5.1 Introduction
- 5.2 Objectives
- 5.3 Educational Implication of Action Research
  - 5.3.1 School effectiveness (Illustration I)
  - 5.3.2 Classroom transaction (Illustration II)
  - 5.3.3 Learning difficulties (Illustration III)
  - 5.3.4 Community mobilization (Illustration IV)
- 5.4 Summary
- 5.5 Assignments
- 5.6 Points for Discussion/Clarification

#### 5.1 Introduction

Teachers working at elementary level face many problems/difficulties related to improving the quality of elementary education. They need to empower themselves in identifying the causes of such difficulties and finding out solutions as well. Understanding the concept, framework and methodology of action research is essential for the teachers to contribute substantially for development of elementary education. Performance of teachers is an indicator which directly or indirectly determine the fruitfulness of an educational programme. Strength of a teacher depends on the aspect that how successfully he/she is able to solve the problems of school, classroom and children in a meaningful way. Concept of action research helps the teachers to build their capacity to solve the problems and make the situation better and satisfactory. **“Action research is systematic approach to solve the existing problems for improving the current practices”**.

#### 5.2 Objectives

After reading this module you are expected to be able to :

- Describe the role of teacher in improving the existing school system.
- Identify the problems, evaluate the causes and develop remedial strategy for improvement.
- Appreciate the implications of action research for improving school practices.
- Apply the principles of action research to solve problems related to scholastic and coscholastic aspects.
- Explain the needs of action research for professional development.

Action Research is a systematic problem-solving approach. The steps of Action Research are to be accepted with a sequence to reach at the desired end. The researcher needs to follow the following steps sequentially to arrive at a conclusion. We have already discussed about the important steps for implication of Action Research in the previous **Unit II and Unit IV**.

### **5.3 Education Implication of Action Research**

Action research is a systematic approach of problem-solving to improve the current/existing situation. Broadly the strategies of action research helps the practitioners (teachers) to bring changes/modifying/improving the existing situation by focusing on the ways and means of the functioning of practitioners in a particular area. It helps the researcher to solve his/her own problem AND which leads to empower the researcher to overcome the problems which are under his/her control.

So far the improvement of school practices are concern, action research provides benefit to students, teachers and the school as well. **The details of which have been discussed in the previous unit-II.**

As discussed earlier action research is a form of applied research which helps to bring a changes in practice in teaching and learning processes, where the practitioner is a researcher (teacher). It helps the researchers to improve quality of action in his/her functioning. At the same time encourage the practitioner to undertake inquiry systematically in a systematic manner to bring improvement in the quality of his/her performance and improve the quality of school as well. Mainly it focuses on issues like i) Professional development of teacher, ii) Making the teacher reflective iii) Developing experiences in solving immediate problem iv) Develop Problem solving ethos. v) Improving educational settings.

In the present unit, an attempt has been taken to make the teachers realise about the potentials of Action Research citing examples in each case.

#### **5.3.1 Classroom Transaction**

Method of instruction is an important aspect of teaching-learning process. It is the teacher who is required to select a suitable method for effective communication with children in classroom. There are many variables which affect the selection of suitable method i.e. subject, topic, classes, students, objectives to be achieved, individual differences, level of aspiration of teachers etc. Teacher faces many difficulties at the time of selecting method (s) of teaching, which consequently effect learning of children and achievement of children. It is the concern of those teachers who really want to improve themselves and make the teaching-learning process more meaningful and effective. Here, the teacher needs to analyze the situation critically to understand the possible reasons which effect the process adversely.

#### **Illustration – I**

Problem : Teacher feels uncomfortable in classroom while teaching.

### **Probable Reasons**

- Lack of knowledge of teachers on subject matter.
- Lack of interest/access to reference materials.
- Lack of knowledge of teachers in understanding need of children.
- Lack of planning before taking classes.
- Lack of attention in use of teaching-learning materials.
- Inability to involve the children in teaching-learning process.

### **Action Steps**

- Sufficient reference material on each subjects – teaching modules, teachers manual etc be made available.
- Discussion with colleagues and other subject experts.
- Provide opportunity to attend orientation/training course.
- Orientation/training on micro-teaching; Cooperative method, collaborative method etc.
- Analyzing the need and aspiration of children.

### **Consequences (Effects)**

- Teacher become confident in adopting suitable method as required by class, topic and children.
- Teacher become more resourceful and confident.
- Teacher become competent in integrating one/more methods to achieve the desired objectives.

**Remark :** This type of action research is quite useful for

- Developing confidence of teacher and making the teacher more dynamic and resourceful.
- Enable the teacher to develop his competency with regard to effective handling of classroom.
- Enable the teacher to identify problems of teacher and develop his/her teaching strategies accordingly.
- Develop the teachers understanding to keep him/her update from time to time.

### **5.3.2 Learning Difficulties**

Learning of children is facilitated by many factors like interest of children, classroom atmosphere, transactional strategies of teacher, Knowledge of teacher on subject matter, Parental guidance etc. It is most frequently observed that children face difficulties in certain aspects and become comfortable in other aspect in a same subject eg. in English

it is noticed that children become more comfortable in grammar but faces difficulties in Composition. Under this situation, it is the classroom teacher who has to identify the problems of children and provide remedy accordingly, to overcome with such situation. This situation is so specific that it is most appropriate to undertake action research.

### **Illustration – II**

**Problem:** Poor Performance of Children in Spelling and Pronunciation Skill in fundamentals of English.

#### Probable Reasons

- English is a foreign language. So the children face learning difficulties in English.
- They may have problem related to basis of English.
- Children may have lack of interest in English
- Children may have fear towards the English subject.
- Low achievement in English develops fear in the mind of children.
- Teacher may have problem in correct pronunciation.

#### Action Steps

- Identify children having problem in spelling and pronunciation separately.
- Individual attention may be given to identified children
- Special time may be scheduled for them.
- Alternative strategy of teaching spelling and pronunciation may be developed.
- Emphasis may be given in repeated practice on writing and pronouncing.
- Specially devised teaching learning material may be used.
- Very simple and easy tests may be administered time to time.
- Parents may be informed and requested to extend their cooperation.
- Children may be encouraged and prompted at school and home.

#### **Consequences (Effect)**

- Children become interested in learning English and their level of confidence enhanced.
- Achievement level of children improved.
- Children were able to cope up with the teaching of teacher in normal classes.

#### **Remark**

This type of action research is useful for

- Improving the level of achievement of weaker children in various subject.
- It helps to provide remedial teaching/strategies according to need and requirement of children.
- It is undertaken to develop interest and curiosity of children toward learning.

- It is a means to get the parents involved in teaching-learning process in one or other way.

### **5.3.3 School Effectiveness**

Programmes of school effectiveness needs due attention for its effective implementation to achieve the desired goal. It directly or indirectly effects the enrolment and retention of children in schools, which are the major indicators of quality improvement. Inspection, supervision and evaluation must be followed by effective monitoring to provide continuous feedback and information regarding the programme. There are various challenges to make the programme of school effective and successful.

It is the teacher who directly faces these changes. So teacher at grass root level can undertake action research projects to find out the solutions of ongoing problems.

#### **Illustration III**

**Problem :** Drop Out rate of girls is more than that of boys.

#### **Probable Reason**

- Girls are engaged in household responsibilities including caring of siblings.
- Parents do not take interest in education of girls.
- Insecurity and fear of being molested.
- Lack of female teachers in school.
- Non availability of girls toilet and other necessity.

#### **Action Step**

- Parents of dropout may be called or contacted personally.
- Environment of the school must be made attractive and secure.
- Girls toilet may be planned
- One/two female teachers may be appointed.
- Representation of women in VEC may be made compulsory.
- Need based curricular may be developed for elementary level.
- Personal counseling may be provided to children as well as parents.
- MTA may be formed.

#### **Consequences (Effect)**

- Parents of girls children become conscious about education of their daughter equally with that of their son.
- Members of VEC become active in providing support to school and security to girls.
- MTA become more active and effective for developing awareness on education of girls.

- Girls children become more regular and number of absentism reduced.

### **Remark**

#### **This type of action research is useful for**

- Developing interest and curiosity of girls children towards education.
- Mobilizing Parents of girls children to send their daughter to school regularly.
- Realize the VEC about their roles and responsibility towards enrolment and retention of Girls in school.
- Strengthening the mother-teacher association.
- Convincing the authorities to appoint lady teachers and make necessary physical facilities available in school for education of girls.

### **5.3.4 Community Mobilization**

Participation by one and all members of the community is the pre-requisite in facilitating the effective implementation of various aspects of the programmes. It is essential to create a strong base at the grassroot level for effectiveness of elementary education. Community is the key for fruitful result of micro planning. Community based monitoring in certain aspects of elementary education like enrolment, retention, education of girl child and education of other disadvantaged group is very crucial. Hence empowering community and developing common access towards education and involving community in micro level planning, monitoring and supervision are the essential aspects of Sarva Shiksha Abhiyan. Teacher need to play the role of facilitator to make the community sensitive towards their duties and responsibility, where he/she faced various problems. These problems can also be solved with the help of action research projects.

#### **Illustration IV**

**Problem :** Parents do not cooperate in school activities

#### **Probable Reasons**

- Parents are illiterate and engaged in their day-to-day earning.
- Parents are not being informed about the progress of child time to time.
- Parents are not being invited to school functions.
- Meeting of PTA/MTA is not effective.
- Community Members are not being invited to school.
- Teacher do not seek the cooperation of parents in smooth function of school.

#### **Action Steps**

- Parent teacher meeting may be fixed at a regular interval preferably on a suitable date as decided by PTA/MTA/VEC.
- Community members should be invited in school functions and other occasions.

- Improvement of children should be communicated to parents immediately.
- Teacher must develop rapport with the members of the community.
- During holiday or leisure time teacher must make informal meetings with parents and community members.
- Members of the community must be treated as an important part of school.
- Suggestions of community members should be encouraged and given due importance.

### **Consequences (Effect)**

- Parents feel themselves responsible for the functioning of school activities.
- Parents become more conscious for the education of their ward.
- Parents frequently visits school and attend school functions.
- Members of community develop a sense of ownership towards smooth functioning of school.

### **Remark**

This type of action research is useful for

- Making the members of the community responsible for functioning of school.
- Developing a sense of community ownership, community participation and community mobilization.
- Developing relationship between community and functionaries of school.
- Seeking the Support of Community for increasing enrolment and reducing retention.

## **5.4 Unit Summary**

Action Research is an effective method for bringing all round development in school system and its functioning. All concerns of school get the benefit from the findings of action research. Though the findings of action research is quite local it has tremendous impact on improving level of achievement of children, developing professional efficiency and competencies of teachers, bring excellency in school system and making the community an important assets of school as well. Here it is teacher who acts as a researchers to find out the solution of the problems he/she encounters in their working place. This simple method of action research develop a real sense of professionalism in the work of teacher by making him/her a reflective teacher in reality.

## **5.5 Assignments**

1. State the chief characteristic of action research.
2. List the steps of action research.
3. Develop solution of the following problems through action research at your work place.

- a. Achievement of children belonging to Standard V is not satisfactory in mathematical calculation.
- b. Students are unable to develop language proficiency at Standard III.
- c. Teacher teaching in Section A faces difficulties in teaching Science but not in Section B of same standard.
- d. Enrolment of Govt. School is less than that of Private School.
- e. Few children are coming late to school regularly.
- f. Multi-grade teaching effect the teaching-learning process adversely.
- g. Teacher is not comfortable in developing writing skill in children.

**5.6 Points for discussion/clarification**

After going through this unit you may like to have further discussion on some points and seek clarification. Note down those points.

**5.6.1 Points for Discussion.**

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**5.6.2 Points for Clarification**

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## UNIT VI

### PREPARATION OF THE RESEARCH PROPOSAL FOR ACTION RESEARCH

Sarva Shiksha Abhiyan (SSA) is a meaningful endeavour by the Ministry of HRD, Government of India for achieving universalization of elementary education. One of the major objectives of this programme is to promote quality primary education with specific reference to ACCESS, EQUITY, RELEVANCE and EXCELLENCE by improving infrastructure, increasing enrollment and retention, enhancing achievement of children in cognitive, affective and psychomotor domains involving and encouraging local community resources. In this context, there will be various issues and problems which need to be identified and resolved through well designed research studies especially at micro-level by the grassroot level functionaries. Since education is the study of human behaviour in the societal context, the research in this field utilize both the quantitative as well as the qualitative methodologies. As discussed earlier in Unit I, qualitative methods include those approaches in which the data concerned are analyzed in terms of numbers. The example of quantitative research method might be studying the achievement in language (Hindi or any language used as medium in the elementary classes) of the children of fourth grade (for example) of a primary school of a village.

Research can also be qualitative in which a researcher may describe events, persons etc. scientifically without the use of numerical data. For example, as a headmaster of a primary school you may like to study the causes of dropout of children from your school and use interview for seeking information from the parents of the children who dropped out from your school. The information thus sought is descriptive and detailed. It is narrative in nature and does not involve figural data. Such a study would carefully and logically analyse the responses of parents and report those that are consistent as well as inconsistent. Each of these types of research has advantages and disadvantage. They use various types of tools and techniques for collecting data/ information relevant for the study and then analyse the data for drawing inferences and conclusions. A researcher may undertake any study of his/her interest which may require immediate solution with reference to specific context using action research approach. He/she may be interested in any field/area concerning SSA programme in your state in general or a district in particular. After selecting the broad areas, the research must narrow it down to a highly specific research problem. He/she must take specific questions whose answers he/she seeks through the application of action research process.

There are some important sources which are helpful to a researcher for selecting a problem which include his/her professional experience and professional literature. Technological and social changes also bring forth new problems for research. For example, the use of hardware and software in classroom instruction, the training of teachers in Multi-grade teaching, team teaching, development of low cost instructional material etc. give rise to various problems and issues which need to be tackled through research.

After the selection of the specific problem, the preparation of a research proposal is a pre-requisite in the research process. It provides a systematic plan of procedure for the researcher to

follow. A research proposal is a systematic plan which brings to focus the preliminary planning that will be needed to accomplish the purpose of the proposed study. It shall contain the following information:

### **1. Title**

The title of the research proposal should be so worded that it suggests the theme of the study. It should not be too lengthy or too involved and should be specific to the area of the study. The language in the title should be professional in nature.

### **2. Statement of the problem**

It is not exactly the same as the title of the study. Statement of the problem is the explanation of the title in terms of the scope of the study and operational definition of the variables involved in the title.

### **3. Review of related literature**

A summary of the writings of the authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown. Both conceptual and research literature are to be revised for this purpose. A brief resume of related studies found in journals, magazines, abstracts and reports should be made. A review and analysis of previous research eliminates the risk of duplication of what has been done and provides basis for selecting a problem for research.

### **4. Significance and need of the problem**

A research proposal should indicate clearly how the results and findings of the study can influence educational theory and improve practices. The need and urgency for undertaking a study can be shown in several ways.

First, a need for a research study is to show the time gap between the earlier study and the present one, and therefore the new knowledge, techniques, or conditions justify the need to replicate the study.

Second, there is need for a study to relate it to the existing social issues and priority areas in the context of national/international educational developments.

Third, the need for a study is to show the lack of information about a problem by presenting the supporting statements of other research studies.

Fourth, the need is to show that there are gaps in the knowledge provided by previous researches and to show how the present study will help to fill in these gaps and add to the existing knowledge.

## **5. Definitions, assumptions, limitation and delimitations**

### **(i) Definitions**

In this section, the researcher is required to define all unusual terms that could be misinterpreted. These definitions in operational terms help the researcher to establish a frame of reference with which he/she approaches the problem. The variable named in the title of the study should be defined in operational terms. For example, 'academic achievement' or 'study habit' cannot be used as criteria unless they are defined as observable samples of behaviour. A score on an achievement test is an operational definition of academic achievement. Similarly, grade/rank on a 'Study Habit Inventory' obtained by a child is an operational definition of study habit.

### **(ii) Assumptions**

Assumptions are statements of what the researcher believes to be facts but are not verifiable. For example, a researcher may state the assumption the participants observes in group meeting of "Parent-Teachers Association" in a school, will establish support with teachers as well as with parents, and will not have a reactive effect on the behaviour to be observed.

### **(iii) Limitations**

Limitations indicate the conditions which are beyond the control of the researcher, and thus may place restrictions on the findings of the study and their applications to other situations. For example, due to some reasons, a research tool could not assigned randomly to experimental and control groups and some limitations.

### **(iv) Delimitations**

Delimitations denote the scope of the study in terms of the area of operation, size of the sample, nature of the population beyond which the findings of the study are not extended.

## **6. Objective/research questions**

The objectives specific to the study are stated keeping in view the variable and nature of the research problems. The researcher must state the specific questions in the operational terms whose answers he/she would like to seek after undertaking the research study. Such questions are helpful to researcher to realize the objectives of the study successfully.

## 7. The Hypothesis

The hypothesis is precisely defined as a tentative or working proposition suggested as a solution to a problem. It is a powerful tool in the research process to achieve dependable knowledge. Hypothesis is formulated only as the suggested solution to the problem, with the objective that the ensuing study may lead either to its rejection or to its retention. It helps the researcher to locate and identify the variable involved in the study, methodological procedures/techniques that are to be used in the conduct of the research study.

Hypothesis helps the researcher to relate theory to observation (deductive-inductive paradigm) and observation to theory (inductive-deductive paradigm). For example, a teacher in a primary school daily observes student behaviour. On the basis of his experience and his knowledge of behaviour in a school situation, the teacher may attempt to relate the behaviour of students to his/her own, to his/her instructional/evaluation strategies, to changes in school environment/ conditions as a result of SSA, and so on. From these observations, the teacher may inductively formulate a hypothesis to explain such relationships. Relevant to a particular research problem, the researcher may have different hypotheses, but the soundness of the hypothesis will depend upon the richness of background knowledge that the researcher possesses of the area of investigation.

The formulation of hypothesis depends upon the nature of the research method which a researcher uses in the conduct of the study. For example, in quantitative research method the researcher uses a deductive approach in hypothesis formulation. The researcher uses hypothesis and theory with data; whereas in qualitative research approach the researcher employs an inductive paradigm for generating new hypotheses from the data collected during field work. In this process the researcher begins by employing genuinely open questions rather than testing theoretically derived hypotheses.

Sometimes it is argued that in action research studies a researcher is merely interested in the solution of a problem which demands immediate solution and thus he/she has merely to check the validity of facts (past or present) and arrange/analyse them chronologically and logically. Thus the researcher may not formulate any hypothesis in such studies. But it may be noted that hypotheses for such type of studies may not be formal hypotheses to be tested. Rather, they are written as explicit statements/questions that tentatively explain the occurrence of events and conditions.

A good hypothesis has certain characteristics which include: (i) it should be clearly and precisely stated; (ii) it should be testable; (iii) it should state expected relationships between variables in simple language; (iv) it should be limited in scope; and (v) it should be consistent with most known facts.

Research hypotheses are classified in the directional and non-directional types. For example, the "Academic achievement of children in a primary school is positively related to its better infrastructure" is a directional hypothesis; whereas the hypothesis: "The

academic achievement of primary school children is related to the infrastructure of the school” is a non-directional hypothesis.

## **8. Method and Design**

In this section the researcher usually need to discuss the method which he/she may use in the conduct of the study. It will include whether the researcher may use either qualitative approach, quantitative approach, or both.

The selection and use of sampling method/design will also be discussed. It will take discussion on the choice of a particular sampling method, such as random sampling, stratified random sampling, quota, cluster or judgment sampling etc.

In order to effect relevant data/evidence, the researcher has to make use of certain testing and non-testing devices/tools/techniques, viz., psychological/ educational tests, questionnaire, rating scales, schedules, observation, interview. The researcher has to provide the details about the tools and techniques which he/she has to develop or procedure for use in the collection of the data. The techniques of data analysis are also discussed in this section.

## **9. Time Schedule**

The researcher should prepare a realistic time schedule for the completion of the study. He/she should mention the time periods, which will be utilized in the preliminary preparation field work/data collection, analysis of the data and report writing.

## **10. Budget Schedule**

The research proposal, which is submitted, to Government agencies/Private/ Autonomous organizations for financial help must furnish the details of the finances which are required by the researcher for the conduct of the study.

## **11. Bibliography**

The researcher is expected to give a list of the document/research papers etc. which he/she has consulted in the preparation of the purpose.

Let us illustrate the formulation of a research proposal for action research with the help of following example:

Title :

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