

E-CONTENTS

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EDU-C-301: Methodology of Educational Research-I

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Unit-I: Introduction

- **Research: Meaning and Functions;**
- **Scientific Inquiry and Theory Development-Some emerging trends in research;**
- **Educational Research: Nature and Scope; Need and Significance;**
- **Fundamental and Applied Research;**
- **Qualitative and Quantitative Research; Longitudinal and Cross Sectional;**
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MEANING OF RESEARCH

Research is a orderly exploratory procedure employed to increase or revise current knowledge by discovering new facts. It is divided into two general categories: a) Basic research is inquiry aimed at increasing scientific knowledge, and b) Applied research is an

effort aimed at using basic research for solving problems or developing new processes, products or techniques.

Research is a reflective investigation or examination; especially: enquiry or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws.

CHARACTERISTICS OF RESEARCH

1. Scientific and Empirical: based on observations and experimentation on theories.
2. Systematic: pursues orderly and sequential procedure.
3. Controlled: all variables except those that are tested/experimented upon are kept stable.
4. Employs premise: guides the investigation process.
5. Analytical: There is critical analysis of all data used so that there is no error in their interpretation
6. Objective, Unbiased, & reasonable - all findings are rationally based on experimentation.
7. utilizes quantitative or statistical methods: data are translated into algebraic measures and are treated statistically
8. Need expertise: the researcher uses legitimate and cautiously designed measures, valid data gather etc.
9. Must be patient and unhurried activity - to ensure accuracy
10. Involves effort-making capability
11. Needs courage
12. Has sound roots that help to set up evidence or doctrine.
13. Answers all type of questions

FUNCTIONS OF RESEARCH

1. It gets the scientific information about all educational problems. It also helps in attaining specific knowledge about the subjects involved in the study.

2. In action research, the researchers are teachers, curriculum developers, heads, supervisors or others whose main job is to help, provide good learning experiences for pupils.
3. In it, a person tries to enable himself to realise his purposes more effectively. For example: A teacher carries out his teaching more efficiently. An administrator, in the education department completes his action to improve his administrative behaviour.
4. Action research is a process which tries to keep problem solving in close contact with actuality at every stage.
5. In educational system it always strives for the development of the technique of new teachings.
6. It strengthens and highlights the work of the teacher.
7. It has a great usefulness of creating new interest and new self-reliance in the aptitude of the individual teacher.
8. Action research provides sensible usefulness. For class-room teacher, he applies his own observations into his class-room practices to make the observed problems solved. Minor problems in the classroom can be solved by applying the teachers' intelligence.
9. Action research brings modifications in the teachers. It makes them cooperative and vigorous in facing the situation easily. It also brings about changes in the behaviour, attitude and teaching performance.
10. Planning is the chief criterion in educational research as well action research. To go through the problems much insight is required. For solving all these troubles the teacher goes on reading references, literatures and also research techniques. So academic learning becomes productive when it is practically applied in the proper situation to solve problems in action research.

11. In education system, all types of professional workers are able to solve their practical to improve their own profession. Usually, action research helps the teacher to face day-to-day problems in the classroom. He makes himself psychologically stable and energetic to tackle the situation. He starts his lesson with full ambition and expectation.

SCIENTIFIC INQUIRY

The scientific inquiry/method is a body of procedures for examining phenomena, obtaining new knowledge, or correcting and integrating previous knowledge. To be termed scientific, a method of inquiry is commonly based on empirical or assessable evidence subject to specific principles of reasoning.

The scientific method is an in-progress process, which usually starts with observations about the natural world. Human beings are naturally curious, so they often come up with questions about things they see or hear and often develop ideas (hypotheses) about why things are the way they are. The best hypotheses lead to prophecy that can be tested in various ways, including making further observations about nature. In general, the strongest tests of hypotheses come from carefully controlled and replicated experiments that gather experimental data. Depending on how well the tests match the predictions, the original hypothesis may require modification, adjustment, extension or even refutation. If a particular hypothesis becomes very well supported a general theory may be developed.

SCOPE AND FUNCTIONS OF EDUCATIONAL RESEARCH

Educational research refers to a systematic effort to gain a better understanding of the educational system with its process, generally with a view to improving its effectiveness. It is an application of scientific methods to the study of educational problems. The rationale of educational research is progress and good life.

According to J.W. Best, 'Educational Research is that activity which is directed towards development of a science of behaviour in educational situations. The ultimate aim of such a science is to provide knowledge that will permit the educator to achieve his goals by the most effective methods.'

According to Lazarsfeld and Sieber, 'By Educational research is meant here the whole of the efforts carried out by the public or private bodies in order to improve educational

methods and educational activity in general, whether involving scientific research at a high level or more modest experiments concerning the school system and educational methods.'

According to Monroe, 'The final purpose of educational research is to ascertain principle and develop procedures in the field of education.'

SCOPE

The scope of a subject is usually discussed under two heads:

- Branches, topics and the subject matter it deals with.
- Limits of its procedures and applications

The fields of educational research is classified here in terms of following content areas:

1. Comparative Education
2. Curriculum construction and Textbooks
3. Economics of Education
4. Educational Administration
5. Educational Measurement and Test development
6. Educational Psychology
7. Educational Technology
8. Guidance and counselling
9. Philosophy of Education
10. Sociology of Education
11. Teacher education and teaching behaviour

1. Educational Psychology

Research in Educational Psychology has great importance for a teacher. The expediency of various theories of learning for designing conditions that produce effective learning in school has been the central theme of researches in the recent years. Conditions conducive to efficient learning, factors helpful in promoting memory and concept formation need immediate consideration by the researchers. Promising fields of research in Educational Psychology include: Cognitive, non-cognitive factors such as intelligence, aptitudes, creativity, attitudes, interest, motivation, personality traits, needs and adjustment of pupils, various influences of home, neighbourhood, peer relationships and other social relationships that influences child development, growth and learning are worth investigating. The fundamental process of perception, learning and motivation and their

applications, the exceptional children, the adolescent problems, achievement etc. should be also be studied.

2. Philosophy of Education

Education is the dynamic side of philosophy. Unless based on the sound footing of a organized philosophy, its theory and practice can never reach to its excellence. Promising field of research in philosophy of education include the following areas: Aims of education, the motivation of learning, the measurements, its results, the construction of curriculum etc. A study of the sayings and philosophy of life of Irbil, Vivekananda, Aurobindo, Tagore, Gandhi, Dewey, Plato etc. a philosophical analysis of the problems of indiscipline, unrest, strikes, disobedience of authority etc. are the major areas of research in philosophy of education.

P.S. Naidu has listed following area of philosophy of education in which research can be conducted:

1. Indian Philosophical thoughts.
2. Indian Philosophy and Indian Education.
3. Need for philosophy of Education.
4. Reorganization of Education to make it Indian on the basis of the exposition attempted so far.
5. Some Ancient Educational Institutions.
6. Special features of Indian Philosophy.
7. The surviving elements in Indian philosophy of education.
8. The teacher, the learner, teacher learner interrelation and interaction.

3. Sociology of Education

With the increasing stress on sociological foundations of education, the interface of the two disciplines of education and sociology is getting attention of Indian researchers more and more.

The important problems of research related to sociology of education includes the study of population growth and changes, demographic trends, the impact of political and social forces on an educational system, educational aims, curriculum contents, methods and techniques in teaching-learning process, conducive to socio economic and politico cultural situations existing in the country from time to time.

The role and functions of the school is unwavering in the light of the needs of the specific community background. In the problem of delinquency, the study of social factors and cultural environment of the society is important. Problems relating to tribal cultures, rural areas, community development, industrialization, urbanization, crime and family may be investigated.

The problems like the teacher's role as an agent of social change and modernization, teacher's recruitment and academic achievement of students in schools need to be examined on the priority basis.

4. Economic of Education

Studies in Economics and Education included attitude studies and achievement test. Very few studies have been made in educational finance. Some researchers have recently studied the five year plan allocations and their utilization. A recent study relates to unit institutional costs in Higher Education.

5. Educational Administration

The research conducted in this area so far is more or less of survey type. It would be useful to take on research in the areas of Staff personnel administration, educational legislation, educational planning, school plant planning, school organization, business administration, evaluation of institutions, administrative theory and supervision. Researches may study the place and scope of collective sniping in education, the impact of compulsory education laws, legal status of voluntary organizations in the administration and control of education.

6. Comparative Education

The research in this area includes analyzing the educational organization and administrative machinery of two or more countries. Problems like education and national development in terms of economic growth, educational control and reform of curriculum, the role of universities, social education, etc. are subjects of meaningful research. The pioneering ideas of work experiences in the country and granting autonomous status to some institutions etc. need a comparative investigation. Odd has suggested that interstate study in grant in aid system and administrative patterns would be fruitful. It will be worth to make a comparative study of the measures, troubles of textbook production, the quality of textbooks production and teacher's response to them.

7. Curriculum Construction

A school curriculum will be efficient if it is based on sufficient knowledge of how children grow and learn and of the requirements of the modern society. The latter is a matter of public relations and the former of research. The research in curriculum needs to be conducted on the following areas.

1. Testing experimentally all principles of curriculum construction
2. Curriculum in education that will produce better results.
3. Investigate into the sources of curriculum content
4. What is the bearing of psychology on the curriculum?
5. What are the future needs of pupils as far as curriculum is concerned?
6. What should be the methods in curriculum making etc.?

8. Educational Measurement and Evaluation

This may include the following areas like construction and standardization of various tests including the achievement ones. Problems relating to pupil assignment, judgment, corrective programmes, norms, psychological tests, observational techniques, rating scales, groups tests of intelligence and aptitude, personality tests etc.

9. Teacher Education and Teaching Behaviour

Teacher education has received noteworthy concentration of educational researchers. These studies related to the areas are: historical development of teacher education, curriculum and training programmes, co-curriculum and practical work, assessment, evaluation, and prediction of teaching. Some studies have been concerned with attitudes of teachers and student teachers towards various parts of the pre-service and in service programmes. Personal, economic and socio-economic conditions of teachers have also been studied.

10. Guidance and Counselling

The research conducted in this area include vocational adjustment of youth, vocational choice and adjustment, long term manpower needs, future needs, the study of aptitudes, socio-economic status, interest patterns and other personality dimensions, tests of intelligence, special aptitudes like art, science and music, special skills and scholastic aptitudes etc.

11. Educational Technology

The investigations already conducted on educational technology are: software approach, hardware approach and systems approach and their impact on the learning of

students, programmed instruction, use of science and technology to improve the teaching learning process, communication and media, audio visual aids, teaching machines, projectors and computers. The comparative gains of face to face instruction and televised instruction in teaching of different subjects may also be included in the field of research studies.

We can also conduct research works by dividing the educational field under some main headings i.e., pre-primary, primary, secondary, higher education, agricultural and technical education, formal, non formal education, adult's education, correspondence and distance education etc.

Thus, the field of educational research is very broad. As the education is self-motivated and changing in nature its related problems are also escalating and changing in nature. We can conduct study in every field that are related to in sort of education.

PRIORITY AREAS IN RESEARCH

1. Co-ordination of al agencies in Education
2. Dropout rate
3. Education and handicapped
4. Education for economic growth
5. Education of Backward persons.
6. Education of Talented persons
7. Equal opportunities.
8. Follow up studies of old students
9. Free and compulsory education
10. Home work and study habits
11. Organisation of school meals
12. Population Education
13. Student's welfare schemes. Etc
14. Universalisation
15. Vocationalisation

LIMITATIONS OF EDUCATIONAL RESEARCH

1. Complexity

The researcher in the field of education deals with the complex nature of human behaviour. To understand the complex nature of human behaviour, he has to deal with a

number of variables, acting independently and in interaction. Each individual is unique in the way he grows, in his mental, social and emotional behaviour and in his total personality. The researcher in the field of education therefore has to study the individual in groups, and the impact of the behaviour of group members on an individual.

2. Difficulties in Observation

Observation of human behaviour is more subjective than the observation of physical or biological phenomenon. The subjectivity on the part of the observer has a direct impact on the explanation and results on which he basis his conclusion.

3. Difficulties in Replication

Educational phenomena varies from situation to situation can hardly replicated for the purpose of observation with the same degree of precision and objectivity.

4. Interaction of Observer and Subjects

The researcher in the field of education is also human being. His presence as an observer in a situation itself may change the behaviour of his observing human subjects.

5. Difficulties in Control

The inflexible control of experimental situations is achievable in the laboratory of physical or biological sciences. It is less possible in educational studies in which the researcher has to contract with the human subjects and many variables at the same time.

6. Measurement Problems

The tools used for measurement and data collection in the educational studies are much less valid and reliable than the tool of the natural scientist.

FUNCTIONS

The explanations and understanding of educational research concur in their ordinary assertion that educational research involves the application of the main principles of scientific research to the solution of educational problems. In the words of S.M. Corey, "Better Education means better development and formulation of instructional aims, better motivation of pupils, better teaching methods, better evaluation and better supervisions and administration".

Educational research also covers basic research. Basic or fundamental means that it is not related to day to day matters and scientific phenomena and the problems. It leads to broad generalization. Fundamental educational research has led to discovery of such valuable concepts as those of motivation, reinforcement, concept formation and social

environment in learning. Research concerning some natural phenomenon or relating to pure mathematics are some examples of fundamental research.

Education is applied science. Therefore, research in education is also applied research. In the words of Eric Hylla, 'the primary purpose of research in education as in medicine both to be understood as fields of human actions not as field of knowledge.' Research focuses at some conclusions facing a concrete social or economic problem is an example of applied research.

Educational research is action research. In the words of S.M. Corey, 'A practical meaning of action research is the research a person conducts in order to facilitate him to realize his objective more efficiently.' Action research is focused on instant application, not on the development of theory or on generalization of applications. It has placed its stress on a problem here and now in a local setting. Its results are to be evaluated in terms of local applicability, not universal validity. Its function is to improve school practices and at the same time to improve those who try to progress the practices to unite the research process, habits of thinking, ability to work pleasantly with others and with professional strength.

It is significant to understand that research may be carried out on at various levels of complexity. Respectable research studies may be the simple descriptive fact: finding diversity that guide to useful generalizations. Actually many of the early studies in the behavioural sciences were helpful in providing needed generalization about the behaviour or characteristics of individual and group. Although these studies did not explain the factors underlying in various aspects of educational fields, they did provide many hypotheses investigated later by more complicated experimental methods.

TRENDS IN EDUCATIONAL RESEARCH

Looking at current trends in educational research supplies an eye-opening view of the modern classroom. If you are searching a career in education, keeping up with varying instructional styles prepares you to go in the field with the tools you need to best serve today's students.

Team Teaching

Putting two teachers in one classroom is known as team teaching, combined team teaching or co-teaching. This model gives benefits and presents problems to both teachers and students. Kids in co-teaching classrooms experience teamwork in action and learn to see concepts from more than one standpoint. They have the possibility to learn from

teachers with varied backgrounds and can look into deeper into subjects thanks to the chance for more one-on-one instruction time. However, contradictory personalities and the propensity of students to help one teach over the other can pressurize the constancy of this model.

Individualized Instruction

A good research is done on how diversification of teaching to provide to the specific needs of students may help them to grasp core subjects better. This type of instruction moves away from the conventional lecture model of teaching and offers students a way to learn at their own pace. Slower learners can take the time they need to develop a solid understanding of material while more intelligent students do not have to wait to move on to the next theory. This addresses individual learning styles better and allows teachers to make use of varied platforms to provide instruction.

Mixed-Age Teaching

The possible benefits of putting students of different ages jointly in the same classroom are still being researched, but many schools have been using this teaching method for years with good results. In a mixed-age classroom, young students learn how to interact with older ones and benefit from observing their academic abilities. Collaboration between age groups facilitates further development. Achieving advanced competencies at a young age increases self-confidence. Teachers also benefit from mixed-age classrooms in that they are capable to follow their students through more than one grade to get a clearer picture of their academic growth.

Brain-Based Teaching

Research based on neuroscience that reflects steady training of a concept creates strong pathways between neurons, brain-based teaching takes advantage of the power of the developing mind to create the greatest amount of constructive transforms during the short period that students are in school. Students work in groups, take part in games that speak to specific concepts and engage in lessons built around central themes, all with the goal of getting better their understanding of significant academic skills and ideas. Physical education is included to help the growth and development of new neuronal pathways.

Critical Thinking Skills

While memorization of fundamental facts is significant to build a base of knowledge in the early grades, students also need to be taught how to relate those facts in a large

amount of situations. Research into critical thinking skills is pouring new ways of teaching that include cheering students to ask questions, develop problem-solving skills by working in groups and discuss the outcomes of their experiments. These methods of innovation give students a more energetic role in their education and teach them how to make decisions by applying the facts they have learned to the problem at hand.

Keep an eye on these and other research trends as you study to become a teacher so that you know what is expected of you when you are in charge of a classroom. Make what you learn an essential part of your teaching methods, determine what works most excellent for your students and carry on to adapt your methods to create the best probable learning environment.

When he is failed to get the genuine answer, he feels dissatisfied and further he makes new moves to draw more responses. He understands the real complexity of the pupils and finds out the causes to make his lesson useful. In action research, the teacher becomes precise, disciplined and easeful but not chaotic and broad. In such attempts the teacher is able to know the individual differences and educational provisions for the students.

Analysis of Problems

Educational research is a very detailed analysis of the present educational problems. It is not a sheer explanation of basic and remote evidence of nature. It prepares working performance for the extra development of the pupils. Hence, the people working in the organizational, decision-making and inspecting departments of education should wish to do things improved.

Research, as we take in physical science, is not taken like in education. By applying ordinary sense, intellect, insight and leadership and training of the experts it is undertaken without an low-cost material. So, research in the field of education should be taken in a highly order to meet the situation in a smooth and efficient way.

ACTION RESEARCH

Action research is similar to applied research in a lot of ways. In the present circumstances, action research has a good deal of connotations. The practitioners apply it

practically at the time of their study. They do not pursue the conventional experiences or the guidelines and proposals of experts. In action research the teacher or the consultant can take up and solve number of problems in a more organized and scientific method in the single classroom.

Demerits of Action Research

- In action research the teachers are not well familiar with the problems. They are not also trained in scientific way to resolve the problems quite easily. Every teacher is not able to face problems at the time of their teaching. Hence, the action research fails to a great extent.
- Action research deals with those problems whose nature are not categorized in a detailed way. The problem of a school is totally different from another school. So, the teacher who get transferred from one school to another school may face difficulties to solve them.

Education: Science Subject

Now-a-days education is considered as a science subject. It includes the all-round development of the child. So different educationists are interested to make the subject in a progressive way. Hence, they give more stress on useful knowledge.

Everything should be taught in a sensible way that will help the child to make his concept clear. Usually in our educational system, there is the follow of customary methods of teaching. This type of teaching does not help more in learning faculties.

To make the students familiar with the clear concepts and investigation of the problems the teacher resorts to many new steps and follows new techniques. This acts as real mechanism in leading the students to face the learning situations in an *full of life* way.

Application of Action Research

In our country, every state government has given much importance and stress for its wider increase inside the state. It is not easy to make a developed field in the progressive education because of the individual differences.

Educational research includes a wide range in field of psychological areas like retardation, relapses, transfer of training, individual differences, mental health and psychology of the school subjects. It deals with the problems not only of individual cases but also in common field of education. In individual cases educational research studies academic achievements.

It shows the teacher's attitudes in teaching, professional development, competency, instructional techniques, students' interest, their responses, etc. Before hand, there was no systematic effort to study education in an incorporated science. Modern thinkers like Pestalozzi, Froebel, Herbert and others are against the conventional methods of teaching and learning process. In 19th century, psychologists pointed the authentic difficulties in human learning.

In educational institutions, as in organisational cases, educational research spreads in a very rapid and successful way. These organization's actions are as given below:

- (i) Private concerns, consulting organizations, text book publishers.
- (ii) Voluntary associations, teachers, associations, school board associations, advisory councils or committees.
- (iii) Autonomous bodies, some institutions which are not controlled by the state government arrange some research projects and programmes in education at their own expenditure.
- (iv) Government agencies, the administrative bodies like the ministry of education has taken further steps for the further development of education and different types of research projects have been newly evolved.
- (v) University has prescribed the post-graduate branches like M. A. in Education, M. Ed. for higher studies in education. It has also prepared new schemes for research projects. Research scholars are also appointed for this end.

QUANTITATIVE RESEARCH

Quantitative research is a research involving the use and analyses of numerical data using statistical techniques. These researches create questions of who, what, when, where, how much, how many, and how.

Quantitative research methods are developed to construct statistically consistent data that shows how many people do or think something. Quantitative data

characteristically is in numerical form such as averages, ratios or ranges. Quantitative research is particularly helpful when carrying out a large scale needs estimation or baseline survey. It is independent on the researcher and one should get alike results no matter who carries out the research. It can also be used to calculate trends.

When should it be used?

Quantitative research should be used under the following circumstances:

1. When trying to measure a trend such as 'do youth talk to their parents about issues important to them?'
2. When data can be obtained in numerical forms such as 'number of children under 15 who participate in peace building activities'.
3. When simple objective responses can be received such as yes and no questions.
4. There is no uncertainty about the concepts being measured, and there is only one way to measure each concept.
5. You are trying to collect data in ratios, percentages and averages.

Advantages

1. Can be used when large quantities of data need to be collected.
2. The result is usually numerical (quantifiable) and hence considered more *objective*.
3. The data is considered quantifiable and usually generalizable to a larger population.
4. It can allow SFCG to see changes overtime and help develop quantitative indicators.
5. It can provide a clear, quantitative measure to be used for grants and proposals.

Disadvantages

1. Results need to be calculated using Excel, Access, or data analysis software (such as SPSS), which may not always be accessible to a country program.
2. Time consuming, as the researcher or SFCG team member needs to enter, clean and then analyse the data.
3. The larger the sample, the more time it takes to analyse the data and analyse results.
4. The larger the sample the more time it takes to collect data.
5. The quantitative data ignores a very important human element.

QUALITATIVE RESEARCH

Qualitative Research is mainly exploratory research. It is used to achieve an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to build up ideas or premises for probable quantitative research.

When should we use qualitative research?

1. Develop hypotheses for further testing and for qualitative questionnaire development.
2. Know the feelings, values, and perceptions that lie beneath and manipulate behaviour.
3. Recognize client needs.
4. Confine the language and descriptions use to explain and narrate to a product, service, brand, etc.
5. Perceptions of communication messages.
6. Information obtained in quantitative study and to improved understand the context/meaning of the data.
7. Generate ideas for improvements and/or extensions of a product, line, or brand.
8. Uncover potential calculated guidelines for branding or communication programmes.
9. Comprehend how people observe a message or communication piece.
10. Create parameters (i.e., relevant questions, range of responses) for a quantitative study.
11. New idea generation and development.
12. Investigating current or potential service/brand positioning strategy.
13. Strengths and weaknesses of brands.
14. Understanding dynamics of getting decision dynamics.
15. Studying reactions of public relations campaigns, other marketing communications, graphic identity/branding, package design, etc.
16. Exploring segments, such as demographic groups.
17. Studying emotions and attitudes on societal and public affairs issues.
18. Assessing the usability of websites or other interactive products or services.
19. Understanding perceptions of a different people.
20. Determining ones language as a preliminary step to develop a quantitative survey.

Advantages of Qualitative Research

1. Problems and subjects covered can be evaluated in depth and in detail.
2. Interviews are not limited to particular questions and can be redirected or guided by researchers in real time.
3. The track and framework of research can be revised quickly as soon as new information and results appear.
4. The data in qualitative research depends on human experience and this is more forceful and influential than data gathered through quantitative research.
5. Complexities and subtleties about the subjects of the research or the topic enclosed is usually missed by many positivistic inquiries.
6. Data is usually gathered from few individuals or cases therefore findings and outcomes cannot be spread to larger populations. However, findings can be transferred to another setting.
7. With this type of research, the researcher has a obvious vision on what to anticipate. They collect data in a authentic attempt of plugging data to bigger picture.

Disadvantages of Qualitative Research

Qualitative research exhibits its own powers however, this is also connected with some disadvantages and these include the following:

1. The quality of research is a lot reliant on the skills of the researcher and can be easily predisposed by personal idiosyncrasies and biases of researchers.
2. Inflexibility is more hard to measure, show and uphold.
3. The amount of data makes understanding and analysis time overwhelming.
4. Qualitative research is from time to time not customary and understood especially within scientific communities.
5. The presence of researcher in the course of data gathering is inevitable and can therefore influence or affect the responses of subjects.
6. Issues on confidentiality and ambiguity can cause problems during presentation of findings.
7. Findings can be time consuming and hard to present in optical ways.

CROSS-SECTIONAL STUDY

Both the cross-sectional and the longitudinal studies are observational or growth studies. This means that researchers record information about their subjects without

manipulating the study environment. The defining feature of a cross-sectional study is that it can measure up to different population groups at a single point of time. Think of it in terms of taking a snapshot. Findings are drawn from whatever fits into the frame.

The merit of a cross-sectional study design is that it allows researchers to compare many diverse variables at the same time. We could, for example, look at age, gender, income and educational level in relation to intelligence and occupation.

However, cross-sectional studies may not offer exact information about cause-and-effect relationships. This is because such studies present a snapshot of a single moment in time; they do not regard as what happens before or after the snapshot is taken.

LONGITUDINAL STUDY

A longitudinal study, like a cross-sectional one, is observational study. So, once again, researchers do not obstruct with their subjects. However, in a longitudinal study, researchers conduct various observations of the same subjects over a period of time, many a times lasting long years.

The advantage of a longitudinal study is that researchers are able to sense developments or changes in the characteristics of the target population at both the group and the individual level. The key here is that longitudinal studies expand beyond a single moment in time. As a result, they can establish sequences of events.

EVALUATION RESEARCH

Evaluation research can be defined as a type of study that uses model social research methods for evaluative purposes, as a specific research methodology, and as an evaluation procedure that employs special techniques unique to the evaluation of social programs.

Evaluation research is used to decide the impact of a social intervention. A social intervention is an action taken within a social context planned to produce an intended result. Evaluation research thus analyzes the impact of a particular program on a convinced social problem the program is trying to solve.

suitable topics for evaluation research are as varied and general as any other social research. Many topics exist that are in need of evaluation; however, the ones selected for evaluation have sensible importance. Sensible importance refers to a topic's application in the real world. Evaluation research has to be conducted during real life situations, meaning researchers need real life participants who are willing to be cooperative.

In the field, there are three main types of studies:

- **Needs assessment studies**

Particular studies concentrating to decide the being and degree of problems, usually pertaining to a precise population.

- **Cost-benefit studies**

Studies that determine whether the results of a programme rationalize the expenditure. The cost could be financial or non-financial.

- **Monitoring studies**

Studies that offer a stable flow of information about a topic of curiosity. These studies are usually conducted over an extended period of time. In some cases, monitoring studies necessitate incremental interventions, meaning the results may change somewhat as monitoring methods modify and changes within the topic being studied are made. Common monitoring studies centres on crime rates or contagion outbreaks.

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