
UNIT 2 RESEARCH PARADIGMS IN DISTANCE EDUCATION

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2.0 INTRODUCTION

Distance education has significant components which are more industrial than academic in nature. The development of distance education is being shaped by technological, demographic and political forces, as well as distance teaching experiences of the practitioners. These components bring in *changes* in this system rapidly and radically. In other words, you can say that research is essential to know the effect of changes so that future decisions in the field of distance education can be shaped according to the results of the present study and previous developments. It will provide a basis for decision making and policy formation (Koul 1993).

You are already aware that distance education is not simply a mode to deliver learning materials through different media, but a form of educational experience which requires analysis in terms of the range of strategies, the techniques and tools used to improve its practice. There is always a concern for directing research activities in distance education to the real needs of the participants – those engaged in teaching at a distance, the distance learners, those who provide support services and the administrative and management systems which deliver distance education. As a student of distance education, we hope that this Unit will familiarise you with the developing traditions of research activities in distance education, to understand why research is directed towards certain problems or phenomena and to design research activities for producing knowledge. The Unit deals with the models, patterns or ways in which you can go about conducting research in distance education. We will inform the possibilities, approaches and limitations of various tools and techniques, models etc. This will enable you to analyse, theorise and pose questions which deal with a large number of teaching and learning issues, macro perspectives involving social and

political effects, impact of distance education system, and communication issues.

This Unit will serve as a guide for the beginners of research in distance education. It is assumed that the field of distance education has produced and will continue to yield growing bodies of knowledge. But, knowledge does not grow naturally or inexorably. It is produced through the critical inquiries of practitioners or scholars – and is, therefore, a function of the kinds of question asked, problems posed and issues framed by those who conduct researches. To understand the methods and findings of research carried out in the field of distance education, one should appreciate and utilise the varieties of ways in which research questions are formulated. The framing of research questions, like that of an advocate asking questions in a court of law, limits the range of permissible responses and prefigures the character of possible outcomes. In other words, it is essential that a researcher understands the questions that have been asked and the manner in which those questions have been framed, both conceptually and methodologically. As a researcher, you should know why research is formulated in a specific fashion, what are the alternative approaches to inquiry, how to work on a research project, how to select a tool and how to prepare a design for research. The paradigms of research will provide you a solid background in each of the research discourses and allow you to explore the trends of research from a global perspective. In a way, these paradigms inform us about problems and procedures which are consistent with researching within a specific social, cultural, economic and political framework. Keeping in view the above facts, this Unit provides you a detailed discussion pertaining to paradigms of research.

2.1 OBJECTIVES

On the completion of this Unit, you should be able to:

- Describe the concept of 'paradigm',
- Distinguish between the three paradigms of research,
- Explain the approaches to distance educational research, and
- List the different areas of the research in distance education.

2.2 RESEARCH PARADIGMS IN DISTANCE EDUCATION

There are a number of issues pertaining to the nature of research in distance education: for example, whether the proposed research topic is as per the need of the situation; how shall the topic be viewed by the wider community of distance educators engaged in research activities; what sort of theoretical interpretation might lie behind the research questions; what is the status of research in distance education and how to theorise and generate knowledge in distance education. To answer these questions it would be useful to introduce the idea of various model and approaches to research. Many

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researchers have talked about the way scientists use models known as maps or *paradigms* to develop a *framework* for distance educational research.

The paradigm approach provides for a solid background in each research exercise and helps us to follow up, in depth, specific areas. This background is an essential part of the development of models in distance education research.

There is always a concern for directing research activity in distance education to the real needs of the participants – those engaged in teaching at a distance and those who provide services to deliver distance education. It is also essential to connect research in education and social sciences. For example, there are some commonalities between much of what occurs in distance education and the work done with individualised instruction, independent study, and technology. Coldeway (1990: 388) emphasised that the enormous amount of work done on personalised instruction systems could be used to form base line data to begin research in distance education. The research should deal with *micro perspectives* such as teaching and learning at a distance and macro perspectives involving social and political effects, impact of the distance education system, communication technology, etc., which will form a mine of information. In other words, although distance education is very different from education in a conventional setting, research carried out on conventional campus based students can provide a framework for developing research paradigms for students studying at a distance.

The Concept and Genesis of Research Paradigms

The concept of paradigm has turned out to be useful in inspiring critical thinking about “normal science” and the way shifts in basic scientific thinking occur. A paradigm determines the criteria according to which one selects and defines problems for inquiring and how one approaches them theoretically and methodologically. A paradigm could also be regarded as a cultural artefact, reflecting the dominant notions about scientific behaviour in a particular scientific community, be it national or international and at a particular point in time. In other words, we can say that paradigms determine scientific approaches and procedures which stand out as exemplary to the new generation of scientists – as long as they do not oppose them. A ‘revolution’ in the world of scientific paradigm occurs when one or several researchers at a given time encounter anomalies; for example, they may conduct experimental studies, make observations, which in a remarkable way do not fit the prevailing paradigm. Such anomalies can give rise to a crisis after which the universe of research under study is perceived in an entirely new light. Previous theories and facts become subject to thorough rethinking and re-evaluation. It is relatively easy to point out changes in paradigms in natural sciences. For example, in physics paradigm shift occurred from Aristotle via Galileo and Newton to Einstein. But when research activities in social sciences emerged in the nineteenth century, a conflict was observed in the field of research concerning both the purpose and method of inquiry. Alternative perspectives have been proposed and accepted by many. The value of alternative approaches was not denied, since scholarly debates and the exploratory use of these alternative approaches, add vitality to the field. During the 1960s and 1970s, scholars

from different social science disciplines studied educational problems with many disciplinary affiliations. Most of them have a background in psychology or other behavioural sciences, but quite a few of them have humanities background in philosophy and literature. Thus, there cannot be a single paradigm prevailing like in the normal science in the multi-faceted field of research in education. So, the scholars contributed new methods and new perspectives.

Some scholars argue that there are two main paradigms – the (i) scientific and the (ii) humanistic which are not exclusive, but complementary to each other. Nevertheless, it can be argued that the drawing of a distinction between these two approaches cannot be sustained to the extent that they are regarded as two different paradigms. The twentieth century has seen the conflict between these two as employed in researching educational problems. The one which is modeled on the natural sciences shows emphasis on empirical quantifiable observations and analyses data with mathematical tools. The other paradigm is derived from the humanities with an emphasis on holistic and qualitative information for interpreting data.

A review of relevant literature indicates four major paradigms:

- (i) empirical – analytic (roughly equivalent to quantitative science)
- (ii) interpretive – symbolic (qualitative or hermeneutical inquiry)
- (iii) critical (where criteria relating to human betterment are applied in research)
- (iv) phenomenography

Let us now examine each of these in detail.

2.2.1 Empiricist Paradigm

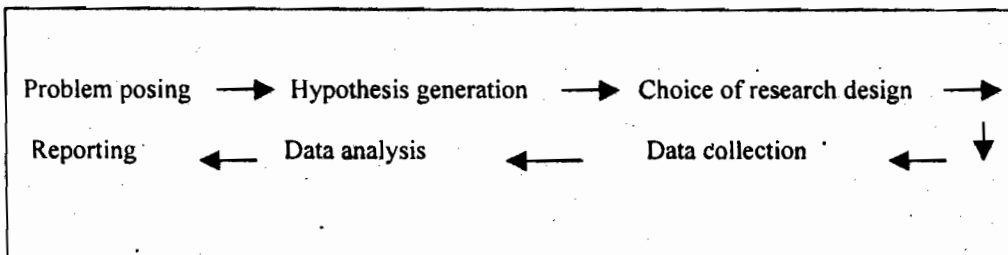
This paradigm emphasises careful and controlled observation as the basis for knowledge. The observer is dispassionate and independent of the object of observation. Knowledge is objective, generalisable and can be used to *predict* and *control* future events (Smith et.al. 1990). In other words, within an empiricist research paradigm, the activities or processes proceed in a hypothetical - deductive way. Here we have a theory behind the particular problem we wish to investigate. The theory provides the concepts which pose the research problem. The hypotheses arise from the theoretical framework made up from the concepts and variables interacting with each other. Holmberg (1990: 159) emphasised that scholarly work that tests propositions and modifies theoretical approaches has to be inter subjectively rational, exact, and of non-partisan character.

Since research processes, according to this view, should proceed by the hypothetical – deductive problem method, you need to have some kind of theory for a particular problem you wish to investigate. This theory or model will provide the language and concepts which pose the problem. Your hypotheses will arise from the theoretical framework made up from the way the concepts or variables interact with each other.

For example, you want to *explore the relationship between distance teaching and independent learning*. For this problem the following hypotheses can be formulated with the eventual aim of operationalising the statements and finding ways of empirically testing them. These hypotheses are :

1. Distance learning is possible without a counsellor or teacher.
2. Emotional involvement in the study promotes deep learning and goal attainment.

You can notice that if we are to move to an empirical approach for testing the above hypotheses, we are **faced with a problem** of deciding what we might measure, how to go about measuring emotional involvement, deep learning and goal attainment. So within empiricist research, a hypotheses must focus on a meaningful problem, have clearly defined concepts. After this, to verify our assertion that there exists a relationship between emotional involvement and deep learning, we have to construct and conduct the test. We also have to design the research activity, whether to select the experimental approach or any other method. If we decide to be experimental in our approach, we have to manipulate the extent of emotional involvement to see whether there is any effect on deep learning. Who will be our subjects? Also, we have to take into account the practical and ethical considerations in attempting this empiricist approach. You can see that you have to prepare a typical pattern for empiricist approach. The steps involved are:



Deriving a theory is a deductive principle, but a theory which is based on evidence can be proved only by the induction approach. For example, a researcher observes again and again that friendly communication (feelings of belonging and personal relations between learner and tutors) influences not only motivation but also achievement favorably. General opinion among educators supports the researcher in assuming that what he/she has *induced* from the cases is based on the theory or a law. A theory to this effect is developed and various hypotheses derived from it – and, in fact, agreeing with what has been noticed in practice, and tried empirically. In other words, assumptions are then deduced from theory. In distance educational research we investigate facts concerning the student (numbers, age group,

qualifications, socio-economic status, etc.), the use of media and methods, organisation and administration. Accepting this kind of fact finding in research activity implies the assumption that there is, in fact, a reality that can be observed objectively.

Activity 1: Prepare an outline of a research exercise in an area that you are interested in by using the steps of empiricist paradigm.

2.2.2 Interpretive Paradigm - Phenomenology

This paradigm emphasises social interaction as the basis of knowledge. The researchers use their skills as 'social actors' to understand the subjective worlds of others. Here knowledge is subjective, constructed through mutual negotiation and is specific to the situation under investigation. The difference between empiricist and interpretive paradigms is that the empiricist approach focuses on prediction and control, but the interpretive approach is concerned with the understanding of a particular situation by the researcher.

The interpretive approach focuses on the intentions behind human actions, seeks to uncover, and interpret the meanings of all that is happening, being done or being understood by those who are involved in the activity under investigation (Nunan 1990: 26). This type of research includes *qualitative* methods of study. Here the focus is on the observed present, but the findings are contextualised within a social, cultural and historical framework.

The dominant influence within the interpretive paradigm has been research on students approach to learning. The research study focusing on students' learning, particularly following the phenomenography of Marton and Saljo (1976) explained the deep and the surface approaches. The idea of approaches to learning, though apparently simple, is very useful in understanding why students learn differently under the same circumstances. It is not a learning style inherent in students which they manifest in all situations, but a characteristic of interaction between an individual and learning task. So, it is the interpretation of an intention and an action. It only has meaning with reference to a situation with certain types of content. From phenomenography approach (you will learn about it in 2.2.4), Marton and Saljo (1976) came to this important point about distinguishing deep from surface learning and explained that students would adopt the means of processing academic tasks according to their intentions or perception of their course and the task. If learners merely wished to display symptoms of having learned, they would adopt a surface level approach. If they wanted to grow in understanding, they would adopt a deep level strategy. The

approaches to learning movement has influenced distance education literature. From the above discussion you must have realized the impact of interpretive paradigm on deep and surface levels of learning. But what is the **phenomenological** approach? Let us discuss in brief about two **phenomenological** approaches before we proceed to the strength and limitations of interpretive paradigm.

Phenomenology – It is concerned with an interpretive understanding of human action. As a philosophical movement, phenomenology was founded by Edmund Husserl. Its main concern is to provide philosophy with a foundation that will enable it to be a pure and autonomous discipline free from all presuppositions. Its method is essentially descriptive, and its aims are to uncover the fundamental structures of intention, consciousness and the life-world. The idea of the life-world of 'lived-experience' which is always taken for granted even by empirical sciences, is one of the two main concepts of phenomenology, which has interested many social scientists including psychologists. Nevertheless, critics have argued that when phenomenological concepts are transferred from their original domain to the context of social science, their meaning is radically transformed. In a wider context, we can say that phenomenology has influenced the researchers' analysis of the constructs and the interpretation in reality. For example, an important point about students learning approaches is that one depends upon the student's perception of the course, the teaching and the learning environment. A range of constructs such as heavy workload, didactic teaching, content oriented assessment and a fact-filled syllabus have been consistently met with a surface approach. The constructs made by the researcher, through phenomenological analysis, in a learning environment help to study the behaviour of the distance learner as the researcher tries to explain in accordance with the constructs whether the learner has deep or surface level learning. The phenomenological analysis of learning approaches has provided the researchers with interpretable tools which are sensitive to the context of the department or the individual learner or teacher; so it helps in designing courses and planning curriculum more conducive to students employing a deep approach.

Phenomenological and interpretive researches derive their responses for the subject and blurs the distinction between subjects and objects. Phenomenological concern attends to how subjects make sense of the world. How do learners, or teachers or whoever interpret social practice and situations in which they find themselves? Phenomenologists look to the 'object' of study for descriptive first order constructs. What were formerly objects, for example, students, teachers or educational administrators are now subjects.

Phenomenologist adopt an attitude of epochs, where past beliefs, opinions, attitudes, experiences, ideologies, and frames of references propose that the discourse of research emanate from the subjects. Subjects expose first-order constants by which they organize and make sense of their daily lives. Researchers then develop second-order scientific and explanatory constructs that account for first-order constructs.

Some issues such as defining the perceived social situation, collecting data through unstructured and informal approaches should be handled properly to

collect relevant information. In any interpretive study, the researcher may sometimes receive information which is not intended for public disclosure. Being a participant and an observer, the researcher carries a number of responsibilities to deal with a particular situation with moral considerations because the construction of meaning from an observational account and informal interviews is a key activity in interpretive paradigm. The limitation of the interpretive paradigm is that there is no inherent mechanism for moving beyond interpretation. If this paradigm is followed, the researcher depends on the level of interpretation and there is no mechanism for moving on towards remediating the identified problems.

2.2.3 Critical Paradigm

The critical paradigm emphasises that knowledge is problematic and capable of systematic distortion. It represents the interests of some groups within society and has the potential to be either oppressive or emancipating. This approach shares the assumptions of the interpretive approach but adds the above element. One of the concerns of the critical paradigm is to understand the theory as well as practices.

Now, to reconceptualise this research activity, let us take the example of learning styles of a distance learner. In this case, our first concern will be to try and understand the practices of distance learners as they engage in learning. As a participant in this research, the researcher will be setting up strategies which involve learners in critical reflections about their actions as learners at a distance. The researcher has to listen to their language and conceptual understanding of the way in which the learners are emotionally involved in influencing their abilities to learn and attain their goals. The researcher may anticipate the introduction of social and political contexts in this approach.

Sometimes the researcher may change the situation in order to provide a greater degree of control to the learner. For example, warmth in human relations, and rapport with teachers at a distance could be collectively redefined in ways which change the practices of those attempting to facilitate learning at a distance. The use of collective redefined actions by previously isolated and independent students to achieve changes in their involvement within the educational enterprise may also be explored. This is because the critical paradigm sees knowledge developing as participants are actively involved in construction and reconstruction of theory and practice. The approaches involved in this paradigm are emancipatory *praxis* and critical pragmatism. For example, *emancipatory praxis* identifies a 'guidance' role for expert researchers in facilitating involvement of participants; *critical ethnography* supports emancipatory action; and *critical pragmatism* extends beyond the typical critical approach and helps for post-structural analysis.

In the critical paradigm, the researcher has to identify the social group of the participants/subjects through dialogue and analysis of the intentions of the participants. He/she has to study the historical development of the social conditions and the current social structure to understand the group. The researcher has to collect data with the help of participant observation and in-

(one), the ring finger '2' and so on. Numbers larger than 5 are then understood as 5+ some fingers. In carrying out simple arithmetical tasks, children try to keep the undivided '5' together. Hence, when solving problems like $2+7=9$, they reverse the addends and transform the problem to $7+2=?$, where 7 is "undivided" $5+2$ and the problem as a whole becomes $(5+2)+2=?$.

From the above example, you can understand a concept of something or a way of experiencing something. The two expressions are being used interchangeably. It is a way of being aware of a phenomenon. One might be aware of 7, when one perceives it as $5+2$, when one looks at one's hand or as $6+1$ or $4+3$, it might be an immediate experience of the number 7; it might be the result of reflection or some other possibilities. So, here the perceptions differ in a qualitative way.

Phenomenography is a research specialization. The researches were carried out at the University of Goteborg, Sweden, in the early 1970s. The point of departure for these studies was one of the simplest observations that can be made about learning, namely, that some people do better at learning than others. These observations led to the first question which was to be investigated empirically, (a) what does it mean to say that some people are better at learning than others? This in turn led to the second question, (b) why are some people better at learning than others?

This phenomenographical study was carried out with individual tasks provided to the learners under comparatively natural conditions and learners were allowed to read the text provided to them. Thus, after completing their reading, the students were interviewed about what they understood the text to have been about. The interview also pertained to their experience of the situation and they were specifically asked how they had gone about learning the text. All the interviews were recorded and subsequently transcribed verbatim. On examining the transcripts of the students' accounts of how they had understood and remembered the text as a whole, it was found that there were different ways of understanding the text; thus, a hierarchically ordered set of categories were devised and termed the "outcome space". By referring to this outcome space, the categories of description could be compared with one another to judge how appropriate, in relation to specified criteria, was the understanding they represented. Thus a way was found for answering the second question as to why are some people better at learning than others. Further research for answering the second question demonstrated the relationship between approaches to learning i. e. surface and deep on the one hand and the quality of the outcomes on the other. This phenomenographic study developed the notion of two approaches to learning. The idea of approaches to learning is very useful in understanding why students react differently in the same circumstance.

Thus, two key issues regarding phenomenographic study are:

1. Different ways of understanding a specific content which learners developed in a certain situation; sense was made of these in terms of differences in the approaches the learners adopted to the specific

learning task, that is, in terms of differences in their ways of experiencing the specific situation.

2. The second issue is that in developing the phenomenographic research, the focus of interest was to shift away from that which emerges in a specific situation and toward the learner's pre-conceived ideas about the phenomena dealt with in the specific situation. For example, the way in which children understand numbers, is of vital importance to the way in which they deal with problems in arithmetic.

The above discussion points out that, phenomenography is the empirical study of the limited number of qualitatively different ways in which various phenomena can be experienced, understood, perceived and conceptualised. This may be considered as a way of finding out how the development of knowledge and skills within the domains can be facilitated.

In this section, we discussed the research paradigms in distance education and phenomenography which has significant contribution to research studies pertaining to students' learning.

So, our research can serve various interests: It can seek forms of knowledge, it can be shaped by various media and it can give rise to a form or pattern of paradigm.

Having presented to you the four research paradigms, we shall now examine a few methodological issues and approaches.

2.3 APPROACHES TO DISTANCE EDUCATION RESEARCH

In the above discussion in sections 2.1 and 2.2, we saw how a research method is a particular way of studying a problem. With the increasing number of research studies in distance education, much emphasis is laid on methodological issues and *approaches* to research in this field. In this section, we will present to you a few issues and *approaches* of research.

These approaches will provide you with guidelines by which you can design a research problem, develop field techniques to collect data, interpret data and arrive at generalisations.

2.3.1 Qualitative and Quantitative Approaches

Qualitative methods help us to examine the nature of human behaviour and experience and social conditions. But quantitative methods focus on objective and standardised means of inquiry and application of statistical analysis for attainment of objectivity and generalisations.

Qualitative methods permit the researcher to study selected issues, cases or events in depth. Qualitative data are collected through direct observation, participant observation, in-depth interviewing, case studies, recorded documents, open-ended questionnaires and journals. Quantitative methods use standardised measures that fit diverse opinions and experiences into predetermined response categories. This approach measures the reactions of a large number of individuals to a limited set of questions, thus facilitating comparison and analysis of the data with the help of close-ended questionnaires, attitude scales, rating scales and postal surveys.

The qualitative-quantitative debate has persisted in the field of research. It has been more of a philosophical debate than that of research practices. Qualitative methods have been the subject of considerable controversy among social scientists. The philosophical and theoretical perspectives which undergrid qualitative methods include phenomenology, naturalistic behaviorism, and psychology. The philosophical roots of qualitative methods emphasise the importance of understanding the meanings of human behavior and the socio-cultural context of social interaction. This method estimates validity, reliability and objectivity of a social situation and tries to picture the empirical social world as it actually exists to those under investigation, rather than as the researcher imagines it to be.

A large number of works on quantitative methods offers the use of this method in the context of distance education. Various qualitative research methods like ethnography, case study grounded theory (Minnis, 1985, Marland 1989; Coldeway 1990) and the methodology of critical reflection put forward by Evans and Nation (1989) are considered to be more promising in this context.

In recent years, the debate has softened. A consensus has gradually emerged that the important challenge is to match appropriate methods to research questions and not to advocate any single methodological approach for all research situations. Both qualitative and quantitative data can be collected for/under the same study.

2.3.2 Triangulation Approach

As a reaction to the debate between the qualitative and quantitative approaches, significant researches have highlighted many flexible and eclectic approaches. One of the eclectic approaches in distance educational research is *triangulation*. The choice of research methods follows not from research doctrine, but from decisions in each case as to the best available technique. The problem defines the method used not vice versa. Equally, no method (with its own built-in-limitations) is used exclusively or in isolation; different techniques are combined to throw light on a common problem. Besides viewing the research problem from a number of angles, the 'triangulation' approach facilitates the cross-checking of otherwise 'tentative-findings'.

As you know, qualitative approach puts more emphasis on participant observation, open-ended questionnaires, in-depth interviewing and analysis of documents. On the other hand, quantitative approach uses close-ended

questionnaires and survey methods for collection of data. As a precaution against subjectivity in both the approaches, the *triangulation* method insists on cross-checking the important findings through the use of different techniques, coding and appropriate checking of open-ended questions, and independent interpretation of data by different members of the research team. While using this approach, theoretical principles and methodological ground rules can be discussed and made explicit, criteria for selecting or rejecting areas of investigation can be spelt out and evidence can be presented in such a manner that others can judge its quality.

This method attempts to eliminate bias or error and as a result increase the probability of a truthful explanation. There are three major goals of triangulation, namely: convergence, inconsistency and contradiction.

Convergence is the first goal of triangulation approach. Here, the result of data collected from different sources, methods and investigations are combined to provide evidence about a single phenomenon.

Inconsistency -- This refers to the inconsistency among the data. Often multiple measures produce conflicting evidence that do not confirm a single proposition.

Contradiction – This refers to the data collected from various sources being not only inconsistent, but also contradictory.

In the context of distance education, some of the research problems are complicated, often confounded with a variety of interlocking variables. Sometimes, it may even be difficult to carry out the research. A triangulation method may prove effective in dealing with a variety of variables. For example, a researcher wants to study the development of the distance education system during the nineties. He/she has to consider a variety of interlocking variables pertaining to instruction, management and logistics. The variables associated with the instructional system are learning strategies, instructional materials, feedback and support system, etc. In management system, the components are organisational structures, policies and procedures of an institution, leadership and use of researchers. Finally, logistics include technical quality, programme delivery and instructional environment.

The researcher uses the triangular approach for increasing the validity of research findings. He/she uses multiple methods and multiple data sources. The approach helps the researcher to eliminate bias, or error and as a result, increases the probability of a truthful explanation.

2.3.3 Component Analysis Approach

The term 'component' refers to one of the features or parts of a system. For example, in distance education system the components are learners, instructional materials, support services, etc. Here, the components that directly affect learners are of particular interest for research. It begins with an analytical phase to identify the nature of each component and how they possibly interact. Once the components are identified, it is possible to determine the contribution each component has towards the overall effect.

For example, a distance education programme has the following components:

- i) a printed course package,
- ii) a set of audio and video-cassettes,
- iii) access to counselling sessions, and
- iv) a set of policies related to admission and evaluation processes.

The above components work together to produce a particular effect i. e., achievement, rates of course completion, etc. Suppose a researcher wants to determine which of these components are most important in producing a particular effect, say, completing a programme. The first stage in component analysis research would be to analyse each component in the course to determine whether it exists at a level of quality. For example, to determine the instructional components in the printed package, one has to analyse the well-written objectives, clear presentation and self check questions that match the objectives of the components. It may be useful to begin research work with formative evaluation than to determine the overall effect of a programme. Component analysis approach is a good way to combine the benefits of evaluation with a potential programme of more generalisable research (Coldeway 1990: 394).

2.3.4 Model Building

Model building approach provides ways of addressing important research questions that are ignored while designing the framework of research. It serves to integrate various knowledge bases together. Information outside of distance education can also be used to guide decision making. Calvert (1989) proposed a conceptual framework indicating relationships between various input, process and outcome variables. The framework helps to construct a model of a distance educational research programme. Model building for distance educational research is useful to begin with a research problem and to predict the difficulties in conducting the research and to estimate the reliability and external validity.

Check Your Progress 2

List the four approaches to distance education research.

- Notes:** (a) Space is given below for your answer
(b) Compare the answer with the one given at the end of this Unit.

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2.4 RESEARCH AREAS

Considering the extensive practice of distance education and the investigations made of this practice, there is good reason to categorise these research studies. Studies conducted by various distance education practitioners show uneven distribution across the areas of research. The categorisation of research activities into various areas are done by Holmberg (1996), Panda (1992), Dash (1993), Jegede (1993), Sherman and Nedza (1990) and Moore (1995). These studies emphasise that the core areas of research in distance education have an identity, a sense of questioning and the capacity for qualitative analysis with reference to theoretical approaches. Evans (1990) mentioned that there are more than 600 universities and colleges with higher distance education programmes in China. Most of them have established research institutes of higher distance education. The issues evoking researcher's interest in China are: reform problems of distance education, problems arising from satellite television and broadcast education, cooperation and union in distance education and studies for foreign distance education. Sherman and Nedza (1990) classified the areas of distance education research into six categories. They have explained that interest in research in the field of distance education is worldwide. They have suggested a broad range of topics of research conducted in developed and developing countries:

- i) Research, Philosophy and Information,
- ii) Student Support and Success,
- iii) Curriculum Development and Special Courses,
- iv) Tutor and Faculty Development and Evaluation,
- v) Technology in Distance Education, and
- vi) Administration.

Jegede (1993) collected expert opinion about distance education research in developing countries. The four broad categories of areas that had overwhelming support requiring priority research attention are: study skills (81.3%), professional development (77.4%), management and planning (71.9%) and student evaluation (71%).

Holmberg (1996) analysed the character and scope of distance education as a field of scholarly enquiry which adds weight to the view that distance education is a well delineated field of academic inquiry. Further areas of research in distance education as stated by Holmberg are history, target group, student bodies, the administrative practices, student evaluation, etc.

In an analysis of periodical literature published in four referred journal of Open and Distance Education, Mishra (1997) categorised the papers into seven groups: Distance Education in Perspective (18%), Students and their learning (21.88%), Learning materials and related issues (9.41%), Technology issues (14.12%), Management issues (9.14%), Distance Education: Theory, research and training (11.63%) and Distance Education in practice (15.78%).

In the above discussion, we have made an attempt to outline the areas of research in distance education identified by various distance education practitioners. These areas of concern are being subjected to investigation by various researchers the worldover.

Check Your Progress 3

What are the four broad areas of research which require priority attention in developing countries?

- Notes:** (a) Space is given below for your answer.
(b) Compare the answer with the one given at the end of this Unit.

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2.5 LET US SUM UP

In this Unit, we have discussed the need for research and development. In section 1 of this Unit, we have focussed on the three paradigms of research. They are: empiricist, interpretive and critical paradigms. At the end of the Unit we have explained the research areas identified by various practitioners.

2.6 CHECK YOUR PROGRESS: THE KEY

1. A paradigm determines the criteria according to which we select and define the problem. It also acts as cultural artifact, which reflects the scientific behaviour in any community. In distance education it provides a background in the research exercise and helps to go into depth.

2. a) Qualitative and quantitative approach,
b) Triangulation,
c) Component analysis, and
d) Model building.

A research paradigm provides a solid background in each of the research discourses and allows us to understand research problems clearly. It helps us to know the procedure and background for conducting research in distance education.

3. The four broad categories which, according to expert views, need priority attention are:
- i) Developing study skills
 - ii) Professional development
 - iii) Management and Planning
 - iv) Student evaluation

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