"A STUDY OF FACTORS GOVERNING ACCESS AND EQUITY IN OPEN DISTANCE LEARNING PROGRAMMES

(With special reference to Distance Mode Institutes (DEIs) of Dual Mode Universities in Western Maharashtra)"

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By

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CERTIFICATE

This is to certify that the thesis entitled "A STUDY OF FACTORS GOVERNING ACCESS AND EQUITY IN OPEN DISTANCE LEARNING PROGRAMMES (with special reference to Distance Mode Institutes (DEIs) of Dual Mode Universities in Western Maharashtra)" is a genuine and bonafide work prepared by Mrs. Neelima M. Mehta under my guidance and direct supervision. The research report has been submitted to Tilak Maharashtra Vidyapeeth, Pune in fulfillment of the award of the Degree of Doctor of Philosophy.

To the best of my knowledge and belief, the matter presented in this thesis has not been submitted earlier for the award of the degree of Doctor of Philosophy of Tilak Maharashtra Vidyapeeth, Pune.

Place : PUNE
Date : 08 / 04 /2011

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Place : PUNE

Date : 08/04/2011 **MRS. NEELIMA M. MEHTA**

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DECLARATION

I, the undersigned, hereby declare that the thesis entitled, "A STUDY OF FACTORS GOVERNING ACCESS AND EQUITY IN OPEN DISTANCE LEARNING PROGRAMMES (with special reference to Distance Mode Institutes (DEIs) of Dual Mode Universities in Western Maharashtra)" is a genuine and bonafide work prepared by myself under the guidance of Dr. Nalini A. Lele and submitted to Tilak Maharashtra Vidyapeeth, Pune for the award of Doctor of Philosophy Degree.

The present research work is original and the conclusions drawn there in are based on the data collected by myself. To the best of my knowledge and belief the matter presented in this research has not been submitted for the award of any Degree either from Tilak Maharashtra Vidyapeeth or any other institute or academic organization. The list of references for secondary data is attached in the bibliography.

Place : PUNE

Date : 08/04/2011 **MRS. NEELIMA M. MEHTA**

ABSTRACT

1. Introduction : -

The policy for the development of higher education has been mainly governed by the various education commissions and latest by National Policy of education. The Commission gave emphasis on five main goals for higher education – i.e.

1. Greater Access.
2. Equal Access i.e. Equity.
3. Quality and Excellence
4. Relevance and
5. Value based Education.

After taking the review of higher education in the post independence period i.e. Six decades after independence the decided goals and objectives of higher education have been not achieved. Therefore in present scenario of 21st century supplementary parallel non formal education system came in to existence. Distance Education is one of the stream among them. The Open Distance Learning System (ODL) has emerged as a vibrant and dynamic component of higher education infrastructure in the country. It provides access to quality education, at present about 23.35% of the total population of learners in Higher Education are taking the advantage of Open Distance Learning System. The system has higher level of cost efficiency, flexibility and innovative application of ICT for the vast multitude of learners left unserved by the formal system. It has the potential to take higher education to more and more people irrespective of different barriers.

There is however large number of learners that have yet to be reached and providing access to them is a challenge before the system. While ensuring equity poses definite challenge for ODL system.

The institutional policies, planning, structure, governance, service, culture, philosophy and ideology that determine and sometimes limit, systemic

responses need to be analyzed in the light of concrete experiences for effective social interventions and national development.

2. Motivation :-

So far the researches were carried on Distance Education were on growth of Distance Education, Programmes and Courses, Distance learners, Instructional process, Course development and Evaluation, Output and Impact of Distance Education and Economics of Distance Education.

Indian national institution on planning and management of education has developed a list of priority research areas in planning and management of distance education, wherein the goals of access, equity and quality were taken into account. Hence there is a need to assess how far distance education has actually made education accessible. On the equity dimension, research on learners background indicate unequal gender ratio, rural urban ratio, employed-unemployed ratio etc. Therefore researcher has taken the Study to identifying the factors governing access to assess, the degree of unequality, causes of inequity and remedial measures.

3. Objectives and Scope :-

1. To explore the causes, how far Distance Education has actually made education accessible.
2. To identify the factors governing access.
3. To identify the causes of inequality.
4. To suggest the remedial measures.

Scope of the present study.

1. The study is limited to the learners in Distance Education in Western Maharashtra.
2. The study is limited to dual mode universities in Western Maharashtra (Mumbai University, SNDT University, Tilak Maharashtra Vidyapeeth, Shivaji University)

3. The present investigation is limited to a sample of 1000 learners who attended PCP's in various study centres of above mentioned dual mode universities.
4. The present study is limited to a few personal variables like gender, religion, caste, educational qualification, geographical distance, socio-economic background of learners.
5. The present study is limited to know the factors governing access and equity in Distance Education mode.

4. Description of the Research Work :-

In this study of factors governing access and equity in Open Distance Leaning Programmes. With special reference to the Distance Mode Institute (DEIs) of dual mode Universities in Western Maharashtra.

For the present study, Questionnaire was prepared as per the objective, related information in Western Maharashtra was collected. The sample size was 1% i.e. 1000 distance learners from dual mode universities. Simple random sampling technique was chosen.

Questionnaire was given to students who attended personal contact programmes at different study centers. 1020 questionnaires were received. Among them. 53% were from Mumbai University, 22% were from TMV, 20% were from SNDT and 3% were from Shivaji University. After analyzing the data, the researcher noted the following points.

4.1 It was observed that the yearwise enrollment is increasing in successive years, which suggests that student community has been taking the advantage of ODL system. It is the positive sign, which shows the increase in the accessibility.

4.2 Respondent's areawise percentage show that respondents from Urban area were more than Rural area. This is due to geographical distance and inaccessibility to reach the Regional or Study centers.

4.3 Genderwise distribution of the students show the male percentage was 54% while female was 46%, the difference in percentage though not

very significant can be attributed to male dominated society. The marital status, employment status and academic qualification of female candidates affects, their access to Distance Education program.

4.4 The marital status of the respondents show that 43% were married and 55% were unmarried and widows and divorcee were 1% respectively. Earning respondents can afford to take education through ODL mode. Flexibility of ODL system support them to continue and complete their education.

4.5 Religionwise classification show that the total population percentage of different majority and minority religion was reflected in religionwise respondents percentage.

4.6 The castewise percentage of enrollment from reserved categories has increased significantly after independence. This is so as the government has provided different concessions to reserved categories. The basic objective of the ODL system is to reach the unreached and to the weaker section of the society has been fulfilled to some extent.

4.7 The percentage of respondents from middle class income group was found to be high i.e. 69% According to the feedback received from learners most of them responded that the financial condition was one of the barrier in getting higher education. The respondents are the earning members, therefore spending on their education is not a burden for them.

4.8 83% of the respondents were employed, therefore the ODL mode has been a convenient mode for them to avail higher education, while performing all the domestic, social and financial responsibilities.

4.9 53% respondents having 1 to 2 family members. Due to higher education, respondents decision making capacity has been improved and due to small nuclear family, the family budget allows them to spend on their education.

4.10 All the respondents are from lower middle class category, therefore 83% respondents do not have separate space and chair for their studies. If the proper infrastructural environment is provided to distance learners, then

the quality of their self learning will largely improve.

4.11 39% learners had SSC as their qualification at the entry point and 34% has below SSC as their qualification, hence if the flexibility in eligibility at the entry level given to the deprived students, their dream of getting higher education could be fulfilled.

4.12 66% of the respondents were computer literate, their awareness and use of ICT could be observed. The online operation of different program may increased the access rate and which will break the barrier of distance between the teacher and learners, and will save time and administrative resources of the institutions.

4.13 Distance Education System is student centric, therefore the needs and expectations of the students should be taken in to account, it will increase the enrollment rate. 45% respondents had the expectation of promotion in their job, 33% were keen to change their job with completion of higher education. Promotion and change in job are the expectations of the distance students.

4.14 Distance Education is the best alternative considered by female respondents (20%) to achieve their dream of higher education because respondent found it more convenient to perform domestic responsibility. 39% were the employed respondents, therefore they could afford to continue their higher education, because Distance Education saved their cost and time of education. The nature of Distance Education system i.e. flexibility, learner centric and learner friendly were proved practically.

4.15 The respondents were asked if they would continue their education if there was no facility such as distance education. To this more than 50% respondents were affirmative but specially mentioned regarding the inconvenience they may have to face. 58% were ready to continue their higher education through Distance mode only.

4.16 Status of infrastructural facilities that are available for learners with regard to class-room 63% learner are availing very good class-room facility, 5% have responded it is not good. Regarding seating

arrangement 75% learners responded it is very good, similarly for the furniture facility 65% described it as very good. In distance mode, study centre and the available infrastructure plays important role as it is the link between the learner and the teaching mechanism.

4.17 Student support service is the backbone of Distance Education System. Student were supported by preadmission and post admission counseling and support. 68% learners state that they get very good administrative support.

4.18 If the support services are provided in specific time schedule then only learner could complete the programme successfully. Learners gave positive response towards time schedule followed during counseling (95%) received study material (85%), Solved Queries in time (88%), received Exam time table (85%) and Hall tickets (82%) in time.

4.19 Distance learner depends on the counselors for guidance. Overall 70% respondents are satisfied with counseling sessions. More than 80% respondents have appreciated the regularity in conducting the academic session. 47% stated that quality of counseling is good, while 44% stated it is very good. If the counselors are well oriented regarding the teaching methodology in Distance Education mode and if he is well aware of the psychology of the distance learners the quality of counseling will be very good.

4.20 In distance mode learners totally depends on Self Instructional Material (SIM). Regarding the content of SIM 46% stated that it is not good. 33% percent stated that it is good. If the course writer and course teacher are trained and are same, could produce a good learning material, at the same time the language editor and the content editor are responsible for providing quality material.

4.21 The facilities like Broadcast/Telecast, Computer Aided Package, CD Roms, and Audio Cassttes were almost available at most of the Regional Centers while availability of such facilities at study center level was comparatively less. Very few respondents have computers (2%) and

audio cassettes (9%) at their residence. 2% have audio cassettes facility at their work place.

4.22 55% respondents states that they attended seminars conducted at Regional centre while 45% respondent attended seminars conducted at study centre level. Regarding Email/Internet facility 40% avail it at regional centre 27% at study center but 20% are availing it their residence is indicating the growing influence of ICT and 13% at their work place.

4.23 Regarding the distance the location of Personal Contact Programme from respondents residence and work place, 35% respondents states that it was more than four kilometers away, from their residence and work place as well, while for 39% and 22% states that it is within one kilometer away from residence and work place respectively. The distance and time required for reaching PCP location effects on the attendance of PCP.

4.24 28% respondents found convenient to attend PCP's on Saturday/Sunday 31% respondents were very happy with counselling session to be held only for 6 days in a week. 41% respondents have another option rather than counseling on Saturday/Sunday.

4.25 39% respondents attended the PCP's regularly, 34% not attending PCP's regularly, 1/4th i.e. 27% were not sure about their regularity. Regarding the timing of PCP 27% were satisfied, for 14% timing was not at all suitable, for 13% timing was suitable to some extent. Most of the learner i.e. 94% do not get facility of residential contact program.

5. Conclusion :-

1. Access i.e. enrollment for general programmes was increasing steadily, the reasons for this steady growth are :

- Flexibility regarding age, time, space and low cost.
- Flexibility of entry and exit point.

- Most of learners were employed. Formal system could not offer this flexibility and convenience. There socio-economic environment motivated them to enroll in open distance learning.

2. Enrollment percentage from urban area was more than rural. Since independence steps have been taken by the Government to protect the interests of the inhabitants of educationally backward areas. Though the efforts have reduced the disparities but it was not satisfactory.

3. The basic objective of distance education system was to reach the unreached i.e. the weaker sections of the society.

The marital status of women, the employment status of women and the academic qualification affect their access in Distance mode programme.

4. Domestic responsibilities play very important role in making decisions to continue the higher education through distance mode.

5. It was observed that of the total population of each religion in India, has vast differences. The total population of each religion is reflected in the students response.

6. In distance education system the fee structure is considered to be quite reasonable and the criteria for admission in General and Professional programmes are more flexible, the enrollment of learners from the SC, ST, and OBC are found increasing. The difference of percentage between the reserved and open categories is insignificant.

7. Financial /Economic independence is one of the deciding factor for accessibility to higher education. Financial independence reflects through the social life too.

8. Flexibility in eligibility criteria could have resulted into increasing accessibility.

9. The aspirations and needs of the learners should be taken into account. Need based programmes definitely directly reflected in the percentage of accessibility of the programme.

10. DEIs provide learning support services to the distance learner with the help of machine, people and material.

Decentralization and dedicated staff of all the support services help in effective implementation of Open Distance Learning system.

11. Quality of the academic counseling plays an important role in the learning process through distance mode. Interaction and two-way communication are considered central in the distance education process.

Distance student benefits from interaction with his tutors and other representatives of the supporting organization.

12. Self-Instructional Material (SIM)

Distance Education is a form of indirect instruction. It is imparted by technical media such as correspondence, printed material, learning aids, radio, television and computers.

SIM has a sound pedagogic base and has to pass through rigorous procedure of design and development.

If the teachers themselves participate in SIM preparation then it will be to the point and will be more useful for the learners.

13. There is a Head Quarter of each DEI and Open Universities. Regional centers are to liaise between the University on the one side and the students, study centers, the public, the local educational institutions etc. on the other. The Regional centres are established to maintain and monitor the services offered through the study centers.

14. Personal Contact Programme (PCP)

Academic counseling is carried out in PCPs and in face-to-face meetings also.

The PCPs motivate the learner to learn, learner gets the feeling of being a part of the group develops the we feeling, then the learning process becomes easy. Frequency in PCPs will increase the communication between the tutor and the learner. The learner will get more support, and the fear about completion of program will be less end.

- **Factors with no extrinsic control**
  1. A comfortable space and proper infrastructure for study.
  2. Expectation of promotion in the job, keenness to change their job with completion of higher education will to upgrade knowledge and educational qualifications affect positively in grabbing available opportunity.
  3. The percentage of married students can increase if they are given concession in academic internal submission. Availability of extra time for preparations on submission could be a reason for refraining.
  4. Females considered ODL as the best alternative to achieve their aim of higher education, because it is more convenient to perform the domestic responsibility as well.
  5. Affordability in pursuing of further education is possible with ODL system.

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CHAPTER – I
INTRODUCTION

- **Distance Education**

Distance education, simply and somewhat broadly defined, is "education which either does not imply the physical presence of the teacher appointed to dispense it in the place where it is received, or in which the teacher is present only on occasions or for selected tasks". This French Government definition of the term télé-enseignement (Loi 71.556 du 12 juillet 1971) contains two basic elements: the physical separation of teacher and learner and the changed role of the teacher, who may meet students only for "selected tasks" such as counselling, giving tutorials or seminars, or solving study problems.

Distance education methods can be successfully used for catering to groups who, for geographical, economic, or social reasons, are unable or unwilling to make use of conventional/traditional (e.g. classroom-based) provision. In so doing, they can liberate the student from constraints of space, time, and age.

1. Principal Defining Features

In addition to the key elements of physical presence of teacher and learner as cited above – Holmberg, has identified six main categories of description of term (Holmberg 1981 pp. 11-13):,

(a) the use of preproduced courses as the main theme for study;

(b) the existence of organized two-way communication between the student and a educational organization, that is, the university, college, school with its tutors and counsellors;

(c) the planned and explicit catering for independent study;

(d) the cost effectiveness of the education and mass communication methods when large number of students follow the same preplanned courses;

(e) the application of industrial work in (production of learning materials and administration of distance education (Peters 1973)

(f) the notion of distance study as a media of guided didactic conversation.

Concerning the learning materials and the methods which characterize the courses, noted features are:

(a) Flexibility in the curriculum and content of learning materials through for example curricular structures or credit systems.

(b) Conscious and systematic design of learning material for independent study incorporated; for example, clearly formulated learning objectives, self-assessment devices, student activities, and the provision of feedback from students to learning system and vice verses.

(c) Planned use of a wide range of media and other resources selected from those-available in the context of the system, and suited to the needs of the students. These media may include specially prepared correspondence texts, books, newspaper supplements, posters, radio and television broadcasts, audio- and video-cassettes, films, computer-assisted learning, kits, local tuition and counselling, student self-help groups, lending-library facilities, and so on.

Finally, the following logistical and economic features are characteristic of distance learning systems:

a) great potential flexibility compared to conventional provision in implementation, in teaching methods, and in student groups covered;

b) centralized, mass production of standardized learning materials (such as texts, broadcasts, kits, and so on) in an almost industrialized manner implying clear division of labour in the creation and production procedures;

c) a systematic search for, and use of, existing infrastructure and facilities as part of the system (e.g., libraries, postal and other distribution services, printers, publishers, broadcasting organizations, equipments, laboratories and other such infrastructure wherever required, human resources for development of courses and course material etc.);

d) Potentially a significantly lower recurrent unit cost per student than that obtainable through conventional (classroom or equivalent) teaching arrangements and also potentially a considerably lower capital cost per student (Kaye and Rumble 1981 pp. 18-19).

The development of distance education methods in the recent past decades owes a great deal to the pioneering work carried out in the field of correspondence education. The print-based materials have remained the main base but have been supplemented by Information and Communication Technology (ICT) and personal contact. Thus distance education is often distinguished from correspondence study

(Keegan 1980) by the notion of three-way teaching, combining ... the permanence of print, the reach of radio, and the intimacy of face-to-face study" (Young et al.. 1980 p. 21). Slightly extending this definition, distance education can be equated with the combined, systematic, and flexible use of at least three major elements; print-based communication, ICT, and face-to-face contact, in support of an independent learner. Distance education methods imply major differences to intramural or classroom-based provision on three main dimensions: the learning experiences of the students, the nature of the teaching/learning materials, and the administrative and organizational structure of the providing institution. These three facets are briefly discussed below and are broadly relevant to the whole range of distance education provision, be it small, flexible, and localized, or large scale and highly centralized. -

2. Learning at a Distance :

Distance education system highly suits the individual learner studying independently. High level of motivation amongst the learners is important and is a key reason why it is aimed primarily at adults. Nevertheless, distance education provision does exist in some countries for school-age children unable (e.g., for geographical or health reasons) to attend classes. Examples, dating back for many years, can be found in Australia (radio plus correspondence tuition and personal contact), and in France, where the *Centre National d'* Enseignement *par Correspondence* was originally established during the Second World War to provide teaching, at a distance, to children unable to go to school. Most of its provision nowadays, however, is aimed at adults. In audio, too National Institute of Open Schooling (NOS) is striving in pursuance of National Policy on education 1986. It provides a number of vocational, life enrichment and community oriented courses dealing with General and Academic Courses at secondary and Sr. secondary school levels.

In general, distance students are adults and tend to form very heterogeneous groups, compared to those following more traditional educational channels. It is difficult to characterize the "typical" distance student. In a review of student characteristics at distance teaching universities in 10 different countries, the following features were highlighted (Kaye and Rumble 1981 pp. 35-38):

(a) an age range of 20-40 years;

(b) majority studying on a part-time basis;

(c) men generally outnumber women;

(d) study is primarily carried out at home;

(e) high levels of motivation;

(f) the majority of students are from less privileged social groups;

(g) Students studying voluntarily (as opposed to those in compulsory in service courses) tend to be from urban areas.

Concerning reasons for this study, it is evident that the obtaining of examinations, diplomas, and degrees, and the acquisition and/or updating of professional and career-related skills rank very highly amongst a large proportion of students enrolled on distance courses (Holmberg 1981 pp. 21-24).

The skills needed for study at a distance have some features in common with those required in any learning environment. However, certain skills are of particular importance in the distance learning situation. These include:

(a) setting of personal study objectives;

(b) development of personal confidence in the ability to study primarily on one's own;

(c) planning and organizing study time and study strategies;

(d) developing study skills in learning from the reading and analysis of self-instructional and other print materials, and, where appropriate, from listening to and viewing broadcasts, using audio and video-tape material, participating in group discussions and undertaking practical work alone and/or in a group situation;

(e) Making use of and communicating with a tutor—in writing, by telephone, or at face-to-face meetings. Tutors may play a range of different roles: counsellor, problem solver, provider of feedback, resource person, and assessor.

The skills listed above are of particular importance because the distance learner does not benefit from the same levels and amounts of pacing, structure, and formal and informal contact with peers and teachers as a student in an intramural educational institution. However, distance students do have the advantage of being able to plan their study activities around a personal timetable in a relatively flexible manner, and this is one of the overwhelming reasons cited for enrolling on distance education courses especially when employment and family obligations make other options impractical or inconvenient. Furthermore, it is evident that in well-planned and adequately financed distance education systems, the distance learner need not feel

disadvantaged and may, in fact, be better served than many studying through more traditional channels.

The range of distance education situations and courses is now so diverse that it is impossible to make generalizations about study patterns and strategies adopted by learners. Even different students following the same course in the same institution will adopt and develop different approaches, according to their own tastes and interests. However, it is fair to say that in a large number of cases, the majority of the learner's time is taken up by individual study of specially prepared printed materials (which is the main "information channel" can be considered as analogous to a classroom presentation or lecture in a conventional context). Students provided with sets of learning objectives and related self-assessment questions and exercises, with model answers, against which they can check their understanding and progress is important. Even a much smaller proportion of time may be spent in viewing or listening to broadcasts or recorded audiovisual and audio material is often ideal for presenting real-life situations or case-study or experimental material which cannot be clearly communicated in printed form. From time to time either at the student's discretion or by certain predetermined dates the students submit written work to a correspondence tutor in response to preset assignments. Assignment modes may consist of multiple-choice tests, short answer questions, essays on set topics or more extensive self-chosen projects or dissertations. The correspondence tutor grades and comments on this work and also meet the student to discuss it at a regular tutorial. In many instances, tutorial sessions at local study centres also exist to enable students to discuss general study problems and clear up difficulties in understanding. For example, the Lesotho Distance Teaching Centre, because of difficulties experienced by students in studying at home, set up a network of local study centres where." "students could come once or twice a week, work in adequate comfort and good light by themselves at their courses and seek help from an 'elbow tutor' as they needed it" (Young et al. 1980 p. 71). Other opportunities for inter personal contact also exist in many systems—ranging from informally organized "self-help" groups established by students living in the same neighborhood to week-long residential contact programmes (such as the British Open University's "summer schools") which can provide an opportunity for extended personal and group tuition and for example, laboratory practical and field work.

3. Distance Teaching Materials :

Teaching materials designed for use in a classroom or other intramural learning environment are generally not suitable and certainly not sufficient for the distance learning situation. A standard school or college textbook for example is often designed to be used either as a source of reference and/or as a basis for discussion and exposition by a teacher in a classroom situation. And it is assumed that the student will be able to refer to peers, teachers, or other information sources (e.g. a library) when experiencing difficulties in following the material in textbook. Audiovisual material for classroom use is also generally designed for a group situation with teacher's presence assumed. Some of these material may be suitable for use in group tutorials in a distance education programme but would probably not fit the situation of a distance learner viewing or listening to a broadcast in isolation, at home.

A number of criteria are of key importance in the design of materials for distance learning. Firstly, it is necessary to take a global approach to the range or media and materials that will be available within a given system and decide on clear pedagogical functions and roles for each of them. For example radio is to be used only in a group situation at a local centre, say in the presence of an animateur, then the structure and objectives of the programme will be quite different from one made for individual listening in the home. And an audiotape for individual use will again have different functions to a radio programme for individual listening: a tape can be stopped and replayed or used in association with diagrams or experimental equipment.

Secondly, the organization of the material needs to take into account the resources, capacities, and amenities of both students and tutors. Prerequisite requirements for starting a course (i.e. knowledge and skills assumed by the course planners) needs to be made explicit. Likely areas of difficulty need to be "signposted" to the tutors and perhaps covered by special guidance notes for tutorial and group work.

The scheduling of course work should take into account realistic estimates of how much time a typical -student is liable to be able to devote to study each week or month.

Materials designed for individual study—and in most cases these will be predominantly print materials—are prepared in a "self-instructional" format, namely: written and presented in a stimulating style (maybe a colloquial style in some

cultures) easily “accessible” to the student through the use of aids such as lists of learning objectives, concept maps, indices, glossaries, self-tests, and reviews; attractively designed, making good use of illustrations and of different typographical styles; “student active”, containing opportunities for the student to test and monitor progress through activities, questions, and self-assessment exercises embedded in the text; flexible, with some provision for alternative routes and bypasses through the material, (without necessarily resorting to the complexity of a traditional branching programmed text).

A final important criterion of good quality distance-teaching material concerns the care with which the different media components are integrated with each other. Integration can be considered at two levels. Firstly, materials for tutors, animateurs, and other intermediaries in the system must complement and relate clearly to the materials provided for the students; this implies that items such as notes for tutor needs to be developed in parallel with the students' course materials. Secondly, when the individual student may be required to use material in several different media (print, radio, and television) then clear decisions need to be made as to how closely the different media are integrated within the segments of the course. Levels of integration may vary from occasional cross-references, to a very tight structure which obliges the student, for example to view a specific television programme before being able to proceed with the next section of text.

An example of an extreme form of integration of broadcast and print material is that developed by Radio **ECCA**,.. in the Canary Islands, and subsequently adapted for use on the Spanish mainland and in distance education projects in several Latin American countries. In the ECCA system ... every lesson is centered upon a “lesson master sheet”. The teacher has a copy of the lesson master sheet in front of him while he broadcasts over the radio, and the student follows his own copy simultaneously in his own home. The student is required to respond to the radio teacher by writing on the lesson master sheet during the course of the broadcast. ... a full set of master sheets comprises a student's text book. Exercises are included on the back of each master sheet ... to be completed after the student has listened to the radio broadcast. (Cepeda 1982 pp. 213-14)

This degree of integration of print and broadcast materials is perhaps unusual in the field of distance education, but experience shows that it can be successful in a range of contexts.

4. Institutional Structures :

A great variety of institutional structures can be found amongst distance education organizations. In many cases, structures are derived from those of conventional teaching institutions such as universities or schools which in themselves vary from country to country. In other cases, broadcasting organizations, commercial correspondence colleges or voluntary organizations, may have provided the original structure on which a distance institution has been built. More recently there has been a growth in the number of projects which have involved collaboration between a number of institutions of different sorts, either on a long-term basis or for short-term campaigns.

However, irrespective of institutional structure, a number of specific services to students need to be provided, organized, and administered:

a) provision (acquisition, development, production), storage and distribution of course materials;

b) provision of educational support services (correspondence tuition, possibly telephone or other electronic communication, tutorial classes, study centres, counselling, etc.);

c) maintenance of administrative and academic records and provision of administrative communication channels (for enrolment, fee payment, assignment data etc.);

d) in some instances, accreditation and the delivery of diplomas, certificates, and degrees evaluation and award of degree, diploma and certificates.

The question of provision of course material deserves particular attention in this context, because it is here that differences are perhaps greatest as compared to conventional educational methods, where economics of scale are most noticeable (when large number of students use the same preproduced course materials). Some distance education projects use materials acquired elsewhere, that is, not produced in-house. However, even in this simplest model, the acquired materials may need adapting, translating and reprinting or reproducing. The majority of projects develop their own teaching materials, both printed and audiovisual either using their own full-time subject matter specialists and/or academic staff and/or through the use of part-time consultants. With professional / technical assistance from within the institution or outsource. Physical production of materials (printing, audiovisual production) may either be in-house, subcontracted or carried out in collaboration with a production

agency such as a publishing house, broadcasting organization or a commercial audiovisual producer. Whatever the origin of the materials, they will require storage and distribution facilities and the greater the variety or range of courses or materials on offer, the greater and more complex will these facilities need to be.

The overriding importance of these aspects of procurement, production, storage, and distribution calls for two comments which illustrate a clear-cut difference between distance and conventional educational provision. Firstly, it implies that distance education is "... an industrialized form of teaching and learning" (Peters 1973 p. 206). Rumble has pointed out that, in institutions such as distance teaching universities which "... have to undertake directly a number of quasi-industrial processes... there is a need for a clear definition of the interrelationships between two broad areas, one of which is more in the nature of a business enterprise ... while the other is more in the nature of traditionally conceived academic areas" (Kaye and Rumble 1981 p. 179). The industrial or quasi-industrial nature of the materials development and production aspects of distance teaching is certainly a reality in many of the large-scale centralized systems. Course development planning may start five or six years before the finished product is "launched"; orders need to be placed with suppliers and subcontractors; deadlines and production schedules drawn up and adhered to; personnel needs estimated; and contracts prepared. The constraints imposed by the production and distribution needs can lead to a situation of potential conflict between production demands and the working methods and values of the developers of the course materials—be they full-time academic staff employed by the institution, or outside consultants and lesson writers. This is related to a second main difference between conventional and distance education institutions: namely the changed role of the teacher in a mediated or distance learning system. Numbers of aspects contribute to this changed role:

(a) the need to develop skills in preparing materials in various media (print, audiovisual etc.) both for individual use and for use by tutors and learners in group situations; these are not necessarily the same skills as those required for a good face-to-face or classroom teacher;

(b) the loss of direct personal control of the teaching/ learning process and the lack of direct feedback from students characteristic of the classroom situation;

(c) the need to work with other professionals (designers, producers, editors) in the preparation and production of materials and the resultant requirement to

submit one's work to scrutiny and comment.

These aspects are present regardless of the course creation models adopted in any particular institution - which may vary from that of an author and editor working together, to that of a large-scale course team of academics, editors, educational technologists, producers and designers.

When, in addition to course provision, the other three service areas (educational support, records, and accreditation) are provided by the same institution and the number of students is large, then the need to adopt industrial working methods already referred to becomes even more imperative. For example, computerized systems for organizing dispatch of course materials and for maintenance of tutor and student records may become a necessity; industrial-style management and control methods may need to be introduced to ensure efficient integration of the work in a range of different specialized areas.

However, many distance learning projects and schemes are decentralized and even localized with different organizations being responsible for each of the categories of services listed above. Such projects can maintain a flexibility of operation which is often more difficult to achieve in large-scale and centrally controlled institutions such as the British Open University.

Neil M. W. has presented an institutional analysis of distance learning systems on the basis of the importance and nature of into control of four key areas: finance, examination and accreditation, curriculum and materials and delivery and student support systems (Neil 1981 pp. 140-41). He quotes five models or types of institutions based on this analysis:

(a) the classic centre-periphery model, such as the British Open University, with high levels of control in all four areas;

(b) the associated centre model such as Spain's *Uniucrsidad Nacional de Education a Distance* which works with over 50 associated centres each responsible for their own delivery and student support services;

(c) the dispersed centre model (e.g. Coastline Community College, California) which cooperates with a whole range of organizations and bodies in the community but retains a fair measure of central control over accreditation for many courses;

(d) the switchboard organization model, exemplified by Norway's recently created distance education institute *(Norskfjenntndervisning)* which has essentially

enabling, coordinating, initiating, and approving roles in the further development of country's existing educational resources for distance students;

(e) the service institution model for example the *Deutsches Institut fur Fernstudien* (DIFF) at Tubingen which provides services to a range of distance teaching organizations (e.g. materials development, consultancy, evaluation), and has little control over any areas except in the creation and production of course materials.

- **Models of Distance Education :**

Distance Education requires the development of programmed learning materials that can be given to learner in small, logically structured, packages. It is learner centered and makes use of a great variety of pedagogical forms and delivery techniques. It largely calls for independent study but group learning is also possible. The different pathways of distance education have been grouped by Miller (1995) under different models-the Correspondence Course Model, the Telecourse Model, the Open University Model, and the Distributed Classroom Model. The following discussion is based on his review.

The Correspondence Course Model is the oldest and most stable model of distance education. Through practiced in medieval England and Germany its modern usages dates back to the 1890's when Dr. William Rainey Harper of the University of Chicago adapted it for implementing a continuing higher education programme for Chautauqua (Froke, 1995). As pointed out by Cantelon (1995) the Chautauqua movement brought continuing education to millions of Americans long before anyone used distance education. Dr. Harper may, therefore, be regarded as being the father of modern distance education and the Chatauqua programme the prototypes of the only a limited role, for he wrote:"Only those persons are encouraged to study by correspondence, or, indeed, (be) admitted to such study, who because of age, poverty, occupation situation or some other good reason cannot avail themselves of oral instructions. Away, therefore with all baseless and foolish prejudice in this matter. The correspondence system would not if it could, supplant oral instruction, or be regarded as its substitute. There is a field for each which the other cannot fill. Let each do its proper work."(Harper 1890, quoted by Froke 1995). Unfortunately, Harper's perception still finds support, amongst most laypersons and also some educationists,

in many parts of the world, including India. It is accepted as a substitute form of education, for the under privileged and the deprived, but not as an equal alternative to the traditional lecture form.

The printed word has been the dominant medium of delivery in correspondence programmes and will probably continue to so in the foreseeable future (Verduin and Clerk, 1991). In India, fourteen Open Universities and over hundred earlier known as Correspondence Courses Institutes (CCIs) now called Distance Education Institutions (DEIs) from dual mode universities offer distance education almost exclusively through the print mode. The syllabi of the programmes offered by DEIs is the same as that of regular courses offered in classrooms, with the lectures being replaced by written (printed) texts that may incorporate visuals. Interaction between teacher and student is through written answers submitted as a response to test administered periodically. Some DEIs are, however, now making efforts to supplement the printed material with audio and video cassettes. The DEIs offer a wide range of programmes, ranging from undergraduate and postgraduate degree courses to diplomas and certificates in professional areas. The DEI of Annamalai University, for example, offers bachelors and masters degree programmes in Arts, Sciences, Commerce, Management, Education and Law, as also diploma in such diverse areas like construction management, industrial hygiene and sugar and fertilizer technologies (Association of Indian Universities, 1998).

The Telecourse Model was developed in the United States, primarily for the community colleges, when in the late 1960s and 1970s they faced considerable enrollment pressures and it was realized that there was the need to grant access to education to the poor and disadvantaged classes (Miller, op.cit). As implemented than it consisted of a series of video lessons that were supplemented by a text and a study guide. With development of technique and technology the video lessons are now in the form of high quality documentaries broadcast to fit the schedules of general audience. The telecourses have greatly promoted adult and continuing education in the United States. A national service initiated by the Public Broadcasting Service is now available and pointed out by Miller (op.cit) a new dimension has been added to the treatment of subject matter.

In India, the telecourse model has not been utilized for imparting regular higher education courses leading to degrees or diplomas. However, programmes relating to both general themes and specific topics are being telecast on all weekdays

on the national television network Doordarshan. These are the Countrywide Classroom (CWCR) and the Open Channel of Indira Gandhi National Open University (IGNOU), the target group being the undergraduate students. Individual programmes are of 18-30 minutes duration. About 80% of the programmes are produced in India and the remaining 20% imported keeping in view their high quality and relevance. For producing programmes of desired quality and content the University Grant Commission (UGC) has established seven Education Media Research Centres (EMRCs), and seven Audio Visual Research Centres (AVRCs). It has also set up a Mass Communication Research Centre (MCRC) and a Consortium for Educational Communication (CEC) for adapting and distributing programmes.

The Open University Model has been designed keeping in view the need to widen access, especially for disadvantaged groups, to quality higher education by providing a flexible and cost-effective system of instruction. It is generally accepted that the open university movement took concrete form with the establishment of the Open University, at Milton Keynes, UK, in 1970. However, the oldest open university is the University of South Africa, which started teaching at a distance in 1946 (Holmberg, Borje 1994), and the idea of a 'University of the Air' originated in Japan in the 1960s. It stemmed from a university lecture programme series of the Nippon Hoso Kyokais (NHK) conducted with the cooperation of 16 private universities of Japan. The idea was apparently shared by Mr. Yoshinori Maeda, President of NHK with Mr. Harold Wilson, then Leader of the Opposition in the British parliament, who evidently impressed by the concept, made the starting of such a 'University of the Air' a part of the government policy in 1964 (Gokhale, 1986). The nomenclature 'Open University' was suggested by the Planning Committee set up for establishing the university in its report of 1969. The use of the adjective 'open' is possibly enigmatic, and certainly imprecise. It conveys a liberal attitude and, therefore, by implication flexibility. It conveys a liberal attitude and, therefore, by implication flexibility. In the word of MacKenzie et al.(1975) 'open' carries "suggestions of the lessening or removal of restrictions, of exclusions and of privilege; of demolishing or lowering established barriers between subject areas; of enlarging and enriching the areas of activity and experience graded as educational". Further, it symbolizes "a shift in the relationship between teacher and pupil towards that of student and adviser". Open universities and open learning, therefore, stand for access and equity, interdisciplinary, versatility, informality and student centerlines.

Unlike in the case of the two models described previously, in the Open University programmes the course curriculum does not replicate the curriculum used for traditional programmes but is specially designed by course teams to meet the requirements of students learning at a distance. The approach toward course development is characteristically interdisciplinary. The delivery is through different delivery media including print, audio and video cassettes, telecasts, interactive TV, tele-conferencing, computer software and E-mail. Extra support is provided to learners through Student Support Services (SSS) like study centers counseling sessions, and evaluation of Students Assignment Responses (SARs). There is formative as also final evaluation.

In the case of open universities in India the presentation of the subject matter is largely through specially developed print material, but also through a limited number of audio and video cassettes, and a few supporting telecasts. The contact between students and tutors is through written correspondence, and face-to-face sessions at study centres. The evaluation is based on SARs and end of session examinations and the grading is on a 5 point scale, except in the case of one university where a 4 point scale is employed.

The Distributed Classroom Model has its genesis in the need to offer popular courses to a large number of students sitting in different classrooms using close circuit television. Initiated in the 1950s, in the United States, as a one-way system the model received impetus in the early 1990s with the introduction of interactive, compressed, video tele-communication systems (Miller, op.cit). It facilitates distance learning for groups at off campus locations in a live situation. However, the time and pace of study is under the control of the educational institution. This model is rarely utilized in India, the problem of large numbers being attended to through the formation of different ‘divisions’- the same course being taught in different classrooms, usually by different teachers.

5. The Extent of Distance Education :

The early developments of distance education can be traced to the mid-1930s when “...a series of projects began in which attempts were made to link the three components of broadcasting, correspondence and face-to-face tuition” (Perraton 1979 p. 14). There were a few isolated earlier examples of broadcasts linked to correspondence tuition (e.g. using radio in New Zealand in 1937 and the programmes

of the Chicago Television College, which started in 1956) but since the 1960s there has been a very significant quantitative and qualitative increase in the number and range of distance programmes throughout the world. Much of this development has built on earlier experiences of correspondence tuition (e.g. the United Kingdom, Scandinavia, and the United States) plus face-to-face tuition (e.g. the very extensive programmes in existence in the Soviet Union since the 1920s) and the combined use of broadcasting and study groups (e.g. farm radio forums in Canada, India and number of African countries).

It is not possible to provide a complete coverage of distance education projects worldwide. Firstly, the number and range of projects is so large: in a small country like the United Kingdom alone, over 70 distance education projects have started since 1970—ranging from the rational highly centralized Open University, to decentralized and community-based projects and campaigns. Secondly, developments-in communi-cations technology are likely to bring about qualitative and structural changes in the design of distance Education systems in the near future in a number of countries. These developments include applications of satellite communications (e.g. the University of the South Pacific or the Open Learning Institute in British Columbia) computers (e.g. the PI.ATO system in the United States) and ofcourse the increasingly widespread availability of audio- and video-cassette/videodisc equipment. These developments are likely to bring about major changes in the roles of both broadcasting and print-based communication in distance education, at least in the industrially advanced countries.

CHAPTER 1.1

NEED AND RELEVANCE OF STUDY

- **Introduction:**

The policy for the development of higher education has been mainly governed by the "National Policy of Education" of 1986 and its programme of action in 1992. The policy and Action plan are based on the two reports, namely 'University Education Commission Report' of 1948-49. i.e. Radhakrishnan Commission, and 'Education Commission Report of 1964-66 i.e. Kothari commission.

The Radhakrishnan Commission on University Education had set up goals for development of higher education. While articulation of these goals, the commission put in following words:

"The important and urgent reform needed in education is to transform it, to endeavor to relate it to the life, needs and aspirations of the people and thereby make it the powerful instrument of Social, Economic and Cultural transformation necessary for the realization of the national goals. For this purpose, education should be developed so as to increase productivity, achieve social and national integration, accelerate the process of modernization and cultivate social, moral and spiritual Values."

The National Policy of Higher Education (1986) translated the vision of Radhakrishnan Commission and Kothari commission in five main goals for higher education, as enumerated below, which include Greater Access, Equal Access (equity), Quality and Excellence, Relevance and Value based education.

a) Greater Access requires on enhancement in the education institutional capacity to provide opportunities to all who deserve and desire higher education.

b) Equity involves fair access to the poor and the socially disadvantaged groups.

c) Quality and Excellence involves provision of education by accepted standard so that students receive available knowledge of the highest standard and help them to enhance their human resource capabilities

d) Relevance involves promotion of education so as to develop human resource keeping pace with the changing economic, social and cultural developments.

e) Value based education involves inculcating basic moral values among the youth.

- **The National Policy of Education (NPE-1986) :**

The National Policy was adopted by Parliament in 1986. It was reviewed in 1990. According to the relevant developments in 1992 Central Advisory Board of Education (CABE) has recommended the changes. It enunciated a compressive framework to guide the development of education in its entirety. The modified NPE 1992 was put forth in twelve parts. In part III under National System of Education it has recommended the following points.

- The concept of National System of Education implies that upto given level, all students, irrespective of caste, creed, location or sex have access to education of a comparable quality. (3.2)
- To promote equality, it will be necessary to provide for equal opportunity to all, not only in access but also on the conditions success. Besides awareness of inherent equality of all will be created through core-curriculum (3.6)
- In higher education in general and technical education in particular, steps will be taken to facilitate inter-regional mobility by providing equal access to every Indian of requisite merit, regardless of its origin. (3.8)
- Lifelong education is a cherished goal of the educational process. Opportunities will be provided to the youth, housewives, agricultural and industrial workers and professionals to continue the education of their choice at the pace suited to them. The future thrust will be in the direction of Open and Distance learning. (3.11)

In part IV and 'Education for Equality' it has broadly discussed the inequalities and has recommended measures to remove the inequalities.

- Removal of Disparities and equalise educational opportunity (4.1)
- Education for women's equality (4.2, 4.3)
- Education of Scheduled Castes (4.4, 4.5)
- Education of Scheduled Tribes (4.6)
- Other educationally backward section and areas (4.7)
- Minorities (4.8)
- Handicapped (4.9)
- Adult Education (4.10, 4.11, 4.13, 4.14)

In part V Reorganization of Education at different stages is discussed, where following recommendations regarding Open Universities and Distance

Learning were made-

- The Open learning system has been initiated in order to augment opportunities for higher education, as an instrument of democratizing education and to make it lifelong process. The flexibility and innovativeness of the open learning system are particularly suited to the diverse requirement of the citizens of our country (5.35) "The National Open University, the state Open Universities and National Open Schools will be supported and strengthened (5.36, 5.37)

The Action Plan of 1992 included schemes and programs which were directed towards expansion of intake capacity in general and that of the disadvantaged groups such as the poor, SC, ST, minorities, girls and the physically challenged person, and those in the educationally backward regions, in particular. The schemes and programme were designed to improve the quality through strengthening academic and physical infrastructure, to promote excellence in those institutions which have exhibited potential for excellence and to develop curriculum to inculcate values among the youth.

The University Grant Commission came into existence in 1953 and the UGC Act came into force in 1956 with the objective of promotion and co-ordination of University education of teaching, examination and research in Universities.

As per the mandate UGC has been taking steps, through various schemes, to promote quality education having regard to the concerns of Access, Equity, Quality, Excellence, Relevance and Value based education.

Significant contributions in the field of higher education have also been made by research councils like the Indian Council of Social Science Research (ICSSR), the Indian Council of Historical Research (ICHR) and the Council of Rural Institutes (CRI). These Research Councils, promote research and creativity in the important areas.

Analysis of the past five years plans indicate that there have been continuous efforts to strengthen the base by developing infrastructure, improving the quality through several programme and schemes, introducing reforms in content and evaluation and encourage generation of knowledge through research.

The focus of the 9^{th} Five Year Plan was on Relevance and Quality of Education, Access and Equity and social change, Management of education and resource mobilization were the thrust areas in the 10^{th} five year plan. It helped to

achieve a profound transformation of Higher Education in order that it becomes an effective promoter of sustainable human development and at the same time, improves its relevance with closer links with the world of work and achieve quality in its teaching, research, business and community extension function including lifelong learning.

The parliamentary Standing Committee on Human Resource Development in its 172nd Report has recommended that reorientation higher education system to be vibrant, competitive, meaningful and relevant; it will have to glow both in terms of quantity as well as quality, mainly with the view of converting its vast population as asset rather than liability.

In the present scenario the higher education system as whole is faced with many issues of concern like financing and management, including access, equity, relevance and reorientation of programme by laying emphasis on values, ethics and quality of Higher Education together with the assessment of institutions and their accreditation. These issues are of vital importance for the country, as it is engaged in the use of higher education as a powerful tool to build knowledge based society of the 21st century.

Higher Education to be viewed as long term social investment for the promotion of economic growth, cultural development, social co-hesion, equity and justice. Needs and expectations of the society are changing very fast and the quality of Higher Education needs to be sustained at the quality of all its aspects, be it the faculty, staff, students, infrastructure etc.

In March 1992, the Minister for Human Resources Development, in his capacity of Chairman, Central Advisory Committee on Education (CABE) appointed a committee, under the chairmanship of Prof. G Ram Reddy to advice on :

1. Direction of growth and development of the open education system in the country.
2. Re-orientation of correspondence courses to the distance education mode and the measures for achieving this.
3. Role of IGNOU in the promotion of the distance education system in India.

The Committee in its report, submitted in February 1994, noted that at that time there were already six open universities in existence and the number of CCIs has risen to 45. The enrollment in distance education was over 8 lakh which constituted 2.6 percent of total enrollment in higher education. A foundation for open and

distance learning had been developed in the country.

The CABE Committee Report (Government of India 1994) listed major objectives of distance education as:

1. To provide an alternate, cost-effective, non-formal channel for tertiary education.
2. To supplement the conventional university system and to reduce the pressure on it.
3. To provide 'second chance' education to those who have had to discontinue their formal education or could not join regular colleges or universities owing to social, economic and other considerations.
4. To democratize higher education by providing access to large segments of the population, in particular the disadvantaged groups such as those living in remote and rural areas, including working people like, women and other adults, who wish to acquire and upgrade their knowledge and /or skills.
5. To strengthen and diversify the degree, certificate and diploma courses related to employment, and necessary for building the economy of the country, on the basis of its natural and human resources.
6. To provide continuing and life-long education to enrich the lives of the people.
7. To provide an innovative system of university level education, which is flexible and open in terms of method and pace of learning, combination of courses, eligibility for enrollment, age at entry, conduct of examination and operation of the programmes with a view to promoting learning and encouraging excellence in new field of knowledge.

- **Agenda of XIth Plan**

1. **Expansion by Access**
   - The urgent need for broadening access of higher education by expanding it and by making it affordable.
   - Special focus for improving access and equity in remote regions and geographically disadvantaged places.
   - Special programmes for encouraging students from backward and minority communities.
   - Expanding the overall access to provide higher education.

- To ensure equity through equitable access to the deprived socio-economic strata of the society.
- Enhancing the quality of teaching and learning through use of ICT
- To increase enrollment of women students.
- Provision of more fellowship for women student

2. **Research :**
   - Needs to be linked with teaching.
3. **Distance Education :**
   - Make Open Universities to be more attractive and relevant, efforts be made to ensure quality of study material and its timely dispatch and dedicated teachers, the study centers, provision of necessary infrastructure, use of ICT etc.
4. **Quality :**
   - Quality and excellence are the watch words in today's liberalized environment, making higher education more competitive.
5. **Faculty Development :**
   - The condition of services, remuneration and career advancement of the teachers to be linked with their overall performance.
   - Professional development of teachers: computer facility, training, refresher courses, sabbatical leave, faculty exchange teaching rating for teaching and non-teaching.
6. **Infrastructure Development**.
7. **Curriculum Development.**
8. **Use of Technology.**
9. **Data Based Management.**
10. **Development of intra lingual facilities**
11. **Special scheme for person with different acridities**

After taking the review of higher education in the post independent period, it is observed that, the Radhakrishnan Commission (1948-43), Kothari commission (1964-66), National Policy of higher Education (1986), Action Plan (1992), Various schemes of UGC, contributions of different research councils (ICSSR, ICHR, CRI) and five year plans have given more thrust on development of higher education and efforts were taken to promote quality of higher education.

Six decades after independence it is observed that, the decided goals and objective of higher education have not been achieved. In present scenario of 21st century supplementary parallel non formal education systems came in to existence. Distance education is one of them.

The emergence of the system of open and distance education is an inevitable development in the evolution of education internationally and its growth has been truly phenomenal. While the formal system of education continues to mainstream of education it has its inherent limitations with regard to expansion, provision of access and equity and cost effectiveness. On the other hand, the use of information and communication technologies in transaction of educational curriculum ushered in the distance mode of education, which can cater to demands emerging from provision of lifelong learning and education for all. It is possible to adopt flexible, constructivist, learner friendly and multi perspective approaches to teaching learning, so essentially for nurturing creativity, leadership and integrated development of human personality.

The Indira Gandhi National Open University (IGNOU) established by an Act of Parliament in 1985 promotes Open University and Distance Education system in the country. It has widened the access to higher education by providing opportunities to larger segments of the population by adopting integrated multimedia instruction. Its reach has increased substantially by the use of Gyan Darshan, an educational TV channel and Gyanwani, FM radio channel.

The Open and Distance Learning system (ODL) has emerged as a vibrant and dynamic component of higher education infrastructure in the country. It provides access to quality education to about 25 percent of the total population of learners in Higher Education Sector. The system has demonstrated high level of cost efficiency, flexibility and innovative application of information and communication for the vast multitude of learners left unserved by the formal system. For a vast country like India where accessibility to higher education is quite low Open and Distance Learning have the potential for taking higher education to more and more people irrespective of different barriers. This system caters also for in service persons for whom it is second chance as well as for regular learner.

The Open and Distance system in 11th plan period is expected to cater to about 40 percent of learner population in higher education.

In its existence of forty five years, the Open and Distance Learning system demonstrated an impressive track record of providing quality education and training

to large learner population. The cost studies at the University show that per student cost at the University is about 42 percent of those incurred by the universities in the conventional stream.

The open and distance learning system has demonstrated a growth rate of 20% during the 10th five year plan and accounted for 25 percent of the total enrollment in the higher education sector. The table summaries the achievements so far under the 10th plan.

OPEN DISTANCE LEARNING SYSTEM

	At the end of IX Plan			**Achievement during Xth Plan (upto March 2006)**		
	IGNOU	**SOUs**	**CCIs**	**IGNOU**	**SOUs**	**CCIs/DEIs**
Total No. of Programmes	74	325	---	125	429 (2005)	1428
Total No. of Courses	854	---	---	1142	3.483	---
Total Enrollment	8.04 (Lakhs)	8.09 (Lakhs)	7.70 (Lakhs)	14.33	13.53624 (2004)	8.12 (upto 2004)
No. of Regional Centers	48	58	---	58	114 (2005)	---
No. of Study Centers	1081	2986	---	1346	4229 (2005)	2609 (2005)
Overseas Centers	30	---	---	37	---	---

GROWTH OF OUs and CCIs

	IXth Plan	**During Xth Plan (upto March 2006)**
SOUs	**09**	**13**
CCIs /DEIs	**64**	**119**

Source : Report of working group on Higher Education, 11th Five Year Plan Chapter 13, Page - 94

The system has also demonstrated the capacity to scale on account of the impressive application of information and communication technologies to create access and opportunity for learners across the length and breath of the country. The

diversity of learner profile in the system, comprising employed and unemployed, aspirants for employment, those seeking to upgrade their knowledge and skills while at work specially in professional careers, the disadvantaged and the marginalized, rural youth and those residing in remote areas brings in to sharp focus the capacity of the system to adopt to and provide for the learning requirements of vast variety of target population.

Over the years, the system has developed a wide delivery network of study centers, regional centers, counselors providing learner support service across the length and breathe of the country, which is augmented by a media infrastructure of 28 F.M. radio stations and six television channels including interactive channels. If the open and distance learning system is to meet the enrollment targets of 40 percent of the total enrollments in higher education, the delivery infrastructure needs to be augmented and expanded. The facility of DTH is to be extended for education in general and GDI and education in particular to all study centers.

In the past few decades, a proliferation in number of ODL institutions and courses / programmes has resulted in exponential growth in student enrollment in the system. The system is poised for further expansion in the coming years as its virtually unlimited potential to impact education to anybody, anywhere and anytime is being recognized by educationists, policy makers and planners. There is however a large number of learners that have yet to be reached and providing access to them while ensuring equity poses definite challenge for the ODL system. The ODL system has the capacity to integrate the technologies with the time tested methodologies. Its issues associated with social, economic, political, academic and technological aspects of the system in the emerging scenario.

The institutional policies, planning, structure, governance, service, culture, philosophy and ideology that determine and sometimes limit, systemic responses need to be analyzed in the light of concrete experiences for effective social interventions. The issues of relevant programme, curriculum and pedagogy are equally important and the initiatives in these directions especially for catering to learners with special need and the marginalized, needs to be shared. The potential of multimedia technologies and the power of World Wide Web open up endless possibilities and their effective utilization is emerging as real challenge for the ODL system. The issues of access and equity should be analyzed for effective Social interventions and National development. ❑❑❑

CHAPTER – II

REVIEW OF RESEARCH IN DISTANCE EDUCATION IN INDIA

- **Introduction :**

Distance Education system is progressing in India. However, research in this mode of education is limited. There is need for conducting research on distance education since it provides the empirical data which can be used for the development of the system.

Studies have been carried out on Indian Open and Distance Education since seventies. Most of the studies lacked comprehensiveness, methodological rigour, and compatibility with the system and its practices.

When, for the first time, formal correspondence education was implemented in India in 1962 at higher education stage, there was much doubt and caution, for this mode was commonly perceived as a second channel for the leftovers of the campus-based colleges and universities. Though the underlying philosophy at macro level was to equalize educational opportunity and democratize higher education.

- **Status of Educational Research**

Distance education is a branch of education and, therefore, distance educational research and practices have been influenced by the research on adult learning and adult education.

M.B. Buch was the pioneer in the field of educational research in India. Buch has so far carried out the 4 surveys on the research in education (1974,1979,1987,1991). The paper of Buch and his team (Buch, 1991a) indicates the present status of and the concerns in educational research. By March, 1988, nearly 3289 PhD studies and 1415 research projects in the discipline of education were completed. The first PhD in education was awarded by the University of Bombay in 1943 (Buch, 1991a). It is important to note that during 1989-90, 496 PhD degrees were awarded (UGC, 1991), and as per the Sixth Survey of Educational Research, from 1993 to 2000 (Published by NCERT 2006) the total number of Research and Projects were 2789.

- **Research in Distance Education**

Distance education as one of the stream of non formal education has a recent history, but has expanded considerably. Therefore very few researchers give thought to it. The Open University System established in India in 1982, there has been significant developments in the field of distance education. It is observe that the distance education have precedence in practices of correspondence education that related to the establishment of DEIs within the conventional universities.

All the researches in Open Distance Education were included in the Fifth survey, i.e. from 1971-92. In India the system of distance education is about three decades old. In the fifth survey of Educational Research (1997) the studies in Open Distance Education dealt with enrolment trends and courses growth, development and social relevance, needs and characteristics of learners, development and production of course material, instructional strategies and methodology, economics of Distance Education and evaluation of the system, covering period from 1971 to 1992. The review was confined to about fifty eight studies which included thirty two data based studies and about twenty four theory based articles relevant to some significant issues related to Open Distance Learning system.

Eleven data based studies covering the period of 1993 to 2000 has been covered in the Sixth Survey of Education Research. The number of studies indicates that Distance Education has not made much progress in research in the last decade.

- **Rationale For Research In Distance Education In India**

The open and distance education system was introduced in India for number of reasons. Correspondence education was introduced in 1962 by Delhi University, in distance education specially to cope up with the growing demand for higher education, as Delhi University could not offer seats in its constituent colleges to all desirous candidates. Hence, correspondence education programme was offered as an alternative mode of education. This mode also opened new opportunities to those who had discontinued studies and were now in occupations. This new system of education motivated a large number of persons from various categories of professions and age-groups.

This alternative mode of distance education was being followed by other universities and the states. The unit cost of education through this mode and the

overall economics of distance education became a major source of motivation for others to adopt it. Low unit cost compared to formal university education and marginal, almost negligible public cost of education threw up altogether a new way of looking at the issue of provision of educational opportunities.

The educational needs of learners with different social and occupational backgrounds can be cater by Distance Education System. It is necessary, however, to verify from time to time whether it has provided the desired access to the groups for whom it was primarily intended. Moreover, the changing needs and aspirations of anticipated learner groups in particular and society in general can influence the planning and management of distance education system, which will make the system socially responsive. Therefore, research is needed to identify the needs of existing and future distance learners.

Since distance learners belong to a heterogeneous background in terms of age, experience, socio-cultural, educational and occupational backgrounds, sustaining their motivation to continue with courses till completion is a crucial issue. Other factors like personal, occupational, institutional and instructional do affect learners' adjustment with studies in varying degrees. The identification of learners environmental factors that affecting their studies is one of the area of research.

There has been expansion of distance education both at school and higher education levels but its social, academic and labour market acceptability is rather low. There is a urgent need to identify the social, economic and academic factors that affect the acceptability and equivalence of Distance Education. Research should be taken for clearing the misconceptions about Distance Education and enhance its acceptability.

Research in Distance Education has been carried out on a variety of issues. The studies documented so far indicate specific aspects. On the basis of different aspects, researches in Distance Education have been classified into the following heads:

PART - I

I. Growth of Distance Education: Policy, Planning and Management

II. Programmes and Courses

III. Distance Learners

IV. Instructional Processes

V. Course Development and Evaluation

VI. Output and Impact of Distance Education

VII. Economics of Distance Education

I. Growth of Distance Education : Policy, Planning And Management

The above classified studies cover enquiries regarding policies of the Distance Education system, nature of courses and level of courses offered through Distance Education, enrolment, physical facilities etc. in the Indian context. The first study of this category was conducted by Dutt (1976). The study was conducted on the trend of enrolment in correspondence courses from 1971 to 1976 taking into consideration the nature of courses, annual compound rate of enrolment and levels of courses. There have been instances of studies on organizational aspects of correspondence courses by Anand (1979), Balasubramaniam (1986), Biswal 0979), Dutt (1984 & 1988), Khan (1982), Nagaraju (1982), Pugazhenthi (1985), Rao (1980), Sahoo (1985a & 1989), Sudame and Pugazhenthi (1986), Satpathy (1989), Singh (1979), and UGC (1986). Almost all the studies highlight the gradual growth of DE in the country as a mere extension of the system of regular courses offered through traditional universities. Therefore, the courses have had limitations in meeting the academic and the socio-economic needs of distance learners.

Biswal's (1979) study, which covered almost all the correspondence institutions of India revealed that (i) the objectives of correspondence courses offered through different universities remained almost the same all over the country; (ii) the academic staff pattern remained more or less similar in all the universities, whereas differences were witnessed with regard to administrative staff patterns; (iii) enrolment rate was found to be higher in Arts, Commerce and Education than in other disciplines. The UGC (1986) study also revealed very similar facts about correspondence courses in the country. Mishra (1991) revealed that majority of the distance education institutes in the universities had no autonomy, innovativeness and decision making power.

With regard to the enrolment of DE institutions in India UGC (1986) study revealed that enrolment varied from 500 (Meerut) to 68,554 (Madurai) these was tremendous imbalance amongst regions with regard to enrolment. Dutt (1986) reported, Distance Education institutions in the southern region enrolled 9.5 percent of the total enrolment in universities and colleges of the region concerned, whereas the eastern region had only 0.4 per cent of the total enrolment in DE institutions. At

the state level, Himachal Pradesh and Tamil Nadu have enrolled 42 percent and 22 percent of the respective state level total enrolment in higher education. Sahoo (1989) found a similar trend of enrolment in distance education during 1986-87. Inspite of high enrolments in Distance Education, there were 11 out of 26 universities during 1982, which were treated as non-viable units because of admitting less than 2500 students. Takwale (1987) has emphasised the development of open education system using distance methodology to ensure quality of education. Jayagopal (1987) has highlighted the relevance of the distance education system in the context of Indian society. Prasad (1987) also has pointed out the need for open education system so that educational opportunities can be extended to a broad cross-section of people.

Bhattacharya (1991) studied how and to what extent open university can mould itself to fulfill the requirements of rural India. It was revealed by UGC(1986) that the institutes of correspondence courses were treated as separate units of the universities for all practical purposes. However, they were governed by the rules which are usually framed for regular courses and thus, inappropriate for Distance Education. As the status of Distance Education institutions inside the traditional structures was neither that of a teaching department nor that of a college, the power and status of the directors remained undefined.

Satpathy's (1989) study highlights the future expansion of the Distance Education system as national and state level open university systems, innovative practices in means and media used, and growth of enrolment upto almost twenty five percent of the total enrolment into higher education that expected by the year 2001. It has been visualized that changes would occur in the organisation of Distance Education, that mostly functioning within the traditional university system. Sahoo's (1989) analysis of enrolment of Distance Education including correspondence courses and open universities revealed that towards the beginning of the 21st century (by 2002 AD), the total enrolment of Distance Education would reach 10.21 lakhs (i.e. over 1 million) provided, the trend of the past 25 years is followed on a linear growth pattern. Interestingly the enrolment has already crossed this figure and there are over 1 million students in the system currently. Singh, et.al. (1994) conducted an indepth study of Correspondence/Distance Education in India and recommended revamping and upgrading correspondence courses into the distance education mode.

- **Relevance of Distance Education and Open Learning**

The researchers related to the relevance of distance/open learning system during the period 1993-2000 include studies conducted by Pandit (1994), Srivastava (1995) and Pandey (1996).

Pandit (1994), in the case study of Dr. B.R. Ambedkar Open University, examined the level of perception of women learners about education in general and distance education in particular. The main objective of the study was to find out the extent to which the existing academic programmes of Dr. B.R. Ambedkar Open University are relevant to the needs, motivation and aspiration of women clientele of urban and rural areas.

The effectiveness of distance education, as compared to traditional education, with regard to expansion and democratization of higher education in Karnataka state was studied by Srivastava (1995). He also found out the relevance of distance education courses to learners individual needs. The study points out that the distance education grew five times faster than the conventional (formal) education in seventies and four times in eighties.

- **Management and Comparative Studies in Distance Education**

The studies in the organization and management of different aspects of distance education in comparative perspective have been conducted by various researchers.

Kanchan Bala (1996) undertook a study to investigate to what extent distance education programmes introduced by the Institute of Correspondence Education, University of Jammu and IGNOU were feasible in Jammu region in respect of their relevance to the needs of the students, problems faced by these organizations in the implementation of distance education programmes and realization of objectives set out by the two universities in the context of admission procedures, enrolment trends of students, infrastructural facilities (building, classrooms, audio-video, library, technological gadgets etc), staffing patterns, orientation of teachers, teaching strategies, use of media-print and electronic, dissemination of information, study materials, assignment system, evaluation, counseling and placement services, management system, and co-ordination between various agencies of Jammu University and study centre of IGNOU. Using historical and descriptive survey

methods, the finding revealed :

i) Instruction to distance learners enrolled with both the institutions is mostly imparted by the teachers drawn from formal system and hence most of them are specifically acquainted with the instructional technology of distance education and open learning.

ii) enrolment percentage of female students enrolled in distance education programmes of Jammu University is higher than that of males in almost all the categories, viz. rural, urban, general, SS, SAT, married, unmarried and employed categories. But in case of IGNOU, males enrolment percentage was higher in all the categories than the females.

iii) Lecture method followed by discussion are used by the teachers engaged by both the institutions.

iv) The submission of assignments in both the institution is compulsory.

The study by Patel (1997) centred upon the different aspects of distance education in Karnataka with a view to identify its trends in terms of growth of higher education in the state and its normative futures towards 2005. The experts view on the normative futures of distance education in Karnataka revealed that the system should cope up with the future increase in the enrolment of students. It should incorporate networking with other distance education institutions and even conventional (formal) mode in the areas of instruction, practicals and utilization of infrastructural facilities.

Sharma (1999) compared the distance education programmes of IGNOU and the Directorate of Correspondence Courses, Himachal Pradesh University (now International Centre for Distance Education and Open Learning : ICDEOL) with respect to growth and development, functioning and management, staffing pattern, orientation of teaching faculty, teaching strategies, preparation of instructional material, evaluation assignment system, finance, infrastructural facilities, counseling and student support services, and academic benefits to disadvantaged groups (SC,ST,OBCs and rural women) Using historical and descriptive survey methods, the findings indicated that the :

i) Male students enrolment of ICDEOL was higher than that of females in almost all the categories of rural, urban, SC, ST, married/unmarried, employed and all students in the age group of 20 to 30 years.

ii) the percentage of male students enrolled in different courses with IGNOU

regional centre (H.P.) was more than that of females in almost all the categories of SC, ST, rural, urban etc;

iii) ICDEOL and IGNOU have given due consideration to the recommendations of UGC and both the institutions cater to the needs of local community and students in starting courses through distance mode

iv) both the institutions have neither started any special course for the disadvantaged groups of Himachal Pradesh nor they have any plan to start any such course in the near future

v) the students belonging to reserved categories viz., SC, ST, OBCs and physically challenged admitted in IGNOU are entitled for reimbursement in fees whereas, which such categories do not get in ICDEOL,

vi) students are admitted to various courses in ICDEOL on the basis of marks obtained in the last qualifying examinations except B.Ed course in which the admission is made on the basis of marks obtained by them in the last qualifying examination and teaching experience. Incase of IGNOU, students are admitted on the basis of marks obtained by them in the last qualifying examination except in case of MBA and MCA. In MCA only those students are admitted who have passed either of the (CIC, BCA, DCO) course from IGNOU. In case of MBA the admission is made through entrance test;

vii) distance learners enrolled with both the institutions do not receive instructional material well in time;

viii) importance and usefulness of contact programmes have been appreciated by the IGNOU teaching faculty and students;

ix) ICDEOL, receive financial assistance form state government and UGC. Tuition fees charged from the students provides a useful source of earning.

The organization and management of distance education programmes under the control of Dr. B.R. Ambedkar Open University was studied by Naidu (2000). The study also identified the problems encountered by the university in planning, organizing and administering distance education programmes. The findings indicated that there is need :

i) To better relations with students, meeting the problems of dropouts, meeting the needs of the students through well organized programmes of counselling and guidance and augmenting new infrastructure facilities for future courses and programmes

ii) for establishment of more number of study centers to provide opportunities in remote and backward areas where higher education facilities either do not exist or are meager;
iii) for policy making and better student support services including delivery system.

II. Programmes and Courses

Out of 40 DE institutions (which include correspondence course directorates and Open Universities), 14 to 30 institutions offered 37 degree level courses at undergraduate and post-graduate levels towards the end of the eighties. While courses belonging to Arts, Commerce and Education have been more popular, courses in other fields like Science, Law and Management have been gaining ground in this system (Sahoo 1989). While correspondence institutions are likely to introduce innovative courses, the approving bodies of parent universities look upon innovative proposals with suspicion and discourage experimentation in most instances (UGC, 1986).- On the other hand, some of the potential students, dropouts and products of correspondence courses have shown their keenness to join innovative courses of applied and interdisciplinary nature, provided they are introduced through DE (Sahoo, 1985). However, nothing much has happened in this regard.

III. Distance Learners

A large number of studies conducted in India have focused on distance learners. Some of these studies focus on the needs and aspirations of learners, their motivation to continue and complete courses, and also take in to account the factors influencing learner's decisions to pursue their studies. However, most of the studies conducted on Indian learners have concentrated on their socio-psychological characteristics. A few studies have been conducted on those learners who discontinued their studies.

Saxena (2000) conducted a study to draw profiles of distance learners at Indira Gandhi National Open University. The objective of the study was to gather information about IGNOU's learners, their ideas about the programmes, the experience and their status after the programme. The study covered seven programmes of IGNOU from various disciplines. The findings of the study indicated that there are more number of females enrolled in ODE, they live in smaller houses

with 2-3 children and 4-5 family members, most students belonged to lower or lower middle income group, are employed in the public sector and want only the printed text material to study. Most of them feel that IGNOU should be an evening university. Students want to pursue higher education from IGNOU but want new programmes like Environment and Traditional wisdom of India.

- **Needs, Motivations and Aspirations of Learners**

Studies by Anand (1979), Khan (1982), Koul (1982), Kumar et al. (1986), Filial and Mohan (1983), Singh (1983), Sahoo (1985), UGC (1986), and Mishra (1988) reveal that improvement of qualifications and desire for continuing with higher education acted as the major motivation for students in India for joining correspondence courses. Kumar et al (1986), Pillai and Mohan (1983), Sahoo (1985) and Mishra (1988) identified other motivators like improvement in one's profession and the opportunity for further promotion in his/her field. Moreover, sociological factors like improvement in social status have also been identified as motivators of DE learners (Pillai and Mohan, 1983; Sahoo, 1985; and UGC, 1986). A comparative study (Biswal, 1979) on academic motivation of distance and conventional students revealed that correspondence students had lower level of academic motivation than that of their regular counterparts. .At the university level, learners joined correspondence courses in preference to regular conventional courses because of several personal and socio-economic reasons. The reasons as identified by Koul (1982) and Sahoo (1985), are: non-availability of time, mental maturity of learners, non-existence of colleges in one's locality and heavy expenses to be met in formal college education. Several background factors like age, employment, paucity of time, poor financial condition and performance in the last qualifying examination have also impacted upon their decision (Khan, 1982 and Sahoo, 1985). At the secondary stage, Singh (1980; 1983) found that learners preferred correspondence courses to regular schooling because of their being employed, their involvement in household activities, non availability of school facility, and failure in regular courses.

Studies conducted on university level students (Sahoo, 1985 and UGC, 1986) revealed that a large number of them decided to join the courses on their own. Sahoo (1985) identified homogeneity in the individual responses of the learners with regard to their expectations from correspondence courses irrespective of their being at the

entrance stage, at the course stage or at the course completion stage. Koul (1982) found that in the case of dropouts in distance education, the reasons for joining their courses were of academic and personal type. As it is in the case of students who continue with studies and complete them, the dropouts also had joined the distance education programmes because of their curiosity for learning new disciplines, to obtain professional training and to obtain an additional qualification. Upreti (1988), Gautam (1990) and Pugazhenthi (1991) explored the characteristics and aspirations of the learners who had joined teacher education programmes through the distance mode. Upreti (1988) found that majority of the learners who had joined B. Ed. had graduated in humanities and social sciences. Gautam (1990) reported that there was a positive relationship between learners characteristics and success in distance learning at B.Ed, level. Pugazhenthi (1991) reported that the age of the teacher trainees in distance mode ranged from 25 to 61 years.

- **Background of Distance Learners**

Studies on the socio-economic and academic background of distance learners in India reveal significant facts regarding distance education system in the country. Unlike the age cluster of regular college students between 16 to 23 years, the age of the majority of correspondence students is between 16 and 35 years (Anand, 1979; Gomathi, 1982, Khan, 1982; Pillai and Mohan, 1983; Sahoo, 1985; and UGC, 1986).

While most of the lower age group (16-25 years) candidates opted for undergraduate courses (Khan, 1982; Sahoo, 1985; and UGC, 1986), most candidates of the upper age group (20-60 years) enrolled in post graduate courses (Sahoo, 1985) In the case of one of the diploma programmes of IGNOU, a large group of students belonged to 30 - 40 years age group (Misra, 1988). The majority of learner population were men (Biswal, 1979; Gomathi, 1982; Pillai and Mohan, 1983; Sahoo, 1985; UGC, 1986 and Sahoo, 1989). Most of the learners were from upper castes (Anand, 1979; Pillai and Mohan 1983; and Sahoo, 1985) and they were employed and belonged to different cadres of vocations like teaching, clerical jobs, administration, sales service, farming, mechanics and labour, although they mainly came from teaching and clerical jobs (Gomathi, 1982; Pillai and Mohan, 1983; Sahoo, 1985 and UGC, 1986). Almost all the students on management courses of IGNOU are employed and a large number of them have less than 10 years service

experience. However, students with more than 25 years experience were also admitted to the course (Mishra, 1988). A sizeable number of them (30%) were first generation learners. Moreover, a large number of learners had 1 to 10 years' gap between their last qualifying examination and enrolment in the present courses (Sahoo, 1985), With regard to socio-psychological characteristics of the school level students of correspondence courses, Singh (1980; 1983) found that the age of students varied from below 20 upto 40 years with major concentration around 18-21 years (Dewal, 1982). A majority of the school level distance students had 4 to 10 years time gap between their having left a regular school and joining the distance education course (Singh, 1980; 1983). A majority of these students were married, hailed from upper castes, with moderate economic position and around one-third of them were employed (Singh 1980; 1983; and Dewal, 1982).

- **Dropouts in Distance Education**

At the school level, distance education is an effective alternative for those who cannot attend school. Mukhopadhyay and Sujatha (1988) pointed that unschooled children constitute girls, schedule castes and tribes and rural people.

Discontinuation of studies has been a serious concern for the Distance Education system everywhere. The rate of dropout in DE at the Central Institute of English and Foreign Languages, Hyderabad was studied and was found be 57% to 66% (Balasubramaniam 1976) and 63% Koul (1982). At the B A. courses of Delhi, Punjab, Bombay, Madurai, Sri Venkateshwara, and Meenit Universities, the dropout rate ranged between 8% to 25% (Yadav and Sharma, 1988). Sahoo (1985) found that during the very first semester about 50 to 75 percent dropouts were from PG courses. Koul (1982) found that 43 percent of total dropouts from a course were at the very outset, at zero lesson level. In general, the dropout rate at DE institutions was found to be higher than that of conventional institutions (Gupta, 1986).

Mostly, the dropouts belonged to upper age groups with larger gap of time between their last qualifying examinations and admissions to the DE courses, poorer academic and family background, rural areas and employed groups (Sahoo, 1985). In the case of dropouts, men's ratio was higher than that of women (Koul, 1982; Sahoo, 1985). Major problems coming in the way of dropouts were: responsibility at home and place of work; lack of availability of time to pursue studies, inability to attend

contact programmes, lack of proper teacher-student interactions; non-availability of reference materials; inadequate submission of assignment responses and difficulties faced in responding to the study materials (Koul, 1982; and Sahoo, 1985). Non-payment of semester fees was also a reason for discontinuing the studies (Balasubramaniam, 1976). Koul (1982) found that at the Central Institute of English and Foreign Languages, Hyderabad, 20 percent of dropouts aspire to continue with their studies again. Similarly Sahoo (1985) found that 69 percent of the dropouts of the Himachal Pradesh University were interested to rejoin the correspondence courses provided certain improvements were brought about in the system. The dropouts felt the need for improvement in managerial, instructional and evaluative systems of DE (Koul, 1982; Sahoo, 1985).

- **Characteristics and Profile of Distance Learners**

The characteristics and profile of distance learners have been studied by Anil Kumar (1998) and Kumar (1999).

The academic self concept, study habits and attitude towards distance education in relation to academic performance at first degree level distance learners enrolled with IGNOU was explored by Anil Kumar (1998). Majority of the learners enrolled in 1991 were male in the age group of 25 years and above. They possessed average academic self concept, exhibited good study habits, held positive and favourable attitude towards distance education.

Kumar (1999) found the attitude of distance learners enrolled with IGNOU, towards distance education favourable irrespective of their background characteristics. Married students possessed significantly higher positive attitude towards distance education when compared with unmarried ones. However, no significant difference in the attitude was observed among distance learners varying on the other nine background variables of gender, age, locale, social class, academic stream, educational level, employment status, experience in distance learning and discontinuity in studies.

IV. Instructional Processes

Distance education depends to a great extent, on educational technology. As a means of open learning, the functioning of distance education depends on better

utilization of instructional strategies. In other words, distance education banks on production of quality learning material, use of a wide range of media emphasising varieties of learning opportunities, and properly organised face to face contact programmes leading to group interaction among learners themselves and with the instructors. Keeping in view these aspects of the instructional system, research is being conducted on two main areas of instruction:

(i) management of instructional processes and

(ii) evolving suitable instructional methods and media inputs. We shall look at both the aspects in some detail as follows:

- With regard to the management of instructional processes, it is crucial to have quality control on the production and improvement of learning packages, appropriate integration of work by subject specialists and experts on communication technology and scheduling of production and despatch of materials. Management of two-way communication between learners and the instructors/institutions through assignment-responses, study centre activities and personal contact programmes is crucial for effective instructional processes in distance education. Moreover, synchronization of mass media systems like radio and TV which remain mostly outside the purview of Distance Education institutions, with Distance Education is another challenge for the management of Distance Education. Evolving suitable alternative mechanisms of management for the instructional system and studying their effectiveness is one of the major concerns of research on Distance Education.
- Studies on the potential values of different methods and the employing of sound theoretical models can help academic decision makers to choose appropriate means of instruction. Studies on evolving multimedia packages for specific subjects, definite instructional objectives, and heterogeneous learner groups are particularly necessary to make the system effective. Besides, availability of resources, time and feasibility are to be kept in mind while consolidating media inputs. How to facilitate flexible teaching-learning environments in which learners' participation in the instructional processes could be enhanced is a major concern in Distance Education. With the emergence of new forms of educational technology, it is necessary that Distance Education keeps pace with their obviously, there is ample scope for studies in these areas to broaden the Distance Education -base, so that the demands of education can be met.

Researches on these aspects in India focus on the effectiveness of different methods and media in experimental situations, studying the existing processes of instructional and evaluation programmes in Distance Education institutions, the usefulness of different components of instructional activities, evaluation system and participants' reaction to the functioning of the instructional system. It is noted that major instructional activities of Distance Education have been restricted to print materials and occasional interaction between tutor and students through assignments and personal contact programmes. In a few cases, instructional activities have been carried out through electronic media like radio, television, audio cassettes, video cassettes and computer programmes (Anand, 1979; Biswal, 1979; Khan, 1982; Pillai and Mohan, 1982; Sahoo, 1985; Balasubramaniam 1986; Kumar et al, 1986; UGC, 1986; and Sahoo, 1989). Various studies conducted on different aspects of instruction are discussed briefly in the following sub-sections.

Print Based Materials

It has been noticed that all the Distance Education institutions at the university as well as the school level depend mainly on print-based instructional material. They may be in modular forms, in self-instructional programmed learning packages, in semi-programmed form or in some other form as prescribed by respective institutions (Biswal, 1979; Singh, 1980; Khan, 1982; Singh 1983; Sahoo, 1985; UGC, 1986). On the part of students, it was found that a large majority of them at the university level (81 to 85 percent) depend on printed lessons for completing their studies (Anand, 1979; Khan, 1982; Sahoo, 1985). However at the school level, around 79 percent of the students depended on regular textbooks, notes and digests besides study materials (Singh, 1983).

All the studies reported the usefulness of printed study materials as perceived by the students in one or the other respect (Anand, 1979; Biswal, 1979; Singh, 1980; Khan, 1982; Pillai and Mohan, 1982; Sahoo, 1985; Kumar et al 1986; UGC, 1986). In most of the cases, study materials were not available in respective Distance Education institutions and did not follow a systematic format. While most of the students, dropouts and products of Distance Education expressed moderate views about the different aspects of lessons like style of presentation, content clarity, suggested references and language (Sahoo, 1985 and UGC, 1986), majority of them pointed out their difficulties in studying the lessons (Singh, 1980 and 1989; Dewal, 1982; Koul, 1982; Khan, 1982; Sahoo, 1985; UGC 1986). A large number of

students (41%) of six universities found the materials too heavily packed with information causing difficulties in studying all the lessons. Moreover, irregular despatch of lessons created problems for students (Singh, 1980; Nagaraju, 1982; Koul, 1982; Singh, 1983; Sahoo, 1985; and UGC, 1986). It was suggested by students and teachers that study materials be made self instructional, reviewed appropriately, edited and proofread properly, despatched in time along with references materials (Khan, 1982; Sahoo, 1985; Kumar et al. 1986). Further, it was found that the students preferred lessons written in Indian languages and most teachers emphasised on the need for acquiring necessary experience through formal training, orientations and workshops for developing effective materials (Khan, 1982; Sahoo, 1985; and Koul, 1986). Mishra and Gaba (1999) conducted an exploratory study into the "use of activities in Self Instructional materials by Distance Learner". Study indicates that students make use of activities which are given in Self Learning Material. They also use white space given in the side margin. Majority of respondents preferred descriptive type of SAOs.

- **Assignments**

Assignment is treated as one of the key components of student support services in Distance Education. Assignments were found useful by most students Himachal Pradesh University (Biswal, 1979 and Sahoo, 1985), University of Kashmir (Biswal, 1979), Regional Colleges of Education (Kumar, et al., 1986) and at school level programmes (Dewal, 1982) whereas in the case of Madurai Kamaraj University the response was negative (Pillai and Mohan, 1983). With regard to the rate of submission of assignments, it was revealed that 55 percent of the students did not submit any assignment at all (Dutt, 1976 and Khan, 1982) and 30 to 36 percent school level learners were not even aware of submission requirements (Singh, 1983). Submission was treated as a mere formality to be fulfilled for appearing in the examination, in cases where such submission is compulsory. In general, student's seriousness was not reflected in their responses to assignments. Most of the teachers, dropouts and successful learners point out several limitations concerning the present form of questions in and coverage of syllabus by assignments (Sahoo, 1985 and Balasubramaniam, 1986). However, most of the students appreciated the importance of compulsory submission, since most of the students who received evaluated

response sheets in time found the system useful to some extent Sahoo (1985), UGC (1986). Anand (1979) reported that on an average, a pre-university student spends 259 hours per session for completion pi."-studies and takes about 70 hours for writing assignments. Kumar et al (1986) revealed that most of the Distance Education students of the Regional Colleges of Education were not appreciative of the procedure followed in evaluating the assignments. DE institutions did not make serious efforts to clear students' doubts (Dewal 1982; Nagaraju 1982; Sahoo 1985), as learners generally expect detailed comments on assignments, and appropriate evaluation of their performance. Mi'lay et al (1986) found that the comments varied from institution to institution. Barring a few cases, because of limited time available for correction of assignment-responses, lack of proper guidelines given to the assessors and insufficient remuneration, assessors fail to provide appropriate feedback to learners (Biswal, 1979 and Sahoo, 1985). Further, distance education institutions are not prompt in despatching evaluated response sheets to students on time (Singh, 1980 and 1983; Dewal, 1982; Sahoo, 1985; Balasubramaniam, 1986; and UGC, 1986). Almost all teachers insisted on reasonable distribution of work and flexibility in the assessment system (Khan, 1982 and Sahoo, 1985). The assignments in distance education as a means of learning is not properly exploited by both the institutions as well as learners (Rathore, 1993).

- **Personal Contact Programmes**

All the DE institutions had the provision for Personal Contact Programmes (Dutt, 1976 and Biswal, 1979). Compulsion, optional attendance, selection of venue for personal contact programmes (PCPs), employment positions of learners, their financial difficulties, lack of proper facilities for boarding and lodging and lack of prior information to students are some of the factors which influence students' attendance at PCPs (Sahoo, 1985), as the PCPs are mostly organised in cities (Sahoo, 1985 and Balasubramaniam, 1986). Regarding attendance in PCPs, (Anand 1979) revealed that in Punjab University only 18 percent of pre-university students turned up for PCPs and only 40 percent of the first day's strength was noticed on the last (10th) day of PCP. Sahoo (1985) found that where attendance was compulsory, 70 to 80 percent learners turned up for PCPs, and where it was optional around 33 percent learners attended the PCPs of PG courses. Srinivasacharyulu and Ramaiah (1992)

found that the degree holders did not attend the contact classes at BRAOU. At school level distance education programmes, Singh (1983) found, only 5 percent of the learners attended PCPs regularly and another 5 percent attended partially. However, Dewal (1982) found that in three distance education institutions at the school level, 50 percent learners attended PCPs. This certainly must have been a special case.

No uniform policy was followed in directing teachers to select topics for teaching during PCPs (Sahoo, 1985). The planning and organisation of PCPs seemed to be inadequate (Nagaraju 1982). The topics available in study materials were repeated in most of the cases (Balasubramaniam, 1986). The usual methods used for teaching in the PGPs were lectures together with question - answer sessions (Sahoo, 1985). Even though the real purpose of PCPs was not achieved to a large extent, most of the learners in higher education expressed positive opinion about the usefulness of PCPs (Anand, 1979; Biswal, 1979; Mathur, 1979; Khan, 1982; Kumar et al., 1986; Pillai and Mohan, 1983; Sahoo 1985; and Balasubramaniam, 1986 and Rathore 1991). The utility of PCPs was experienced by learners in terms of clarification of doubts, getting inspiration for further studies, better preparation for examination and solving academic problems (Mathur 1979; Sahoo, 1985; Balasubramaniam, 1986 and UGC, 1986). Besides this the learners appreciated the teacher-student informal interaction (Sahoo, 1985). However, with regard to the school level DE system, most of the learner participants did not find PCPs purposeful.

Most of the participants of PCPs for P.G. courses welcomed compulsory attendance (Bhusan and Sharma, 1976; and Sahoo, 1985), while the U.G. students expressed a negative opinion (Anand, 1979 and Mathur, 1979). Most of the respondents among teachers, learners and dropouts favoured increased frequencies of PCPs (Sahoo, 1985) and also increased duration of each PCP (Bhushan and Sharma, 1976; Anand, 1979; and Sahoo, 1985). Usha Devi (1994) revealed that learners showed positive affirmation for the necessity of contact classes. The common recommendation in the above studies regarding PCPs was that, proper care must be taken for selection of venues, sending prompt information to participants, division of learners into appropriate groups, use of appropriate methods and media for encouraging group interaction, appropriate orientation for teachers for selecting topics, provision of library facilities, co-curricular activities and facilities for boarding and lodging of participants.

- **Electronic Media**

Provision for adequate libraries, book banks, despatch of reference materials did not exist within the system of distance education (Sahoo, 1985, Balasubramaniam, 1986, and UGC, 1986). In general, there was little support from radio and television. Even though All India Radio stations at Delhi, Jalandhar, Hyderabad and Tamil Nadu broadcast educational programmes for correspondence courses, all distance education institutions of the regions concerned, could not make full use of radio broadcast facilities. Nagaraju (1982) witnessed usefulness of radio programmes for in-service teacher training programme of Kerala State. However, he found that all the trainees did not listen to all the radio programmes of the training course. Cassettes have been used to correct pronunciation and delivery in the teaching of languages (UGC, 1986). The TV support was not available in the past for any DE programmes (Biswal, 1979; Khan, 1982; Sahoo, 1985 and Balasubramaniam, 1986). It is only recently that Doordarshan allows 90 minute telecasts in a week for IGNOU programmes.

Several researchers examined the use of video, cable TV and the teleconferencing mode. Though video film was found to be more effective (Mandal and Shah 1992), majority of distance learners do not use audio and video support. (Srinivasacharyulu, Subba Rao and Rajamouli 1989). The cable TV network, when properly planned and managed, can provide useful support to distance education (Chaudhari and Behari 1994), Distance learners were found to be favourably inclined to use the teleconferencing mode (Sahoo, 1994). While analysing the interactivity of IGNOU's one-way video and two-way audio teleconference facility, Mishra (1999) found that the total duration of interaction calls was little less than one tenth of the total teleconference time. Learners were satisfied with the use of technology and teleconference facility which increased the interaction of the learners with their peer as well as the experts.

- **Use of Media**

The print and electronic media have a distinctive role in the distance and open learning system. Shah and Mandal (1993) studied studied the effectiveness of the instructional strategies (video film and booklet) in teaching selected aspects of puppetry to home science students in terms of gain in knowledge and development of

ability. Using experimental method, they also explored the effectiveness of these strategies in relation to the students 'English language competence, academic achievement and attitude towards instructional strategy. The results of the experiment indicated a significant gain in knowledge as well as development of ability through both the strategies.

There was also significant gain through all the 7 programmes in the interactive mode. However direct mode in none of the seven IGNOU ETVs programmes was found to be effective than the interactive mode. In four out of seven IGNOU ETV programmes, the interactive mode was found more effective than the talkback mode. Talkback mode was not more effective than the direct mode in any of the programme. In terms of achievement of viewers, direct and talkback modes in all the seven programmes were equally effective.

- **Teachers and Supportive Staff**

Studies pertaining to the traditional system of distance education reveals that instructional and evaluation activities are carried out by the internal as well as the external faculty. The major share of instructional activities, especially the production of self instructional material and teaching during PCPs were performed by external faculty. Quite a large number of teachers involved in the distance education system were experienced (Biswal 1979; Sahoo 1985 and UGC 1986). However, in comparison with the external faculty, the full time faculty members of distance education institutions were found to be less experienced in both teaching and research (Sahoo 1985). None of the faculty were formally trained in performing instructional activities in distance education systems. Most of the internal faculty of DE institutions did express their willingness to undergo such training courses (Khan 1982; Sahoo 1985; and Koul 1988) but such courses were not available in the country. While the teaching faculty of correspondence courses were supposed to have all the minimum qualifications in the case of teachers of university teaching departments, they did not enjoy comparable status in relation to the latter in • most of the universities. Their representation in different academic bodies was almost non-existent (UGC 1986).

V. Course Development and Evaluation

Vydehi (1984) evaluated the presentation of first year degree General English course of S.V. University, Thirupathi with regard to satisfaction of students needs, attainment of the objectives of courses and the instructional process and evaluation procedures adopted. Analysis of the different objectives for teaching English, methods of instruction, reactions of students and teachers and observation of PCPs were the means used to identify weaknesses of the present structure of curriculum. An alternative student-active instructional format and a new type of distance teaching materials were prepared and used in an experimental situation. A comparison of the achievement of students following conventional and the modified materials revealed results in favour of the modified approach. A similar kind of study was undertaken by Sarwal (1984) at the Central Institute of English and Foreign Languages, Hyderabad for preparation of teacher training correspondence course units for English Language Teaching. It was found that 15-week programmes were more effective than the 4-week programmes with regard to the degree of comprehension, degree of interest and degree of understanding achieved by students.

Evaluation of distance education is necessary from the viewpoint of justifying internal as well as external validity of the system. Since distance education is a society sponsored institution and aims at maximum involvement of people belonging to different cross sections of society, everybody would raise questions and seek answers with regard to the efficiency and effectiveness of the system from one angle or the other. The criteria for evaluation may differ depending on the context of study. For instance, while social responsiveness of distance education can be considered as a criterion for evaluation, the instructional comparability of distance education system with regular courses in terms of its products can be another criterion. Some may be interested in studying the effectiveness of the distance education instructional system with reference to the achievement of different objectives meant for specific courses; in other cases, the evaluation criteria may be fixed with differential levels of long term impacts of distance education on its products, and match them with manpower requirements at a given time and cost effectiveness. If the system does not achieve success in a specific case, it may be worthwhile to raise questions about its limitations on the specifics concerned.

VI. Output and Impact of Distance Education

- **Comparison of the Achievement of Distance Education and Regular Course Students**

Comparative studies on the achievement of distance education learners have revealed mixed findings. First, no significant differences have been found between the achievements of distance education learners and regular course learners in the case of UG courses of Delhi University (Sashi, 1972) and M.A. (English) and UG Courses of Punjabi University (Biswal, 1979). The UGC (1986) study reported about comparable pass percentages of both the streams in two Indian universities. Second, the pass percentages of undergraduate distance education students of Meerut, Delhi, Punjab, Bombay, SV, and Madurai Kamraj University were higher than those of regular UG students of the respective universities (Pandey, 1980 and Anand, 1979) and in the case of B.Ed course, the correspondence students of SV university showed better results than the regular students (Reddy, 1986). It was also found that the proportion of students who obtained third division was more in distance education than in regular courses. Third, generally the results of distance students were below average than those of regular students. In the case of Punjab University, the pass percentage of Pre-University distance students was found to be lower than that of regular students (Anand, 1979). The mean achievement comparison of the result of M.A. programmes of Punjab University and B.A. of Madurai Kamraj University reflected poor performance of distance education students (Biswal, 1979). In the cases of UG and PG courses of Himachal Pradesh University and Rajasthan University respectively the pass percentages of correspondence students were lower than those of regular students (Sahoo, 1985; and Gupta, 1985). As far as the higher grades/divisions in UG and PG results are concerned, the distance education stream performed worse than the regular stream (Sahoo, 1985 and UGC, 1986). Similar findings are witnessed in the case of the UG level results of Utkal University (Panda, 1980; and Panda and Panda, 1986). However, in general, the top level students of both the streams achieved almost similar positions (Sahoo, 1989).

- **Immediate and Long Term Impact**

In the case of the Himachal Pradesh University it was found that the products of distance education during the year 1971 to 1979 perceived the usefulness of

distance education courses in so far as they satisfied their academic and social needs while professional courses like M.Ed, helped them to attain professional gains. A large population of the products of general courses did not perceive the utility of distance education in terms of economic and occupational benefits (Sahoo, 1985). A similar observation was made by Pillai and Mohan (1983) with regard to utility of distance education for occupational purposes. As stated earlier, the training programmes for teachers of distance education had resulted in improvement of necessary skills amongst the participating distance education teachers (Koul, 1988). The correspondence-cum-contact in-service teacher-training programme in Kerala was also found useful in raising the level of trainees' knowledge and skills. Kumar et al (1986) have drawn similar conclusions with regard to B. Ed. trainees of the Regional Colleges of Education.

Saini (1979) found that minimal technological information could be comprehended by farmers with middle and secondary level qualifications through DE programmes of Agriculture Universities. Such programmes were useful in improving the field practices of farmers.

On the future development of distance education and its impact on different social and educational developments, Satpathy (1989) revealed that expansion of distance education should have significant positive effect on (i) innovations inside distance education system, (ii) development of science and technology, (iii) further advancement of education of weaker sections of the society, (iv) decrease in students participation in campus politics, (v) increase of educated unemployment and (vi) the progress of inservice and continuing education. On the other hand, it was revealed that further progress of science and technology, advancement of education of weaker sections of society, increasing rate of unemployment, and progress of in service and continuing education would have significant positive effects on expansion of distance education and innovations in distance education systems. So the future of distance education is secure for a long time to come.

- **Learners Achievement and its Correlates**

A couple of studies have given some ideas about certain prominent variables affecting the achievement of learners in distance education. Gomathi (1982) revealed that there existed a significant relationship between the achievement of M.A. and

M.Com. distance learners and work on study materials; text book studies; participation in seminars and contact programmes; radio broadcast programmes; study centre activities; and effective role of instructors. Panda and Panda (1986) found that the socio-economic status of learners has significant positive effect on academic achievements of distance learners. While identifying the factors responsible for the successful functioning of distance education, Rao (1980) stated that communication facilities, awareness of the people involved in the system, experienced teachers and infrastructural facilities can make the innovation a success.

- **Attitude of Participants towards Distance Education System**

Attitude of participants and the community towards distance education has been treated as one of the criteria in studying the success of distance education. A survey of employed persons in Kerala, mainly clerks with Bachelor's degrees, revealed that evening college education was preferred to correspondence courses for further education (Pillai 1980). However, the learners continuing with distance education. courses had expressed positive attitude towards the system. In comparison with the male students, the female students had expressed more favourable attitude towards it; and in the same way, employed students were more positive than unemployed students (Sahoo and Bhat, 1987). Around 50% of the teacher and student respondents in Khan's (1982) study expressed positive opinion towards distance education, whereas the remaining 50% were either neutral or negative about it. Sahoo (1985) revealed that even though distance teachers had positive attitude towards the system, around 7 1 percent of them reported that they intended to leave present positions and join regular colleges/departments, provided they get opportunities to do so. They expressed their views anticipating greater scope for research and professional growth in a conventional institution.

VII. Economics of Distance Education

One of the major reasons for the fast growth of distance education is its cost effectiveness. While using suitable methodology, studies can be conducted on the cost effectiveness of distance education comparing it with the costs of formal courses. There exists a need for studying differential cost structures also, including differential allocation of funds to different activities and components of distance

education. Such analyses will be useful in evolving a suitable and optimal financial structure for distance education institutions.

Studies conducted in India in this area can be classified under five headings:

i) Sources of income in the system,

ii) Expenditure of the system under different heads and its comparison with total income,

iii) Unit costs of different types --total institutional cost, teachers' unit cost, non-teacher unit cost and private unit cost,

iv) Comparison of unit costs of distance education with those of regular courses, and

v) Cost benefits, especially in comparison with those of the regular streams.

- **Sources of Income in a Distance Education System**

It has been revealed that in the case of almost all distance education institutions, one of the major sources of income is students' fees (Dutt, 1986; Biswal, 1979; Pandey, 1980; Khan 1982; Sahoo, 1985; UGC, 1986 and Gupta, 1987). The fee structure of distance education in Rajasthan University analysed by Gupta (1987) revealed that the major share of tuition fee to total fees charged from learners varied from 91.70% to 97.32% during 1972-1985. In the case of Himachal Pradesh University, the income raised through learners tuition fees to total income varied from 98.3% to 96.05% during 1975-1987 (Sahoo, 1989). Dutt (1988) identified learners contribution as 28 to 50 percent of the total income of Delhi University during 1980-86. The rest of the income came in through subsidies provided mainly by the governments. Srinivasacharyulu and Ramaiah (1994) urged the state governments and other financing agencies to pay more attention to the funding of distance education institutes.

- **Analysis of Expenditure in a Distance Education System**

Studies on the expenditures of distance education over a period of one decade have indicated an increasing rate of expenditure in distance education institutions. In the case of Himachal Pradesh University, the annual expenditure of distance education during 1975-76 increased from Rs.1.56 million to Rs.4.41 million during 1985-86 (Sahoo, 1989). In the case of the distance education Directorate of Rajasthan

University the annual expenditure of Rs.0.71 million during 1972-73 rose 5 times, i.e. to Rs.3.56 million during 1984-85 (Gupta, 1987). Dutt (1978) concluded that the major areas of expenditure in Rajasthan, Himachal Pradesh, Punjab, and Delhi Universities were salaries of the teaching and the non-teaching staff, preparation of learning materials, payment for PCPs and library services. The expenditure profiles of distance education institutions have not remained constant over the past one and a half decades. In Himachal Pradesh University, the expenditure on the academic and the non-academic personnel amounted to 74.34% of the total expenditure during 1975-76 and 55.95% of the total expenditure during 1985-86 (Sahoo, 1989). In the case of Rajasthan University, the expenditure on establishment increased from 19.16, percent in 1972-73 to 52.1 percent in 1984-85. The expenditure on teachers salaries decreased from 22.33 percent in 972-73 to 11.2 percent in 984-85 . The expenses on teaching materials went down from 28.33 percent in 1972-73 to 13.4 percent in 1984-85. While the proportion of establishment expenses increased almost 3 times. The expenses on academic heads decreased by 50% (Gupta 1987). The UGC (1986) survey revealed that 59 percent of the budgets of 17 DE institutions in India was spent on academic heads like teachers' salaries, contracted teachers' remuneration, teaching materials, and student support services and 1 3 per cent was spent on the administrative staff. Dutt (1978) found that in Delhi University, the expenses on the salaries of teaching and non-teaching staff ranged between 63.7% to 74.5% during the years 1980-86.

- **Comparison of the Income and the Expenditure in Distance Education**

It has been observed that in the initial stages the distance education institutions had surplus budgets (Biswal, 1979). The surplus budgets of institutions in Rajasthan, Himachal Pradesh and Punjab has been noted by Dutt (1978), Sahoo (1985) and Gupta (1987) have indicated However, Sahoo's 1989 study indicated that during the eighties (1980-87) the Himachal Pradesh University maintained a total deficit of Rs.6.9 million. The UGC (1986) study revealed a mixed picture of expenditure and income levels of distance education institutions. Out of fifteen universities, four had annual surplus funds varying from Rs.4.75 million (Jammu) to Rs.2.97 million (Annamalai). Five Universities ran deficits between Rs.0.14 million to Rs. 1.61 million (Punjab, Himachal Pradesh, Utkal and Kerala). Only Andhra

University had a balanced budget. The surpluses have been used either for the distance education institutions during other years, but mainly for the parent university. Deficits are met by the universities from their consolidated funds and grants received from the state governments and the UGC as the budget of distance education institutions has been a part of the integrated budget of the concerned universities (UGC, 1986).

- **Unit Cost Analysis in Distance Education**

Unit cost analysis has been a common feature of all the studies conducted in the area of Economics of Distance Education. Taking into consideration the data, from 1973 to 1976 of B.A. Courses of 7 Universities, Yadav and Sharma (1988) found that the total unit costs varied from Rs.269.71 to Rs.451.82. In the case of UG and PC courses of the.Himachal Pradesh University the total cost per student was calculated as Rs.39l.60 and Rs.360.22 for the years of 1978-79 and 1979-80 respectively (Salioo, 1985). In the case of the same university the per student cost of UG and ' PG courses varied from Rs.260.00 during 1972-73 to Rs.613 during 1985-86. Gupta (1987) found that the per capita expenditure at Rajasthan University ranged between Rs.133.77 and Rs.695,29 during 1972-73 to 1979-80. The UGC (1986) revealed that the average expenditure of twenty-three DE institutions was Rs.469.77 per student during 1980-81. Highest per capita expenditure was observed at,Utkal University (Rs.l, 268.72) and lowest was the Kurukshetra (Rs.63.94). In the case of APOU (presently named as B.R. Ambedkar Open University) this was around Rs.l200.00 (Dutt, 1986). The cost per student of Delhi University came down from Rs.801 in 1980-81 to Rs.563 in 1985-86 (Dutt, 1988).

The unit private costs of two year M.A. and M.Com. courses at the Himachal Pradesh University during 1978-80 were Rs.2450.00 and Rs.3000.00 respectively; for M.Ed, it was around Rs.1700.00 and for B.A. it was around Rs.2400.00 (Sahoo, 1985). In the case of seven distance education institutions of Delhi, Punjab, Punjabi, Bombay, Sri Venkateshwara, Madurai Kamaraj and Meerut the unit private cost for B.A. Courses during 1973-1976 varied from Rs.171.00 to Rs.262.00, while the teaching unit costs varied from Rs.58.00 to Rs.98.00 and the non-teaching unit costs from Rs.165.00 to Rs.359.00. (Yadav and Sharma, 1987).

Most of the studies conducted on comparison of unit costs of correspondence courses and face-to-face courses revealed that the unit costs of correspondence courses were lower than those of face-to-face courses, in some cases as low as 10 percent of face-to-face course unit costs (Biswal, 1979; Pandey, 1980; and Gupta, 1985). However, Agarwal (1986) revealed that in the case of professional training courses, the unit cost of correspondence course was higher by 39 percent than that of face-to-face courses. Of course, the nature of the institution was not considered for comparison of costs in this case.

The above studies are at the higher education level.

Gaba (1999) did cost analysis at the school level with focus on designing and development of self instructional material. The study revealed that most of the expenditure was incurred on printing (75 percent) followed by salary to the academic staff (12 percent). There is a negative correlation between the number of students enrolled and the unit cost.

- **Cost Benefit Studies :**

Two studies, Pandey (1980) and Gupta (1985), have attempted to make cost benefit studies with reference to different cost components in India. Pandey's (1980) study, which was conducted on 10 sample universities, revealed that

- There was significant difference between regular and correspondence streams with regard to recurring income. Correspondence courses supported themselves without government subsidy and mostly depended on students' contribution. However, with regard to non-recurring income, no difference was marked between the two streams. On the total income, there existed differences between the two streams.
- The differences in recurring and non-recurring expenditure of regular and correspondence education were not different although their heads of expenditure were not similar.
- Significant differences existed between per student expenditure on direct cost, indirect cost and total cost of enrolled and appeared level, whereas no significant difference was marked with regard to direct cost per student for pass level. However, there existed differences between per student

expenditure on indirect cost and total cost at pass level.

- There was no difference in terms of wastage cost per student at direct, indirect and total levels of the two streams.
- The difference between the direct cost per student failure was not significant, but that for indirect cost and total cost per student (failure) were significant.
- The 1978 study reveals that the correspondence education was more economical, as the total cost benefit per student was Rs.2823.14 at undergraduate level.

Analysing the relationship between student strength and cost per student in the case of all DE institutions at university stage, Dutt (1986) found the correlation co-efficient as low as 0.26. Sahoo (1985) revealed that the rate of growth of enrolment did not equally affect all aspects of expenditures of distance education since there existed a low relationship between student strength and different components of expenditure.

- **Overview**

Research studies have mostly adopted descriptive survey approach and quantitative analysis techniques. The experimentation for testing the efficacy of various approaches, interventions and models; case study approach; use of interviews and observations; qualitative data analysis techniques have been neglected in the conduct of studies.

The findings of the studies in comparative perspective indicated that the instructional material prepared and developed by IGNOU is greatly appreciated by the teachers associated with distance education programmes and distance learners. The quality and standard of the course content is maintained by involving professionals and experts from the field and adequate time is devoted in preparing the materials. However, course materials prepared by most of the correspondence / distance education institutions of conventional universities are poor in quality and prints because these institutions hardly involve professional of quality due to lack of finances. The materials are mostly prepared in hurry.

The distance education programmes offered by conventional universities use print-based instructional materials. However, some state open universities use multi-media-based instructional technology. IGNOU, in addition to multi-media, use latest

communication and information technologies including teleconferencing in providing instruction and counselling to distance learners.

The teacher associated with the distance education courses in conventional universities are hardly provided any orientation in the theory and practice of distance education programmes. IGNOU is providing orientation to course writers through seminar and workshops.

PART – II

REVIEW OF DISTANCE EDUCATION ARTICLES (2000 TO 2008) by the e-journal – the International Review of Research in Open and Distance Learning (IRRODL)

(Analysis of Research Areas, Methods and Authorship Patterns.)

The articles (N-695) published in five prominent distance education journals between 2000 and 2008 were reviewed. The conclusion drawn is that the distance education research is strongly dominated by issues related to instructional design and individual learning processes whereas, other important areas (e.g. innovation and change management or intercultural aspects of distance learning) are neglected. There is a significant trend forwards collaborative research and more qualitative studies.

Research on distance education has been subjected to consistent critique (Berge and Mrozowski, 2001: Bernard et al., 2004 ; Perraron 2000, Saba 2000) Moore (1985) stated that there is "a massive volume of amateur, unsystematic, and badly designed research producing information of very little value". Panda (1992) analysed the Indian distance education literature and concluded that "most of the studies are either descriptive status surveys or experimental studies with poor methodological base "Saba (2000) criticizes the lack of theoretical underpinnings: "Research questions are rarely posed within a theoretical framework or based on its fundamental concepts and constructs"

Selection of Journal and Articles :-

Five journals namely Open Learning (OL), Distance Education (DE), the American Journal of Distance Education (AJDE), the Journal of Distance Education (JDE), and the International Review of Research in Open and Distance Learning (IRRODL).They were selected because of their reputations as the most prominent and recognized journals in the field of distance education.

Based on a literature review and a qualitative analysis of the responses three broad meta-levels of distance education research were derived:

1. Macro Level: Distance Education Systems and Theories,
2. Meso Level: Management, Organization, and Technology,
3. Micro Level: Teaching and Learning in Distance Education.

Within these three levels, the research issues that considered as important by the experts can be categorized into 15 research areas

- **Macro level: Distance Education Systems and Theories.**

1. Access, equity, and ethics: The democratization of access to distance education afforded by new media and by finding ways to deliver high-quality education to those who have limited resources and poor infrastructure; issues that refer to the (sustainable) provision of distance education in developing areas. What is the impact of distance education (e.g., via mobile learning) on narrowing the digital divide and what is the role of ICT (information and communication technologies) and/or OER (Open Educational Resources) in terms of access to education?
2. Globalization of education and cross-cultural aspects: Aspects that refer to the global / external environment and drivers, the development of the global distance education market, teaching and learning in mediated global environments, and the implications for professional development
3. Distance teaching systems and institutions: Distance education delivery systems, the role / of institutional partnerships in developing transnational programmes, and the impact of ICT on the convergence of conventional education and distance education institutions. (hybrid or mixed-mode).
4. Theories and models: Theoretical frameworks for and foundations of distance education, ' e.g., the theoretical basis of instructional models, knowledge construction, interaction between learners, or the impact of social constructivism learning theories on distance education practice.
5. Research methods in distance education and knowledge transfer: Methodological / considerations, the impact of distance education research and writing on practice, and the role of professional associations in improving practice. Literature reviews and works on the history of distance education are also subsumed within this area.

- **Meso level: Management, Organization, and Technology.**

6. Management and organization : Strategies, administration, and organizational infrastructures and frameworks for the development, implementation, and sustainable delivery of distance education programmes. What is required for successful leadership in distance education? Distance education and policies relating to continuing education, lifelong learning, and the impact of online learning on institutional policies, as well as legal issues (copyright and intellectual property).
7. Costs and benefits : Aspects that refer to financial management, costing, pricing, and business models in distance education. Efficiency : What is the return on investment or impact of distance education programmes? What is the impact of ICT on the costing models and the scalability of distance education delivery? How can cost effective but meaningful learner support be provided?
8. Educational Technology : New trends in educational technology for distance education (e.g. Web 2.0 applications or mobile learning) and the benefits and challenges of using OERs, media selection (e.g., synchronous vs. asynchronments media), technical infrastructure and equipment for online learning environments, and their opportunities for teaching and learning.
9. Innovation and change: Issues that refer to educational innovation with new media and measures to support and facilitate change in institutions (e.g., incentive systems for faculty, aspects referring to staff workloads, promotion, and tenure).
10. Professional development and faculty support: Professional development and faculty support services as a prerequisite for innovation and change. What are the competencies of online teachers and how can they be developed?
11. Learner support services- The infrastructure for and organisation of learner support systems (from information and counselling for prospective students about library services and technical support to career services and alumni networks).
12. Quality assurance: Issues that refer to accreditation and quality standards in distance education. The impact of quality assurance and high quality learner support on enrolments and drop-out/retention, as well as reputation and acceptance of distance education as a valid form of educational provision.

- **Micro level: Teaching and Learning in Distance Education.**

13. Instructional design: Issues that refer to the stages of the instructional design process

for curriculum and course development. Special emphasis is placed on pedagogical approaches for tutoring online (scaffolding), the design of (culturally appropriate) study material, opportunities provided by new developments in educational technology for teaching and learning (e.g. Web -2.0 applications and mobile devices), as well as assessment practices in distance education.

14. Interaction and communication in learning communities: Closely related to instructional/ design considerations is course design that fosters (online) articulation, interaction, reflection, and collaboration throughout the learning and teaching process. Special areas include the development of online communities, gender differences, and cross-cultural aspects in online communication.

15. Learner characteristics: The aims and goals of adult learners, the socio-economic background of distance education students, their different learning styles, critical thinking dispositions, and special needs. How do students learn online (learner behavior patterns, learning styles) and what competencies are needed for distance learning (e.g., digital literacy)?

Conclusions and Implications for Future Research

The study examined (1) research areas in distance education, trends, priority areas, and gaps in distance education research; (2) research methods in distance education; and (3) authorship patterns. The results of this review convey certain implications for future research in distance education.

Major findings of this study may be summarized as follows:

- Research in distance education is dominated by studies that focus on interaction and communication patterns in computer-mediated communication, instructional design issues, learner characteristics, and educational technology.
- In terms of research methods, the only discernible trend was found for qualitative. research methods, with a modest upward trend on a low percentage level. Maybe researchers in the field have taken note of those who advocate more qualitative studies to capture a deeper and richer range of data (cf. Minnes, 1985; Saba 2000).

- The AJDE clearly prefers to publish quantitative studies; whereas, DE accepted the highest number of qualitative studies, and JDE published the highest number of papers that followed a mixed method design.
- More than 80% of all articles were contributed by authors from only five countries: USA, Canada, UK, Australia, and China. The first authors of the 695 articles under review came from 54 different countries. Interestingly, the journals publish more from their own country of origin. The international journal is IRRODL with only 18.9% of authors coming from Canada; whereas, AJDE has a strong North American bias with over 80% of authors from the USA and Canada.
- A significant trend was found towards more collaboration among researchers in distance education. In the period between 2000 and 2008, the proportion of single-author papers was 44.2% compared to 61.5% of 361 articles published between 1991 and 1996 that were reviewed by Mishra (1997).

- **Gaps and Priorities :**

Indian research in education began in 1943 that is more than fifteen years before the distance education programme in the form of correspondence education began in 1962. During the last 48 years of its existence, it has expanded to cover more than 37,36,744 students attending more than hundred Dual Mode Universities and thirteen State Open Universities and one National Open University. Despite this phenomenal expansion, major researches in Distance Education either at the doctoral or in the project form are few in number.

Research in distance education can be classified, as micro and macro studies. In another way, they can be classified as simple components as drop out or integrated multi-components studies. On the basis of the analysis of the studies in the various areas as evident from the review earlier, there are concentrations in certain areas like characteristics of distance learners and economics of distance education. "In fact, both these areas have been extensively studied. The crucial area of andragogy and pedagogy of distance education were hardly touched. Distance Education has, all over the world, adopted a multi-channel learning format involving print material, PCP, audio, radio, television, interactive television and Internet. There has been no study on the effect of multi-channel learning on distance education. Within the instructional process there are very few studies on electronic media. TV and radio as

media of distance education have remained almost unexplored. Similarly, research in other components of instructional processes are few and scanty to derive any significant conclusions about the pedagogy and andragogy in distance education.

The studies on learning outcome through distance education and its comparability to the learning outcome in the conventional system are negligible. Studies are totally missing on excellence and quality of distance education-what constitute quality and what determines quality in distance education. The number of studies on organization and management of distance education are less. Besides, there are open universities and dual mode universities and distance education outfits in the conventional universities vary widely in their organizational structure. Some of them enjoy the status of a faculty (autonomous). Some are in the departmental status under a faculty and yet some others operate as constituent colleges. They vary widely in their academic and financial autonomy. Similarly, these institutions vary very widely in their staff structure. A few of the departments have a large number of staff within the distance education institution e.g. about 100 in the Directorate of Distance Education of Delhi University, some others maintain a skeleton staff e.g. only one Director in the Directorate of Distance Education, Bombay University drawing totally from other departments of the university.

Another related area, relatively unexplored is the staff development in distance education. Although STRIDE in IGNOU as well as some of the directorates of distance education have been conducting staff development programmes, research on the programmes is almost missing. Recently Ramanujam (1999) conducted a study on "STRIDE Training Programmes: Their Impact on the DOL systems in South Asia". The results are with regard to STRIDE training of academics in IGNOU. Majority respondents were positive to the training programmes but feels that STRIDE should equip itself in terms of leadership, understanding, and strategic planning. Secondly the impact of DDE, PGDDE and MADE programmes are found to be useful as these programmes have made the distance educators carry out their tasks effectively though the implementation and delivery mechanism suffer from many weaknesses. The third part reveals the impact of STRIDE training on the non teaching staff of IGNOU. It was found that training was given earlier to non teaching staff which has been discontinued now. The non teaching staff expects STRIDE to develop collaborative and need based training programmes which would contribute to the efficiency of their daily work.

Distance learners are a heterogeneous group. However, they follow the same curriculum as their counterparts in the conventional courses. The heterogeneity in age, occupation, interest, motivation, etc. are not reflected in the curriculum development process. Open universities have the autonomy of developing curriculum focused on distance learners. The relationship between the curriculum development process and the quality of curriculum is the important area of research.

Some of the Issues in distance education research are: What are the main research areas in distance education and how have they changed between 2000 to 2008? What are the most common research areas and where are there gaps in distance education research? (Mishra.1998).

It is observed that studies are too few to provide a comprehensive coverage of different issues and problems of distance education.

- **Research Priorities in Distance Education**

Research priorities can be derived from the gaps. Research priorities can be fixed by individual experts or collectively, by the experts and field practitioners. NIEPA, an Indian national institution on planning and management of education, has developed a list of priority research areas in planning and management of distance education collectively with the directors of distance education departments of dual mode universities (Mukhopadhyay and Sujatha, 1991).

To begin with research should be undertaken to assess how far distance education has actually made education accessible. In India, about 10% of total enrolment in higher education is through distance education. This 10% is of the 6% of the age group 18-23 who join higher education. Further this 6% enrollment in higher education is actually 60% of those who are eligible to join higher education. Causes need to be explored. Similarly, on the equity dimension, research on learners background indicate unequal gender ratio, rural urban ratio, employed-unemployed ratio economically viable-weaker section ratio, etc. Researches are needed to assess causes of inequity and remedial measures.

- **The prospects**

The rapid expansion of the distance education / open university system in the country has provided a vast ever-growing field to introspect, explore and actualize- both in research, and policy formulation and implementation. With the increasing number of students seeking education at a distance the major issue before the academics and the scholars, on which the exploration in the field depends, are: i) allocation of staff time, resources and academic freedom to undertake both systemic and discipline-based research; ii) the growth of distance education as a discipline ; and iii) the actualization of distance education as a career. Distance education as a form of open learning has vast potentiality of expand, influence and sustain, but it depends on how and to what extent this is subscribed to and increasingly tried out by the planners and practitioners.

Research in distance education would not only establish and enhance the theory of distance education, but also significantly contribute to its practices.

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CHAPTER – III

THEORIES OF DISTANCE EDUCATION

- **Introduction :**

Early pioneers of correspondence education, William Rainey Harper of Chicago, William H. Lightly of Wisconsin, and Hans Hermod of Malmo, wrote about the advantages of this form of education. But the historian of distance education, Rudolf Manfred Delling from Tubingen, claimed in 1966 that although institutionalized distance education had existed for about a hundred years, it was only during the previous few years that the practice of distance teaching had commenced to rely on theory. Nevertheless there was no systematic theory of distance education which might make it possible to classify practitioners individual experiences in relation to their essence. Delling states that the first theoretical work was developed in the 1950s

As theoretical approaches began to emerge in the 1970s, their development was fitful. The first major theoretical structure and to date the most comprehensive categorized distance education as an industrialization of the education process suggested by (Peters, 1973) is that the closest parallel to a distance-teaching organization was the industrialized production of goods.

The theories to date can be classified into three groupings:

1. Theories of autonomy and independence: These contributions come mainly from the late 1960s and early 1970s and the major representatives are Rudolf Manfred Delling (Germany), Charles A. Wedemeyer (USA) and Michael G. Moore (USA)
2. Theory of industrialization. Otto Peters' work in Germany comprised comparative studies throughout the 1960s and theoretical formulation in the early 1970s
3. Theories of interaction and communication: More contemporary views from Borje Holmberg (Sweden/Germany), John A. Baath (Sweden), David Sewart (UK), Kevin C. Smith (Australia), and John S. Daniel (Canada/UK)

I. THEORIES OF AUTONOMY AND INDEPENDENCE :

In 1993, Amundsen published a major analysis of the evolution of theoretical

writing on. Distance education, adding presentation of the work of D.R. Garrison (Canada) and J. Verduin and T. Clark (United States) to the authors presented here (Amundsen, 1993).

- **A Helping Organization :**

Rudolf Manfred Delling of the Deutsches Institute fur Fernstu-dienforschung and the Universidad Tubingen a historian and bibliographer in 1966 provided the definition:

"Distance education *(Fernunterricht)* is a planned and systematic activity which comprises the choice, didactic preparation and presentation of teaching materials as well as the supervision and support of student learning and which is achieved by bridging the physical distance between student and teacher by means of at least one appropriate technical medium".

Delling sees distance education as a multi-dimensional system of learning and communication processes, with the aid of an artificial signal-carrier. In many of his writings (1968,1978) he lists eight dimensions:

1. a learner;
2. Society (including legislation, administration, family, etc.);
3. a helping organization (distance teaching institutions);
4. a learning objective;
5. the content to be learned;
6. the result of learning;
7. distance;
8. a signal-carrier

Remarkable in his approach are his hesitation to label distance education a teaching process (distance colleges or departments are organizations which 'help' learning) and the absence of the teacher from the eight dimensions of the system.

A distance education course is an artificial, dialogic opportunity for learning in which the distance between the learner and the helping organization is bridged by an artificial signal-carrier.

From the start the concepts of feedback and two-way communications are central to Delling's position. He sees an essential difference between learning opportunities that are *monologues* (books, newspapers, journals, documentary films,

lectures without discussion, broadcasts, self-teaching courses, and other self-instructional material).and those that are *dialogic* (normal classroom or school teaching, conversations, letters with answers, and distance education courses). Monologues are based on one-way communication, whereas dialogues are characterized by two-way communication.

Delling claims that world of distance education, has little of the characteristics of 'teaching' because there is, in general, no teacher in the system and the functions relating to student learning within the helping organization are performed by a variety of machines, people, and materials.

Delling tends to reduce the role of the teacher and of the educational organization to a minimum and throw the whole emphasis on the autonomy and independence of the learner. This is especially important because adults are normally the learners in distance programmes. According to him the adults do not accept the conventional educator-pupil relationship. The function of the 'helping organization' is to take over, upon the wish of learners, everything that they cannot yet do for themselves, with the tendency that the learners eventually become autonomous. When this occurs the only function left for the helping organization is to provide information, documentation, and library facilities.

Delling seems to place distance education outside the field of educational theory. He sees it falling within the range of communication processes and to be characterized by industrialized mechanisms which carry on its artificial dialogic and two-way communication processes. He reduces the role of the teacher and throws the whole weight of his analysis on the learning of the student studying at a distance.

- **Independent Study :**

The term 'independent study' was used by Charles A. Wedemeyer (1973) to describe distance education at university level. Throughout his professional life he was Professor of Education at the University of Wisconsin, Madison and closely associated with the Independent Study Division of the National University Extension Association of the United States of America.

He uses the term 'independent study' to describe distance education at university level and gives this definition:

'Independent learning' is that learning, that changed behaviours, that results from activities carried on by learners in space and time, learners whose environment is different from that of the school, learners who may be guided by teachers but who are not dependent upon them, learners who accept degrees of freedom and responsibility in initiating and carrying out the activities that lead to learning.

Wedemeyer's thought is generous and liberal. A major influence is the philosophy of Carl Rogers. There are two bases for his views on independent study: a democratic social ideal and a liberal educational philosophy. He considers that nobody should be denied the opportunity to learn because he/she is poor, geographically isolated, socially disadvantaged, in poor health, institutionalized, or otherwise unable to place himself/herself within the institution's special environment for learning. Thus he claims that independent study should be self-pacing, individualized, and offers freedom in goal selection.

- **The independent learner :**

Wedemeyer (1973) sees the independent learner as the original or 'proto'-learner whose success in learning enables him/her to survive and he claims that each individual commences with a period of pre-school individual learning. Group instruction which evolved in schools was first intended, he tells us, for the elite, and the long history of formal education is characterized by a persistent pattern of the learner in the group - a *dependent* learner whose goals, activities, rewards, and punishments are decided by the policies and practices of an ever-present group of teachers.

With respect to the space and time barriers the study on the pattern of the learner can be dissipated in six successive stages:

1. The invention of writing.
2. The invention of printing.
3. The invention of correspondence education: the first formally structured format for the independent learner, which made use of new technology in the form of a reliable mail service in the mid-1800s.
4. Development of democratic and egalitarian philosophies.
5. Application of telecommunications media to teaching.
6. Development of programmed-learning theory.

These series of developments relates to the possibility for people, cut off from the regular schools to continue learning in ever larger numbers. Wedemeyer has used three terms for such programmes: ‘independent study’, ‘open learning’, and ‘distance education’. He saw in the 1960s the re-emergence of the independent learner, with a new plan for independent programmes in areas where conventional group-based formal learning was less able to succeed.

- **‘Independent study’ :**

Wedemeyer (1977) made a determined effort to establish the term ‘independent study’ as the umbrella term for this field of education both in the US and throughout the world:

Independent study consists of various forms of teaching-learning arrangements in which teachers and learners carry out their essential tasks and responsibilities apart from one another, communicating in a variety of ways. Its purposes are to free on-campus or internal learners from inappropriate class placing or patterns, to provide off-campus or external learners with the opportunity to continue learning in their own environments, and developing in all learners the capacity to carry on self-directed learning, the ultimate maturity required of the educated person.

It can be noticed at once that Wedemeyer’s concept of ‘independent study’ comprises two different forms of education: ‘independent study for the internal student’ and ‘independent study for the external student’. Independent study for the internal student makes freedom from lecture attendance possible for exceptional university students by the allocation of series of readings and individual study programmes. One can see elements in his thought of ideas similar to the contract programmes and educational brokerage ideas favored in some experimental American programmes of the mid-1970s. The linking of external and internal programmes in the one definition, however, tends to diffuse Wedemeyer’s ideas and the-emphasis of internal independent study disappears in his later articles.

Wedemeyer’s liberal educational theory (1961) and egalitarian social philosophy were ill-at-ease with the conventional educational system and many of his writings are marked by comments on the shortcomings of the contemporary scene both at school and university level:

Conventional teaching and learning, makes use of concepts of learning and teaching that have preserved the old mystiques, which have maintained space-time barriers to learning.

In this context Wedemeyer (1968) set out a conceptual structure for an educational system that would be more akin to his views. Most of his writings list ten characteristics of the proposed system:

1. The system should be capable of operation any place where there are students - or even only one student -whether or not there are teachers at the same place at the same time.
2. The system should place greater responsibility for learning on the student.
3. The system should free faculty members from custodial type duties so that more time can be given to truly educational tasks.
4. The system should offer students and adults wider choices (more opportunities) in courses, formats, methodologies.
5. The system should use, as appropriate, all the teaching media and methods that have been proved effective.
6. The system should mix and combine media and methods so that each subject or unit within a subject is taught in the best way known.
7. The system should cause the redesign and development of courses to fit into an 'articulated media programme'.
8. The system should preserve and enhance opportunities for adaptation to individual differences.
9. The system should evaluate student achievement simply, not by raising barriers concerned *with the place* the student studies, the *rate* at which he studies, the *method by* which he studies or the *sequence* within which he studies.
10. The system should permit students to start, stop and learn at their own pace.

Wedemeyer noted instinctively that the only way to break what he called the 'space-time barriers' of education was by separating teaching from learning. This involved planning each as a separate activity. These early insights by Wedemeyer were later confirmed by Kaye and Rumble (1987).

Based on planning teaching and learning as separate activities Wedemeyer (1973) postulates six characteristics of distance or independent systems that are capable of operation from any place whether there are students - or even only one

student - whether or not there are teachers at the same place at the same time:

1. The student and teacher are separated.
2. The normal processes of teaching and learning are carried on in writing or through some other medium.
3. Teaching is individualized.
4. Learning takes place through the student's activity.
5. Learning is made convenient for the student in his own environment.
6. The learner takes responsibility for his progress, with freedom to start and stop at any time and to pace it himself.

- **The teaching-learning situation :**

Wedemeyer has presented his thoughts diagrammatically wherein he claims that every teaching-learning situation comprises four elements:

- a teacher;
- a learner or learners;

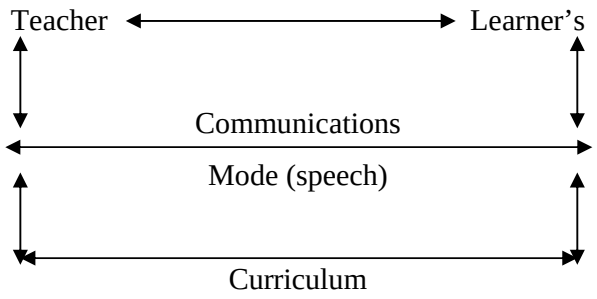


Figure 1

The classroom as a teaching-learning situation (Wedemeyer) *Source:* Adapted from Keegan (1976)

- a communications system or mode;
- Something to be taught / learned.

He then claims that a traditional classroom could be represented as a box which encompasses the four elements as shown in Figure 1 .

In a number of his writings Wedemeyer explains what he has called the 'classroom-box': If the communications system is given either because it is the only system available (think of Plato meeting learners in the Grove of Akademos) or is a cultural artifact acting as an imperative, then there are no options, and the communication must be face-to-face, eyeball-to-eyeball, earpan-to-earpan speech.

Then, if a box is put around the four essential elements, we have a classroom. A teaching-learning system that must work from any place, any time, for one learner or many, directly confronts the space-time-elite barriers of the classroom model. In fact, however, distance has long been a problem in the classroom model. As classes became larger, and lectures replaced the dialogue that Plato conducted, the integrity of the model was breached. Only the illusion of being effectively face-to-face remains, as distance within the box lengthens between teacher and learners and speech is amplified for ever more distant reception. According to Wedemeyer the concept of distance involves more than physical distance. There is social as well as cultural distance. All of these are present wherever teaching and learning are carried on.

If we are to achieve a 'teaching-learning system that must work any place, any time, for one learner or many then as illustrated by Wedemeyer the 'classroom-box' must be restructured (Figure – 2) " where the four elements of the previous structure remains but have been reorganized to accommodate physical space. This representation of the teaching-learning process by Wedemeyer to accommodate the 'any time, any place, single or multiple learner's requirements' has as its aim the organization of instruction so that greater freedom in learning is possible. As an outcome of this Wedemeyer (1973) proposes three conceptualizations of freedom for learners in all independent or distance programmes:

- learning should be self-pacing: the learner should be able to pace his studies in accordance with his circumstances and needs
- learning should be individualized and the learners should be free to follow any of several courses of learning
- The learner should have freedom in selection of goals and activities.

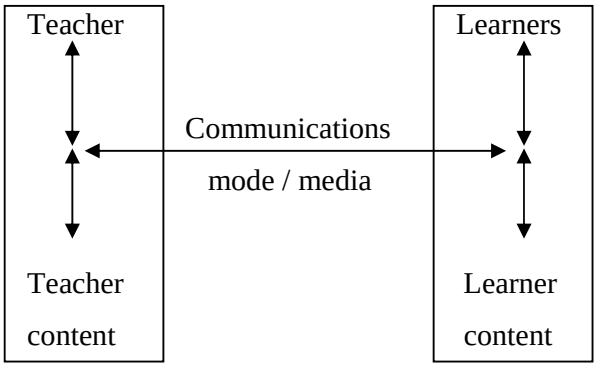


Figure- 2 teaching-learning situation to accommodate physical distance

Source: Adapted from Keegan (1976)

- **Structuring the system :**

Wedemeyer faced some criticism when he tried to suggest that these theoretical propositions about the freedom of the distance learner should be implemented in practice. These criticisms came both from those looking for a workable system and from those who feared that public monies spent on distance systems would be transferred back to conventional education if the learning in the distance system could not be accurately evaluated or if the evaluation was that the learning in the independent system was inferior.

Despite the idealistic nature of much of Wedemeyer's writing (1963) he had a very extensive knowledge of the day-to-day workings of correspondence systems. 'Not every student', he warns, 'will be able to succeed by correspondence instruction. This is not an easy method of learning.

Wedemeyer in 1962 has stated five serious obstacles to success as a distance learner:

- developing interest in the task and motivation
- readiness for study is a problem in correspondence study witnessed by 'the non-start, the early drop-out, the under achiever'
- grasping the structure of the subject to be learned at *a* distance
- learning both analytic and instructive thinking
- evaluating progress in learning.

The secret of success in Wedemeyer's (1963) thought is placed squarely on the shoulders of the instructor who is in a continuous tutorial relationship with the correspondence student. The teacher is the daily monitor and motivator of the distance student. The chief value of the correspondence method lies in the tutorial relationship developed between the teacher and the student, and to minimize or destroy this relationship (by check-off type lessons, multiple-choice answers) actually changes the character of the work offered. Schools that depend solely on the use of objective or machine-type scoring have abandoned distance education. Such programmes are, in fact, programmes of 'self-study'.

In a similar vein Wedemeyer (1971) does not consider close-circuit television, radio, telephone, teaching machines, computer, and satellite as forms of independent study or distance education except under strict conditions: 'If media (CCTV, for example) are employed merely to replicate a regular class without broadening

opportunity and shifting responsibility and freedom to the learner, the system cannot be defined as independent study'.

- **Evaluation :**

Wedemeyer's personal dedication, generosity, and liberal vision contributed much to the growth of a consensus among distance educators throughout the world and influenced many of the writers.

AUTONOMY AND DISTANCE

In 1973, Michael G. Moore of Pennsylvania State University, complained that progress in distance education was being hindered by lack of attention to what he called the 'macro-factors':

- Description;
- Definition;
- Discrimination;
- Identification;
- building a theoretical framework.

His own contribution was the development of a theory of distance education based on the variables 'autonomy' and 'distance'.

Moore's first contributions to a theory of distance education came in the early 1970s but they are read with surprising freshness today. A number of themes are immediately apparent in his writing: he states clearly that he wishes to develop a theory of education at a distance, defines which aspects of educational endeavour he is dealing with and which are excluded, speaks of those students who will not attend groupings but choose to learn apart from teachers, uses confidently terms like 'distance teaching' and 'distance education' as 'a field of education' at a time when most were classifying it merely as a method or a mode (Moore 1975).

Moore's focuses on all forms of deliberate, planned, structured learning and teaching that are carried on outside the school environment. He defines the school environment as 'the classroom, lecture or seminar, the setting in which the events of teaching are contemporaneous and co-terminous with the events of learning'. Distance education (he uses the term 'independent learning and teaching') is an educational system in which the learner is autonomous and separated from the teacher

by space and time so that communication is by a non-human medium. The distance system has three subsystems: a learner, a teacher and a method of communication. These subsystems have critical characteristics distinguishing them from learning, teaching, and communication in other forms of education.

His research began with the belief that instruction can be considered as comprising two families of teaching activities: face-to-face or 'contiguous' teaching and 'distance teaching'. From an exhaustive search of the literature, Moore lists the forms of educational provision that fall within his concept of 'distance teaching': an open university, a university without walls, an independent study programme on-campus, an external degree programme, and even a teach-yourself book. This is a much wider classification than that accepted for distance education. The reason for it is, as with Wedemeyer, the inclusion of on-campus independent study programmes within the definition, and an opening up of the concept 'independence' to include programmes without two-way communication.

Within this theoretical structure Moore identifies two clusters of educational offerings as essential components of independent study:

- Programmes designed for learners in environments apart from their instructors - distance teaching: and
- Programmes designed for the encouragement of independent/self-directed learning - learner autonomy.

Thus Moore brings together two traditions: distance teaching which he traces back (with Noffsinger) to the 1840s and self-directed study which he traces back through a range of practices in American higher education to the tutor system in Oxford University in the nineteenth century.

Moore (1977) defines Distance teaching as the family of instructional methods in which the teaching behaviours are executed apart from the learning behaviours, including those behaviours that in a contiguous situation would be performed in the learner's presence, so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical, or other devices. Besides this it is seen that Moore had accepted that teaching consists of two phases: 'the preactive' and the 'interactive'. For Moore, the teacher in the preactive phase selects objectives and plans the curriculum and instructional strategies. In the 'interactive' phase, face to face with learners, the teacher provides verbal stimulation, makes explanations, asks questions, and provides guidance (1977b: 15).

According to Moore most educational research treats teaching as 'the activity which takes place *during* school and *within* the classroom setting' where communication is by the human voice and there is 'immediate, spontaneous, often emotionally-motivated interaction between the learner arid the teacher, and usually between the learner and other learners: there is a social interactional relationship which assumes no delay in communication, no distance in space or time'. Since the introduction of compulsory education for children, Moore points out, face-to-face teaching has been accepted as the norm. But distance teaching situations do exist, particularly with adult learners.

- **The concept of distance :**

Moore has correctly identified the concept of separation of learner and teacher as the origin of the concept 'distance' in education, and as crucial for determining the selection of research data from which theoretical frameworks in this field may be constructed. Moore suggests that distance teaching programmes can be classified according to the distance between learner and teacher. Thus programmes can be classified by the provision for two-way communication (dialogue or D) and by the extent to which a programme can be responsive to a learner's individual needs (structure or S). He believes that the element of two-way communication in all distance teaching programmes can be measured and suggests that an educational telephone network is an example of high two-way communication or dialogue (+D) and an educational radio broadcast is an example of a distance teaching methodology in which two-way communication is not possible (- D) and hence would not be counted as an example of distance education as defined in this book. (here Moore has considered the classifying educational uses of media, not communications media.)

Moore also measures programmes in so far as they are responsive to students' needs as individuals, and labels this 'structure'.

Figure 3 - Table & Types of distance teaching programmes (Moore)

	Type	Programme Types	Examples
Most distance	-D-S	Programmes with no dialogue and no structure	Independent reading-study programmes of the 'self-directed' kind
	-D+S	Programmes with no dialogue but with structure	Programmes in which the communication method is radio or television
	+D+S	Programmes with dialogue and structure	Typically, programmes using the correspondence method
Least distance	+D-S	Programmes with dialogue and no structure	A Rogerian type of tutorial programme

Source: Adapted from Moore (1977)

In a highly structured programme (+S) no variation of the programme is possible (as in a Linear Programmed Instruction Text), but when there is a minimum of structure teachers and learners can respond easily to stimuli. Thus Moore feels it is important to measure the extent of the responsiveness of a teaching programme to a learner's individual needs, goals, progress, or achievements (is it highly structured or not?) whether the communications medium on which it is based permits two-way communication or not. He presents this as in Figure 3 (with S representing structure and D dialogue).

- **The concept of autonomy**

The more tentative section of Moore's theory is when he tries to establish learner autonomy as the second dimension of independent learning (1972).

Moore through his various publications states regarding the autonomy of the independent learner. There is a strong humanistic tendency in his writing. He is influenced by Charles Wedemeyer, Carl Rogers, Allan Tough, and Malcolm Knowles, but the synthesis is his own. Starting from a general observation that learners both in schools and universities are very dependent on teachers for explanations, guidance, questions, and stimulation, Moore shows that such an approach places more decision-making powers in the hands of the teacher than is acceptable to some adult education theorists.

Like Wedemeyer he seeks for learner autonomy in:

- The setting of objectives;
- Methods of study;
- Evaluation.

Both in conventional education and in most programmes of distance teaching and learning, Moore supports Maslow's analysis that the teacher is the active one who teaches a passive person. Thus the passive person is shaped and taught and is given something which he or she then accumulates and which they may lose or retain. This kind of learning, easily reflects the goals of the teacher, and ignores the values and ends of the learner (1977b: 21).

The basis for learner autonomy as a necessary theoretical component of distance education is justified by Moore from his analysis of the separation between teacher and learner in education at a distance . He raised the query whether the concept of 'distance' or 'separation' or 'apartness' is adequate to explain the gap between teacher and learner. However his own answer is negative. The existence of this gap means that the activities of teachers and learners are influenced by it. Because the learner is alone, he is compelled to accept a comparatively high degree of responsibility for the conduct of the learning programme. The learner also exercises a greater degree of control over his/her learning.

The autonomous learner proceeds without need for admonition and little need for direction. If highly autonomous he/she may have no personal relationship with a teacher but if he/she *has* a personal teacher he/she will be able to control the effect and significance of teacher input in a realistic and unemotional way. To the highly autonomous learner the teacher's role is that of respondent rather than director and the institution becomes a helping organization.

There are some adult learners who need help in formulating their learning objectives and in identifying sources of information and in measuring achievements, whereas there are many others who are autonomous learners, with the abilities of self-stimulation, knowledge of ways to achieve their objectives, and ways of measuring achievement. It is necessary, therefore, to be able to measure the 'autonomy' dimension of educational programmes. Moore has set out to do this in terms of his statement that all teaching-learning processes have these characteristic components:

- *Establishment or preparatory activities* in which problems are identified, goals set and strategies planned

- *Executive activities* in which data, information and ideas are patterned, experiments and tests take place in order to arrive at instructional solutions
- *Evaluatory activities* in which the instructional processes make judgments about the appropriateness of the information and ideas for solving the problems and meeting the goals.

(Moore 1977b: 21)

Moore claims that in conventional education the establishment activities are entirely in the purview of the teacher, whereas at a distance the teacher merely prepares instructional materials to be used and drawn upon to the extent that the learner desires. The teacher hopes that his/her material will meet the goals established by learners and will be used in their executive activities. In distance education, whether or not the material is used remains outside the distant teacher's control, and is dependent almost entirely on the worth of the material, as distant learners accept only executive material that meets their goals.

Similarly in evaluation, the conventional teacher invariably establishes both the criteria of successful learning and passes judgment on whether the criteria are satisfied. Where the teachers' and learners' goals do not coincide the latter invariably compromise through fear, apathy, or courtesy. Learner autonomy is heightened by distance and the learner is compelled by distance to assume a degree of autonomy that might be uncomfortable in other circumstances.

- **Classification of Programmes**

Moore has classified porgrammes according to the extent to which the learner can exercise autonomy in learning by asking three questions:

- *Autonomy in setting of objectives?* Is the selection of learning objectives in the programme that of the learner or the teacher?
- *Autonomy in methods of study?* Is the selection and use of resource persons, of bodies, and other media, the decision of the teacher or the learner?
- *Autonomy in evaluation?* Are the decisions about the method of evaluation and criteria to be used made by the learner or the teacher?

By applying these questions to teaching programmes Moore arrives at the classification shown in Figure No 4 in which A = learner determined (autonomous) and N = teacher determined (non-autonomous). An indication of the type of

programme which Moore considers is given for each of his eight categories.

Figure 4. Types of independent study programmes by learner autonomy (Moore)

Example	Objective Setting	Implementation	Evaluation
1 Private study	A	A	A
2 University of London External Degree	A	A	N
3 Learning sports skills	A	N	-
4 Learning car driving	A	N	N
5 Learner controls course and evaluation	N	A	N
6 Learner controls evaluation	N	N	A
7 Many independent study courses	N	A	N
8 Independent study for credit	N	N	N

Since learner autonomy is the extent to which in an independent study programme the learner determines the objectives, implementation strategies and evaluation and since distance means a combination of the availability of two-way communication plus the extent to which a programme is adaptable to the individuality of students. Hence Moore has classified all educational programmes by his own variables ‘distance’ and ‘autonomy’. Here he has superimposed Figure 3 on Figure 4 in such a way to categorize all educational programmes so that they range from having most independent to the least independent study.

In Figure -4 type AAA-D-S represents the most independent form of education: totally private study with no two-way communication and completely unstructured with the learner entirely autonomous in goals, methods, and evaluation. Type NNN+D-S is the least independent, where autonomy and distance are very low and the learner is completely controlled by the teacher.

Thus, Moore states that the independent study is any educational programme in which the learning programme occurs separate in time and place from the teaching programme, and in which the learner has an influence equal to the teacher’s in determining learning goals, resources, and evaluation decisions.

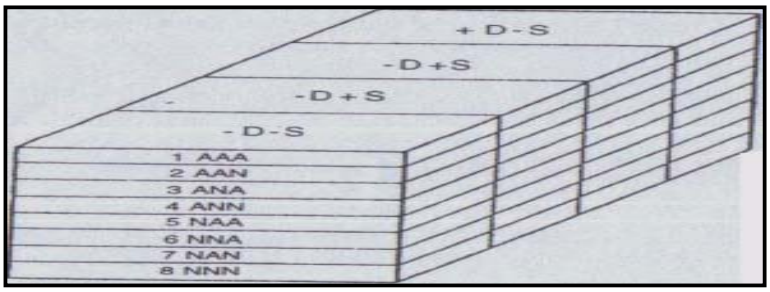
Figure 5 - Low distance least independent

Most independent,

High distance,

High autonomy,

Low autonomy



Typology of educational programmes (Moore) *Source:* Adapted from Moore (1977a)

As learners vary in the extent to which they are able to exercise autonomy and hence there is no value judgment in the use of the terms ‘autonomy’ and ‘distance’. There are programmes with much autonomy and dialogue and programmes with less, and they vary in distance. A programme of high autonomy may be as damaging to a person as one of low autonomy. The problem is to match programmes to learners so that each learner exercises the maximum autonomy and grows.

- **Evaluation :**

The first pole of Moore’s theoretical position ‘distance’ is well established, but further contribution is required so as to justify ‘autonomy’ (1972, 1983) as a second pole.

Moore published a reappraisal of his position in 1993 under the title Theory of transactional distance where he adapts his views that analysed to the introduction of electronic telecommunications media into the field:

Since the theory of Transactional Distance was written, the most important evolution in distance education has been the development of highly interactive telecommunications media. This is the family of teleconference media - i.e., the use of interactive computer networks and audio, audio-graphic, and video networks, which may be local, regional, national and international and are linked by cable, microwave and satellite. The use has added the possibility of faster dialogue with the teacher and, by computer conferencing, more individual dialogue. These media provide less structured programmes than the recorded or print-media. Above all, the teleconference media allow a new form of dialogue that can be called inter-learner dialogue. Inter-learner dialogue occurs between learners and other learners, alone or

in groups, with or without the real-time presence of an instructor. By audio conference, videoconference, and computer conference, groups can learn through interaction with other groups and within groups.

(Moore 1993: 32)

II. THE THEORY OF INDUSTRIALIZATION

The Industrialization of Teaching :

"Anyone professionally involved in education is obliged to presume the existence of two forms of instruction which are strictly separable: traditional face-to-face teaching based on interpersonal communication and industrialized teaching which is based on an objectified, rationalized, technologically-produced interaction."

- **Introduction :**

Much of the early research work in distance education was accomplished by Otto Peters in the early 1960s. Peters worked at the German Institute for Distance Education (DIFF) at Tubingen in the Federal Republic of Germany, then at the Berlin College of Education before becoming in 1975 the foundation Vice-Chancellor (Grundungsrektor) of the Fernuniversitat in Hagen. In 1965 he published an authoritative analytical and comparative survey of distance teaching at higher education level.

With the completion of analytical and comparative analysis of distance teaching systems Peter proceeded to develop a theoretical structure for the field. As the traditional categories of educational research proved inadequate for a didactical analysis of distance systems he was forced to abandon them. According to him building up for teaching at a distance, is structured so differently form conventional, oral education that the didactical analyst must look elsewhere for his models.

For Peters the most fruitful model was the similarities between the industrial production process and the teaching, learning process in distance education. He analyzed the industrial production process and found that not only did this provide a satisfactory basis for an analysis of distance teaching but that a fruitful explanatory and forecasting theory of teaching at a distance was possible when one considered it as the most industrialized form of teaching and learning.

Peter has justified his search for a new theoretical basis for distance teaching be as it is a new form of industrialized and technological education. Considering several points of view he states that the conventional, oral, group-based education is a pre-industrial form of education. In the universities of the Middle Ages the ancient therotical form of education was replaced by the lecture, the seminar, and the lesson and these have remained permanent characteristics of traditional education ever since. Later the humanistic influence added the tutorial. These can all be regarded as pre industrialized forms of education in which the individual lecturer remains in close contact with the completely teaching process just as an artisan does with his craft. However attempts to adapt the lecture, seminar, and tutorial to industrialized techniques by the use of educational technology will not prove successful because of the pre-industrial characteristics of the didactic structures in conventional universities.

Distance teaching, however, is recent. It could not have existed before the industrial era. It began, at most, 130 years ago (Peter 1980). It was no historical accident that correspondence education and the industrialization of society began about the same time because they are intrinsically linked. Distance education is impossible without a relatively fast and regular postal service and transport system: the first railway lines and the first correspondence schools were established around the same time.

Traditional educational concepts are only of partial use in analyzing and describing this industrialized form of education hence new categories for analysis must be found and they can best be found from the sciences which analyze industrial processes.

All forms of human life have been heavily influenced by the Industrial Revolution. Only traditional forms of education in schools, colleges and universities have remained outside it except for the phenomenon of education at a distance.

Peter claims some basis for his comparative study from the fact that the production of learning materials for distance students is, in itself, an industrialized process and one that is, in its didactic procedures, quite different from book production.

- **Didactical Analysis :**

Peter's theoretical presentation to distance teaching commences with a didactical analysis. In his presentation distance teaching is analysed as a distinct field of educational endeavor and not as teaching 'mode'. The analysis of the didactic structure of distance teaching (1979) follows exactly the structures proposed by Paul Heimann and Wolfgang Schultz, two German educational theorists who founded the Berlin School of Didactics education now also referred to as the Hamburg model. (Heidt 1978; Holmberg 1982).

Heimann and Schultz claims that all teaching learning processes can be analyzed in terms of six intrinsic structural elements viz aims, content, methods, choice of medium, human prerequisites, and socio-cultural prerequisites. Peter analyses distance education, as Heimann and Schultz had analyzed education in general, in terms of these six essential structures of the educational process and has little difficulty in demonstration profound structural differences between distance education and conventional education for all six of the constituent characteristics (1967: 4-16).

- Aim : The aim of distance teaching is determined by structural consideration as in all forms of teaching. Specific structural differences in the cognitive, emotional, and practical domains are indicated for distance teaching.
- Contents : The teaching of knowledge, skills, and practical 'hand-on' learning are examined and the difficulties and /or possibility of teaching certain content at a distance is considered.
- Methods : The drastic reduction or complete suppression of interpersonal communication is treated and its substitution by written information carriers and motivators.
- Choice of medium : It is claimed that communication suffers and essential loss of substance in its transfer from human speech to the written word and the possible compensating role of other media is considered.
- Human prerequisites : Employment conditions, age, diagnostic counselling for entry to courses are contrasted with the condition of conventional students.
- Socio-cultural prerequisites : Ideological, political, academic status, and tradition aspects of distance education in different cultures (USA, USSR, South Africa, England, Sweden) are considered.

The conclusion for assumption of Peter is inescapable. Distance education and conventional education have been shown to be essentially diverse on each of the six constituent components of educational process as defined by the most 'adequate theoretical basis for dealing with instruction media' (Heidt 1978: 47) known to German educational theorists.

The analysis leads to a fundamental separation between direct and indirect teaching and the claim that educational theorists have focused on direct teaching, especially in its conventional, oral, group based form, to the virtual exclusion of that other component of the educational scene-indirect teaching-of which distance teaching is one of the elements.

Peter lists the other components of teaching which are not direct, but which are not however to be identified as distance education: education by letter ; printed learning material; audio-visual teaching; educational radio and television; programmed learning; computer based instruction; independent study; private study; and learning from teaching materials.

- Industrial Comparison : At this point in this treatment of the subject (1967, 1971, 1973) Peter presents a comparison of distance teaching and the industrial production of goods under the following headings: rationalization; division of labour; mechanization; assembly line; mass production; preparatory work; formalization; standardization; functional change; objectification; concentration; and centralization.
- Rationalization is seen as a characteristic of distance teaching when the knowledge and skills of a teacher are transmitted to a theoretically unlimited number of students by the detached objectivity of a distance education course of constant quality.
- Division of labour is the main prerequisite for the advantages of distance teaching to become effective and is thus a constituent element of it. If the number of students enrolled in a distance course is high, regular assessment of performance is not carried out by those academics who developed the course and other elements of the teaching/ learning process are assigned to others.
- Mechanization. Conventional education proceeds at a pre-industrial level with the teacher using the tools of the trade (pictures, objects, books) without these

changing the structure of teaching; in distance teaching mechanization eventually changes the nature of the teaching process.

- Assembly line. In distance teaching the staff remain at their posts but the teaching (manuscript for example) is passed from one area of responsibility to another and specific changes are made at each stage.
- Mass production. Traditional forms of teaching envisage small groups and can only be applied to mass education artificially (e.g. a loudspeaker form one lecture hall to an adjoining one). Distance teaching copes confidently with mass production which is essential to it.
- Planning and preparation. As in industry, distance teaching is characterized by extensive planning by senior specialist staff in special departments and prior financial investment. Success is linked to the preparatory phase in a way that is different from conventional teaching.
- Standardization. A greater degree of standardization is required than in conventional teaching and the educational advantage of the interesting deviation at a particular time with a particular group of students is not possible: the objective requirements of the total course profile dominate the particular interests of the teacher.
- Functional change and objectification are further essential elements of the most industrialized form of education, especially when the functional role of teacher is split at least three ways: provider of knowledge (distance unit author), evaluator of knowledge and progress (course maker or tutor), and counselor (subject programme adviser).
- Monopolization. Concentration and centralization are characteristics of the management of distance system and of industrial enterprise; distance teaching institutions have a tendency to monopolization within a state or national provision.

- **Educational Technology**

The completion of this comparative study of distance education and the industrial production of goods led Peters to an analysis of distance teaching in the light of the then current ideas (mid-1960s) about educational technology. He follows distance education through five groupings of educational theorists, which he takes

over from the German didactician Fleshing:

- simulation models;
- planning models (Zweckrationalitat);
- materials development strategies;
- systems approach
- curriculum development.

Peter studies the affinities between distance education and educational technology, especially programmed learning. He shares with Flechsig and the educational technologists of the period the belief that planning and technology will achieve educational success. It was felt that the application of technical categories to educational processes would achieve beneficial results and that systematic planning and rationalization of educational means of reach defined goals. (Zweckrationalitat) could achieve both educational and economic efficiency.

- **Conclusions :**

The final dimension of Peter's analysis of distance education is what he calls the historical, sociological and anthropological perspective. Humanistic attacks on the industrialization of society and its contribution to mass culture lead Peters to expect criticism from humanists of his theory of distance education as the most industrialized form of education.

Tracing the historical evolution of educational structures back to early Indo-European origins, Peters finds them characterized by six elements:

- elitism;
- sacral aspects;
- hierarchical aspects;
- family-small groups structures;
- personal communication
- Time-place- person ties.

Distance education is the final phase of the evolution of education away froms these sociological structures. It presents a new, strange, and foreign educational pattern that has six characteristics, being:

- egalitarian;
- profane;

- democratic;
- aimed at a mass audience;
- technologically based;
- free form the dimensions of educational time, places and persons.

A sociological analysis based on the German philosophical Geneinschaft/ Gesellschaft positions taken from Weber, Tonnies, and Habermas shows that traditional, oral, group-based education follows the 'Gemeinschaft' categorization with distance education falling into the 'Gesellschaft' grouping. In general terms 'Gemeinschaft' structures are friendly and community- based; Gesellschaft implies a wider, society- based structure that may be unfriendly. The communication processes within these two sociological groupings show that the inter subjectivity and reciprocity of interpersonal communication in conventional education is radically to be contrasted with the 'context-free' mechanical communication of education at a distance. The possibility of alienation is not overlooked.

Peters feels that it is a slow process for a teacher to adapt to a distance education system because there will always be clashes between traditional teaching and the carefully structured procedures of a distance teaching university, in which the unity of the teaching/ learning process is split into many units performed by different persons and elements of the education system. The process of adaptation however can be furthered by reflection on the characteristics of distance education.

The student in an industrialized education system finds that instruction is available in such ways that he can choose his own way. Instruction is not linked to fixed times, to fixed persons. This throws new responsibilities on the learner that are not characteristic of pre-industrialized education systems.

Peters has no desire to criticize conventional education. His view, however, is that industrialized society of today has developed so many needs for education that it is absurd to imagine that conventional systems can satisfy them. New techniques are needed and these must be industrial.

He recognizes that traditionalists will say: What happens to the highly valued traditions of face-to-face education? What happens to the spirit of the learning community? These are all, he admits, of value but you cannot have 40000-50000 students in a system like an open university and try to provide face-to face tuition with finite means.

Almost alone among distance educators writing about distance education, Peters finds much to query in the industrialization of education. He finds distance education unnatural; it breaks up the process of communication; artificial mechanical substitutes for interpersonal communication are provided; this changes the teaching behaviors and the learning behaviours; there is a definite propensity to alienation. If you are going to teach in the most industrialized form of education, he tells us, you have to be ready to live with the problems that the industrialization of education brings.

- **Evaluation :**

Reactions and objections to Peters thesis have been many and there are those who deplore the introduction of industrial concepts into an educational field. Four of these reactions are considered here: Christof Ehmann, Kari-Heinz Rebel, Manfred Hamann, and integrationist responses.

- **Christof Ehmann :**

Ehmann (1981) criticizes Peters position because of its dependence on faith in the value of planning in education and faith in technical progress. He claims that these faiths, strong in the 1960s, have been shown to be wrong in the 1980s and that ‘ the application of technical categories to social processes is just as questionable as the use of biological analogies’ . Planning euphoria, programmed learning, faith in the calculability of processes – all central features of Peters industrialized models – have all been dissipated before the 1980s started.

Ehmann’s evaluation of Peters contribution is negative. He feels that as an academic position it is largely dated because of its reliance on theories of planning and technical progress, that its influence on Peters own institution – the Fernuniversitat – has been nil, as has been its influence on the world of commercial correspondence schools.

- **Karl- Heinz Rebel :**

Rebel complains (1983) that the basis of Otto Peters assumption – the six interdependent elements that constitute each teaching – learning process (the so-called Berlin Didactic School of Paul Heimann and Wolfgang Schulz) – could never

be expressed in such a way that research data capable of falsify-ing this theory could be collected.

- **Manfred Hamann :**

Hamann (1978) argues that all forms defined goals (Zweckrationalitat) whether they be called media didactics, learning psychology, systems theory or information theory, have been without success: there have been occasional glimpses of didactic possibilities but no progress towards increased cost-efficiency in education. He accuses Peters of simply applying the structures of Heimann-Schulz to distance education and nothing more. This reproach is justifiable for only the didactical analysis part of Peters presentation. The theory of industrialization is certainly original and owes nothing to Heimann-Schulz either in its presentation or in its origin.

III. THEORIES OF INTERACTION AND COMMUNICATION

- **Introduction:**

Interaction and communication are central to any concept of distance education. In very general terms Moore, Wedemeyer, and Delling tended to concentrate on the autonomy and independence of the student as the basis for their views, while Peter's focused on the functions of the institution developing learning materials. The starting point of their study was related to the role of the institution in providing a satisfactory learning experience for students, and the materials that developed and dispatched.

Five research studies have been considered that of Baath, Holmberg, Daniel, Sewart, and K.C. Smith. Baath is particularly associated with an emphasis on two-way communication and Holmberg with a theory of guided didactic conversation. Daniel, Sewart, and Smith are, or have been, managers of distance systems. Their writings are developed from the day-to-day pressure of managing distance systems. Their inclusion is justified by the wide-ranging and influential character of their contributions.

- **Two-Way Communication :**

Figure 6 : Baath's analysis of teaching models

Model	Two-way communication
B.K. Skinner's behaviours control model	Checking students' achievements; individualizing functions; assess students starting level; consider special abilities; previous reinforcement patterns
E.Z. Rothkorf's model of written instruction	Helping students get started.
D.P. Ausubel's advance organizers model	Determine each students previous knowledge and transfer to subsequent parts of course.
K. Egan's model for structural communication	Individually devised discussion comments 'reverse' assignments
J. Bruner's discovery learning model	Provide individually adapted help; stimulate students' discovery of knowledge
C. Roger's model for facilitation of learning	Check 'open' assignments for submission; dialogue with each individual student
R.M. Gagne's general teaching model	Activation motivation; stimulation recall; providing learner guidance; providing feedback

Source; Adapted from Baath (1979)

A Swedish researcher John A. Baath worked for many years for Her-mods at Malmo. He put forth the concept of two-way communication. His work is based on knowledge of the literature of distance education in the Scandinavian language English, German, and French. During the 1970s he adopted the concept of two-way communication in correspondence education. Though he was not the pioneer this concept even though he made an important theoretical and empirical contribution to establishing this idea (Two way-communication) as a major define feature of distance systems today.

One part of his research aimed to relate modern education research to distance education. He examined the applicability the teaching models of Skinner, Rothkopf, Ausubel, Egan, Bru Rogers, and Gagne to correspondence education (1980:12). He was able to state the functions of two-way communication in correspondence communication in the light of each of the teaching models (Ref. Table 6)

- **J. A. Baath's conclusions are:**
  - Models with stricter control of learning towards fixed goals tend to imply in distance education, a greater emphasis on the teaching material than on the two- way communication between student and tutor/institution;
  - Models with less control of learning towards fixed goals tend to make simultaneous communication between student and tutor/institution more desirable; here the communication takes the form of either face-to-face or telephone contacts (1979). Holmberg (1981) has summarized Baath's presentation of the relevance to distance education of the authorities and the same are cited in Table 6.
  - All the models investigated are applicable to distance study.
  - Some of them (Skinner, Gagne, Rothkopf, Ausubel, structural communication) seem particularly adaptable to distance study in its fairly strictly structured/form.
  - Bruner's more open model and even Rogers' model can be applied to distance study, though not without special measures, e.g. concerning simultaneous non-contiguous communication (telephone etc.).
  - Demands on distance study systems, which would inspire new developments, can be inferred from the models studied. In a second volume, Postal Two-way Communication in Correspondence Education, Math (1980) adds empirical analysis of two-way communication to the theoretical analysis of his previous book. In particular, he studied:
  - The relationship of submission density (frequency of assignment submission during a course) to two-way communication;
  - The replacement of tutor-marked assignments by self-assessment questions; and
  - The introduction of computer-marked assignments as a form of two-way communication.

Baath's theoretical and conceptual contributions stem from his experience in Sweden. In 1980 he has elaborated how his own situation led to his involvement:

'When writing correspondence course materials I was struck by the idea that it was possible to provide some kind of two-way communication within the material, by means of exercises, questions or self-check tests with detailed model or specimen

answers. Could such two-way communication, to any considerable extent, replace the postal two-way communication induced by assignments for submission?'

The combination of personal experience and theoretical empirical investigation led Baath to place two-way communication as central to the distance education process and the distance tutor as central to his concept.

Baath states the importance of the tutor in a distance system. He indicates that there is evidence to show that distance learners need special help with the start of their studies and they need help in particular to promote their study motivation (1982). According to him the role of the tutor should go well beyond that correcting errors and assessing students' progress hence as the role of the distant tutor: one can have important pedagogical functions, not only that of correcting errors and assessing students papers but to play a principal part in the linking of learning materials to learning - by trying to relate the learning material to each student's previous enforcement patterns (Skinner), or to his mathemagenic activities (Rothkopf), or to his previous knowledge and cognitive structure (Ausubel), or to his previous comprehension of the basic concepts and principles of the curricular (Bruner), or by concentrating on the task of establishing good personal relationship with the learner (Rogers). Baath (1980) quotes that, 'The correspondence teacher must be painstaking, patient sympathetic, and alive; whatever a dead teacher may accomplish in the classroom, he can do nothing by correspondence.'

A query about Baath's work is that he does not see attempt a full theoretical framework for two-way communication in correspondence education. He has greatly furthered understanding of two-way communication but has not explained how it would fit in an overview of this field.

- **Guided Didactic Conversation :**

Borje Holmberg another Swedish national in 1995 has written profusely on distance education in Swedish, German, and English.

A number of characteristic traits link together the publications of Holmberg across thirty years. Among these are a generous, humanistic philosophy that values highly student independence and autonomy, an early concentration on two-way communication in distance education, an emerging concept of distance education as guided didactic conversation, a critical approach to non-print media and the provision

of face-to-face sessions as components of a system and a concentration on assignment marking and its importance.

Like the dedicated humanist Holmberg's view about distance education are based on his conviction that the only important thing in education is learning by individual students. Administration, counseling, teaching, group work, enrolment, and evaluation are of importance only in so far as they support individual learning. He determines such systems with completely free pacing, a free choice of examination periods, and plenty of two-way communication for tutorial and feedback purposes.

Distance education is considered to be particularly suitable for individual learning because it is usually based on personal work by individual students more or less independent from the direct guidance of tutors. The distance student is in a situation where the chances of individually selecting what educational offerings he/she is to partake of can be much greater than that of conventional students. The student studying at a distance can, and frequently does, ignore elements of the teaching package that has been prepared for the course being studied. TV programmes or comments on assignments or face-to-face sessions or visits to study centres may all be ignored.

Holmberg characterizes study in a distance system as self-study but it is not, he insists, private reading, for the student is not alone. The student benefits from having a course developed for him and from interaction with his tutors and other representatives of a supporting organization. The relationship between the supporting organization and the student is described as a guided didactic conversation. The general approach agrees closely with Wedemeyer's wherein Holmberg insists on allowing students a maximum freedom of choice in matters of both content and study procedures, individual pacing of the study, and far-reaching autonomy generally. In this context the Two-way communication in writing and on the telephone between students and tutors has been one of the concerns. Students' assignments are regarded as facilitators of this communication rather than as instruments of assessment.

Distance education is seen as a guided didactic conversation that aims at learning and it is felt that the presence of the typical traits of successful conversation will facilitate learning. The continuous interaction between the student on the one hand and on the other hand the tutors and counselors and other representatives of the institution administering the study programme is seen as a kind of conversation.

There is a kind of two-way conversational traffic through the written and telephone interaction between student and institution. More dubiously, Holmberg also argues for what he calls simulated conversation from the students' study of the learning materials that have been prepared in a didactic style.

Holmberg's view of distance education as guided didactic conversation might be presented schematically as in following Figure 7. There are traces of these ideas in Holmberg's early writings but in recent years, he has developed them into the basis for a general theory of distance education. Holmberg's Methods of Teaching by Correspondence (1960) states:

A considerable portion of all oral tuition can rightly be described, as did active conversation. In a great number of successful correspondence courses the atmosphere and style of such conversation is found. It is typical of the style of did active conversation that advice is given on how to tackle problems, what to learn more or less carefully, how to connect items of knowledge discussed in different lessons and this also characterizes many good correspondence courses. It seems to me that advice and suggestions should preferably by expressed in phrases of personal address, such as when you have read these paragraphs, makes sure that .....''

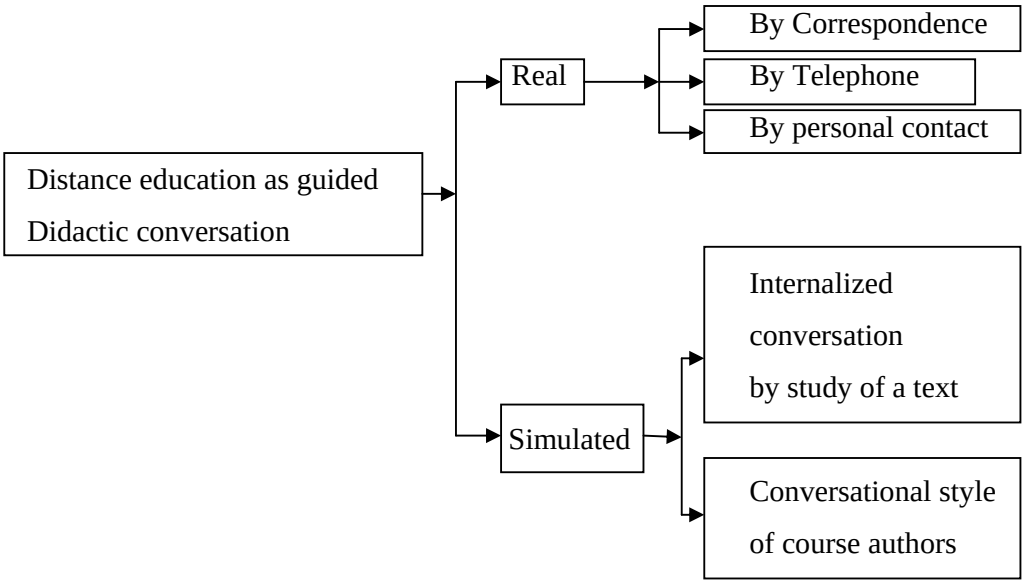


Figure -7

- **Holmberg's seven bases for his position:**
  1. That feeling or personal relation between the teaching and learning parties promote study pleasure and motivation;
  2. That such feelings can be fostered by well-developed self-instructional

material and suitable two-way communication at a distance;

3. That intellectual pleasure and study motivation are favorable to the attainment of study goals and the use of proper study processes and methods:
4. That the atmosphere, language and conventions of friendly conversation favour feelings of personal relation according to postulate 1;
5 That messages given and received in conversational forms are comparatively easily understood and remembered;
6 That the conversation concept can be successfully translated for use by the media available to distance education;
7 That planning and guiding the work, whether provided by the teaching organization or the student, are necessary for organized study, which is characterized by explicit or implicit goal concepts.

(Holmberg 1978: 20, repeated 1983: 115-16)

Distance learning materials developed in the light of Holmberg's theory (1983) of guided didactic conversation presents the following characteristics.

- Easily accessible presentations of study matter: dear, somewhat colloquial language, in writing that is easily readable; moderate density of information.
- Explicit advice and suggestions to the student as to what to ; do and what to avoid, what to pay particular attention to and consider, with reasons provided.
- Invitations to an exchange of views, to questions, to judgments of what is to be accepted and what is to be rejected.
- Attempts to involve the student emotionally so that he or she take a personal interest in the subject and its problems.
- Personal style including the use of the personal-and possessive pronouns.
- Demarcation of changes of themes through explicit statements, typographical means or, in recorded, spoken communications, through a change of speakers, e.g. male followed by female, or through pauses. (This is a characteristic of the guidance rather than of the conversation.)

If a course is prepared following these characteristic then Holmberg forecasts that it will be attractive to students, will motivate students to study, and will facilitate learning. In two interesting experiments, Holmberg rewrote a Fernuniversitat postgraduate course on educational planning and a basic Hermods course on English grammar in accordance with his theoretical position and replaced the rather analytical textbook-like approaches of the originals with a more conversational style designed to

promote empathy with the student (Holmberg et al. 1982).

By any estimation, Holmberg's contribution to the field of distance education is extensive. His early preoccupation with two-way communication in correspondence education provided an impetus for the research of Baath, Flinck and Wangdahl in the 1970s.

Although Holmberg is not the only scholar to recommend a conversational style for distance learning materials he has been the only one who has developed a coherent theory from his early statement that 'a correspondence course must by definition be something different from a textbook with questions. A correspondence course provides actual teaching by itself and is thus a substitute for both a textbook and the exposition of a teacher' (1960) and then submitted it to empirical testing. In general, this position has been beneficial to practitioners in the field and has contributed to making distance-learning materials now a recognizably different genre from textbooks.

- **Interaction And Independence :**

From 1973 to 1977 Sir John Daniel was director of studies at the Teleuniversite, University du Quebec, and then Vice-President, Learning Services at Athabasca University in Edmonton, Alberta, Canada. In 1980 he took up the post of Vice-Rector (Academic) of Concordia University, a conventional university in Montreal and moved to Laurentian University, a conventional university with a small distance department in the summer of 1984. He is Vice-Chancellor of the Open University of the United Kingdom at Milton Keynes.

Daniel has thus had experience of academic management in both French and English language distance systems and his thinking about distance education is frequently from a management perspective.

He sees the emergence of distance education systems as coming from three sources: a long tradition of independent study; modern developments in the technology of education; and new theoretical interest in open learning. The fusion of these elements has produced new educational enterprises, which teach at a distance and fulfill important economic and political needs of societies.

Figure 8 : Interaction and Independence (Daniel)

Independent	Interactive
Reading a text	Discussion on telephone
Watching television at home	Marking and commenting on assignments
Conducting a home experiment	Group discussions.
Writing an assignment	Residential summer schools

Considering the two-way communication in education at a distance both Holmberg and Baath envisage constantly a situation in which the major part of the communication will be by postal correspondence.

Daniel (writing from the start from a university perspective) sees distance systems as comprising activities in which the student works alone and activities, which bring him into contact with other people. The first grouping of activities he labels 'independent activities' and the latter 'interactive'. He provides a listing of possible activities in the two groups as in Table 7. A major function of distance systems is to achieve the difficult synthesis between interaction and independence - getting the mixture right. A balance between the learning activities the student carries out independently and those, which involve interaction with other people, achieves all learning in a distance system. The balance between the two is the crucial issue facing distance study systems.

The balance chosen between the interactive and independent activities in a distance system has extensive repercussions on the administration and economics of the system. According to Daniel Independent activities, have great possibilities of economies of scale since the marginal costs of printing extra copies of texts or broadcasting to more students are low. However, the cost of interactive activities tends to increase in direct proportion to the number of students (Daniel and Marquis 1979).

Increasing the proportion of interactive activities improves student performance, but it does so at a price. The cost of interactive activities is broadly proportional to the number of students involved. There is little opportunity for the economies of scale which characterize independent activities, and which are responsible for the overall cost advantage of distance education.

He states that there are two economic structures for distance systems: one for the independent activities in which economies of scale are possible; and one for the

interactive activities in which they may not be (Snowden and Daniel 1980).

He believes that courses should not be designed that are entirely independent. Socialization and feedback are the main functions of the interactive activities and whereas the importance of socialization in education is less vital for adults studying part-time than for children and those involved in compulsory and full-time education, the feedback role of interaction is of crucial importance. Students want to know how they are doing in relation both to their peers and to the criteria of mastery set by the course authors. Distance students are only weakly integrated into the social system of the teaching institution and feel low involvement with it. Therefore they are at risk and the importance of interactive activities is enhanced.

The thrust of Daniel's thinking on distance education comes through his attitude to pacing (Daniel and Shale 1979). He suggests that the more freedom a learner has, the less likely he is to complete the course. He is of the opinion that distance systems can either give students the dignity of succeeding by pacing them or the freedom to proceed towards failure without pacing. Holmberg, on the other hand, claims that students should be free to pursue distance courses without the pressure of pacing.

Where Moore, Wedemeyer emphasize autonomy and independence of the learner studying at a distance, Daniel looks for a balance between interaction and independence in the structuring of the system and shows how this affects the pacing of students and the cost structures.

- **Continuity of Concern :**

David Sewart joined the Open University of the UK in 1973, After a period in the Manchester regional office he moved to the university's central site at Walton Hall near Milton Keynes where he had managerial responsibilities for the provision of support services to students. In 1980 he returned to Manchester as regional director and' then returned to Milton Keynes, where he is at present director of Regional Tutorial Services.

Sewart has tried to trace distance education back as far as the epistles of St Paul but sees a rapid development in the last two decades. This he attributes to the new communications techniques, which have been perfected in the twentieth century, the increasing costs of conventional education, and the rapidly expanding range of

knowledge.

His theoretical approach to teaching at a distance can be summed up as a continuity of concern for students learning at a distance (1978). Teaching, he tells us, is a complex matter. It is an amalgam of the provision of knowledge and information plus all the advisory and supportive processes with which this provision is normally surrounded in conventional education.

He is unhappy with the notion that the package of materials in a distance system can perform all the functions of the teacher in face-to-face education. He shows that, if it could, it would become an infinitely expensive package as it would have to reflect the complex interactive process of the teacher and each individual student.

In many of his writings, he discusses the efforts of course developers in distance systems to produce the 'hypothetically perfect teaching package'. He finds this unrealizable and seeks to prove this with his view of the role of the intermediary in complex civilizations. He argues that just as in most complex bureaucracies an intermediary is necessary (a social worker, a hospital orderly) to bridge the gap between the individual and the institution, so in distance systems an intermediary is necessary between the individual student and the teaching package (Figure 9). The intermediary is employed by the institution but works for the individuals in the system and individualizes their problems when confronted with the bureaucracy.

Sewart's emphasis on the needs of students learning at a distance, demands an interactive mode in distance systems which can hardly be supplied by the learning materials, how-jever well they are developed. Failure to recognize this has, he considers, led to the almost universal lack of esteem for distance systems which he judges to have been the norm until quite recently. He considers that advice and support for students in a system of learning at a distance pose almost infinitely variable problems and this creates the need for an advisory and supportive role of a distance institution in addition to the provision of a teaching package.

Figure 9. Role of the intermediary (Sewart)

System	Intermediary	Individual
Government bureaucracy	Social Worker →	Citizen
Hospital	Orderly →	Patient
Distance Institution	Student services →	Student

Sewart states the differences between conventional and distance education and presents both the advantages and disadvantages of education at a distance. The advantages are such as:

- Freedom from the 'strait-jacket of the lecture hall';
- Ability to study whenever and wherever desired;
- Freedom inherent in the individuality of the distance students' situation;
- Student not bound by the learning pattern of a learning group; and
- Distance students' needs are not subservient to the needs of a learning group.

Presented Sewart's writings (1981):

- No measure of progress available;
- No framework of study for the distance student;
- No peer group clarification or pressure; and
- No benchmarks on progress or failure.

He considers the situation of the student learning at a distance to be quite different from that of conventional students because of the absence of swift feedback and because the learner's peer group does not act as a benchmark.

Whereas the infant school class and the university lecture have easily discernible differences, they are generically similar in offering a group learning situation with a face-to-face teacher/student contact, and the subsequent possibility for instant feedback of an oral and visual nature. The group learning situation is itself supportive of the learning process, not only because of the potential interaction between students in relation to the academic content of the course -learning through discussion with one's peers - but also because the group learning offers a benchmark to the individual members of the group

Sewart concludes that the process of learning at a distance is generically different from the conventional mode. The swift feedback available from the face-to-face learning model is almost entirely absent (1980: 177).

The differing study patterns of distance students, the need for intermediaries in complex processes, the absence of the learning group against which the distance learner can measure himself, and the infinite variety of individual problems all lead him to the conclusion that the introduction of the human element is the only way to adapt a distance system to individual needs. This provision should ideally be available whenever and as often as the student needs it and is part of the richness and variety of a system that can adapt to the needs of individualized, independent study. Unlike

Peters, however, he clearly sees all education provision as a continuum with forms of distance education fusing into conventional provision.

Sewart's views provide an effective counterbalance to those who see distance education merely as a materials production process. He claims that it is me continuity of the institution's concern for the quality of support in a distance system that has been the Open University of the UK's success in solving the age-old problem of distance systems - the avoidance of avoidable drop-out.

Sewart represents his views in an article published in 1987. There is a continuum, he tells us, between a face-to-face dialogue between one teacher and one student and a 'pure' method of teaching at a distance. There is another continuum between teaching with the complete integration of preparation and presentation by one individual at one end/ and the total separation of these functions at the other. The .problem is to locate on this continuum the position of the particular distance system that one is analyzing or designing.

- **An Integrated Mode :**

When the University of New England, Armidale, New South Wales, Australia began teaching externally in 1955 it adopted a system of integrating external and internal teaching by the .full-time faculty of the university. External enrolments were limited on the basis of a staff-student ratio similar to that already existing in the traditional lecture situation so that staff bore responsibility for teaching both student groups as part of their normal duties.

This system (which came to be known as the 'Australian integrated mode') has had two able proponents, Howard C. Sheath (1956-72) and Kevin C. Smith (1973-84). It would be too much to say that the writings of Sheath (1965, 1973) and Smith (1979) contain a theory of distance education; rather they present a series of heartfelt beliefs on how external studies should be administered.

Smith feels that institutions planning external studies must come to terms with an educational dilemma. The dilemma lies in the fact that external studies depend essentially on an independent learning situation and must be designed so that moti-vated mature-age students can plot their own path through a particular course with a minimum of outside assistance. On the other hand, systems which rely solely upon the stamina, perseverance, and intellectual capabilities of students to survive the rigors of

external studies without assistance do not fulfill their academic responsibilities. The compromise is to provide a core of independent learning material but to add compulsory provision for staff/student contacts and regular student group activity.

In contrast to Peters' theory of industrialization, Smith advocates dividing the work of the university faculty equally between on-campus and off-campus students. For the distance education students the lecturer performs all those functions, and more, that are performed for normal students: the design and presentation of courses, the marking of assignments, the conduct of residential and weekend schools, final assessment and examination of students. The external students enroll in the same courses, follow the same syllabus, are tutored by the same lecturers, sit for the same examinations, and are awarded the same degrees as the conventional ones. Smith bases this structure on the following ideas (1979: 31,57):

- External teaching should not be done by part-time tutors but by the full-time university faculty;
- By being part of a normal university a distance system remains in the educational mainstream;
- A university has only a small pool of outstanding staff; external students should be in contact with them, not with what he calls 'part-time recruits';
- A university is a community of scholars and all distance students must become part of this community by attending compulsory residential schools;
- Concentration on the 'learning package' can lead to a dehumanizing of the learning process, as this is a social experience;
- Distance education must not depend solely on correspondence methods. Some degree of interaction not only with materials but also with other students and the teachers is essential.

Smith also has listed eight beliefs about how a distance education system should be justified (1979:54):

1 Legitimacy: continuing education and external studies are legitimate functions of universities.

2 Mainstream activity: distance teaching should be undertaken by full-time academic staff as part of their normal teaching responsibilities so that it will receive the scholarship, resource allocation, and status it deserves.

3 Commitment: .commitment is likely if the whole process remains the responsibility of the academic staff and is not divided; personal contact

between academic staff and students is required; quotas are imposed to reduce external numbers to the same ratio as on-campus allocations.

4 Parity: parity of esteem for degrees can best be achieved if the same staff of the university teach and assess both categories of students.

5 Interaction: group discussions between staff and students and between students themselves are beneficial.

6 Variety: variety of teaching methods is recommended because of the diversity of students.

7 Independence/pacing: pacing of students is a characteristic of successful systems.

8 Communication: a distance system requires an adequate administration.

A critique of Smith's position is that he frequently puts forward the particular solutions of his own institution as normative for other institutions. The Australian integrated mode as it evolved at New England is certainly of interest as a model for a small system of less than 5,000 students, but even in other Australian universities which teach both at a distance and on-campus it has by no means been followed in all its details. Far from being in the mainstream of university studies as Smith (1979: 33) claims, the distance departments of many integrated systems appear to be well on the periphery with little influence on university budgets or planning (Rothe 1987).

There is the constant problem that when a lecturer's time is divided between the demands of conventional and distance education, both functions are done less than perfectly (Short 1983).

If an institution is offering full degrees or diplomas in a non-traditional way it does not seem appropriate that such provision should be located amongst the continuing education and extramural departments, which do not normally offer full university degrees (Townsend-Coles 1982: 29-37), yet this is where one normally finds integrated distance departments.

Nevertheless, Smith's contribution is a refreshing one. It is of value to find a thoughtful basis for rejecting concepts of mass production, cost effectiveness, and industrialization in distance education, especially when one finds emphasis placed on bringing the distance student into continuous contact with the best brains of the university and, second, the admission that the education of a distance student should be just as costly as a conventional one.

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CHAPTER – IV
METHODOLOGY

- **Title :-**

"A Study of factors governing Access and Equity in Open Distance Learning Programmes" - With special reference to the Distance Mode Institutions (DEIs) of Dual Mode Universities in Western Maharashtra.

- **Objectives of the Study :-**
  1. To explore the causes, how far Distance Education has actually made education accessible.
  2. To identify the factors governing access.
  3. To assess the degree of inequality, causes of inequality.
  4. To suggest the remedial measures for promoting inclusiveness.

- **Hypothesis of the Study :-**

On the basis of above objectives following hypothesis are formulated.

  1. There are causes which affect the accessibility in distance education.
  2. Access and Equity are co-related.
  3. There are factors governing access and equity in distance education.

- **Assumptions of the study :-**
  1. Access to higher education through distance mode is affected by different socio-economic factors.
  2. Equity in higher education depends on the access. Certain parameters like gender disparity, reservation policy, differently abled and minorities affect the equity in Distance Education.

- **Variables included in the Present Study:-**

Any educational research contains two types of variables i.e. independent and dependent variables.

- **Independent variable –**

The variable, the effect of which is on another variable - dependent variables, that the researcher wants to study.

- **Dependent variable –**

The effect of a cause, or the consequence of an antecedent. (effect, consequence)

Experiment is a procedure undertaken for finding out the relationship between variables. An experiment is designed and carried out to establish the effects of one variable (independent) on another (dependent)

The present study includes following independent and dependent variables.

- **Independent variables**
  1. Religion/Caste
  2. Self Learning Material
  3. Socio-economic background of distance learner
  4. Educational Qualification of distance learner
  5. Geographical Distance
  6. Medium of instruction
- **Dependent variables**
  1. Accessibility and Equity

- **Scope and Limitations of the Present study :-**
  1. The study is limited to the learners in Distance Education in Western Maharashtra.
  2. The study is limited to dual mode universities in Western Maharashtra (Mumbai University, SNDT University, Tilak Maharashtra Vidyapeeth and Shivaji University)
  3. The present investigation is limited to a sample of 1000 learners who attended PCP's in various centers of the dual mode Universities.
  4. The present study is limited to a few personal variables like gender, religion, caste, educational qualification, geographical distance, medium of instruction, socio-economic background of the distance learner.
  5. The present investigation is limited to know the factors affecting access and equity in Distance Education mode.

- **Research Method :-**

For the present study information from the distance learners was collected and further analysis was done. Especially the analysis consists of the results that derived on the basis of percentage.

Survey method helps to describe and analyze the correlation existing between dependent and independent variables involved in the study. Hence a questionnaire was prepared. This questionnaire was implemented to collect the data.

The present form of research study is essentially descriptive and correlative in nature.

- **Population :-**

1. The targeted population of this research was distance learners form dual mode universities in Western Maharashtra.
2. Sample Size :- The researcher has taken 1% i.e. 1000 distance learners from dual mode universities in Western Maharashtra.
3. Method of Sampling :- The researcher has chosen simple random sampling technique.

Definitions of Operational Terms

1. Access :-

Access is a catalytic process that enables interactions, contact and exchanges among individuals. Concept of access has various dimensions. Access indicates ability, the ability to accomplish a broad range of actions, from attaining physical presence to communicating and from acquiring to using. Access increases our ability to improve our current conditions and future prospects. Access allows individuals to participate in activities important to their well being e.g. individuals who have access to education and training can compete more effectively in different fields.

2. Equity :-

Connotes fairness and justice – a fair, just and equal opportunity given to everybody regardless of individual social constraints like caste, religion, gender and level of urbanization.

Equity in Education –

A primary and explicitly stated objective of education policy of a welfare state must be to ensure equality of opportunities by way of securing that all the citizens have access to the resources necessary.

The pursuit of equal life chances for all citizens. Educational policy assumes a strong emphasis on identical treatment of all students to greater individual autonomy and diversity. The aim of equity should be all individuals will complete the equivalent upper secondary school education and that all given the opportunity to pursue higher studies if they so desire.

The aim of education policy should be to eliminate performance anxiety among students and to inculcate in them a culture that promotes the desire to learn.

3. Higher Education –

Higher Education is considered as the apex of formal education. It is the education beyond school level. The objectives of higher education may range from primary objectives, such as employability, enhancing the earning potential, improve on life management skills, seeking and advancing knowledge and wisdom, research and experimentation to more serious objectives like attaining spiritual growth engaging institutes quest for the unknown, facilitating better lifestyle and developing scientific outlook.

4. Distance Education :-

Educating students staying in their own places of residence situated away from the central institution. In distance education students are not required to be present in the school or college or to remain in full time engagement in the institution. They can carry on education without upsetting their work. They are enrolled in the central institution, which is an Open University or Distance Education Institution of dual mode university. There is regular communication between the student and the teacher. Along with the study material is printed form that can be equated to lectures in conventional system, Radio, Television, Audio-tapes, Video-tapes, Computer lessons etc are also used for instructions. To make up for the deficiencies resulting from lack of face to face contact between the student and the teachers, periodical contact programmes are organized when the student and teachers meet at a place and spend a fortnight or so, in discussion, project work, practical etc, is also called as Distance

teaching.

5. Distance Education Institute (DEI) :-

The institutions that offer programmes of study through distance mode include single mode institution that offer programmes through distance mode only and correspondence course Institutions or Distance Education Centers of the dual Universities.

6. Socio-economic status :-

Socio-economic status is a study of individual position within the social relationship. It influences individual relationship with others. It includes prestige, influence and respect. It is also known as social class, social status or socio-economic background.

Generally it is a crude, global measure comprising rating on education, occupation, income of parents or self income, material, and cultural level of family.

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CHAPTER - V

DATA ANALYSIS AND INTERPRETATION

- **Distance Education in Maharashtra**

The word Maharashtra, the land of Marathi speaking people, appears to be derived from Maharashtri, an old form of Prakrit. Located in the north centre of Peninsular India, with the command of the Arabian Sea on Western side, Maharashtra has a remarkable physical homogeneity, enforced by its underlying geology. The dominant physical trait of the state is its plateau character. The Maharashtra Desh is a plateau of plateaux, its western upturned rims rising to form the Sahayadri Range and it slopes gently descending towards the east and southeast.

Maharashtra is the second largest State in India in terms of population. It is divided into 35 Districts, 353 Tehsils and 41,095 inhabited Villages. Maharashtra is 96,879 crore as per 2008-2009 provisional population figures.

About 61% of the total workers in the State depend on agriculture and allied activities. The state is a major producer of oilseeds (groundnut, sunflower, soybean etc.) Important cash crops are cotton, turmeric, sugarcane, vegetables etc. Important fruits under horticulture are mango, banana, grape and orange.

Due to its situation as connecting State between the northern and southern States in India, it has established itself as a pro-business State. The State has more than 25% share of the total output of the country with respect to chemical products, rubber, plastics, petroleum, coal products, transport equipment and parts, etc.

- **Education in Maharashtra :**

The National Policy on Education (NPE) 1986 gives priority to universalisation of primary education for the children of age group 6 to 14.

The State Government of Maharashtra is making concrete efforts to provide primary education throughout the State. The following are some of the measures taken for education for all.

- The State Government has fixed the norm to open primary school within a vicinity of 1.5 kms of a habitation of 200. This norm for tribal areas is 1.0 km and a population of 100.
- Since 1985-86, education for standard XII is made free for girls.

- Since 1996-97 education for boys is also made free.

The overall growth in enrolment since 1961 is reported to be three times in primary education institution and ten times in secondary and higher secondary institutions.

Higher Education :

- Institutions and Enrolments : The total number of colleges and other educational institutions (other than medical, engineering and agriculture colleges) during 1999-2000 were 1541, having an increase of about 2.9% over the previous years. The Science, Arts and Commerce teaching colleges were reported to be 950 whereas the other institutions were 591.
- Total enrolment in these institutions is reported to be 9,27,000 out of which girls are 4,02,000. The total number of teachers are 37,000. The ratio of girls to boys in higher education and in general colleges (Arts, Science, Commerce) is 43:57, whereas that in the other higher educational institutions is 63:36.
- The institutions providing professional and technical education have come in a big way which comprise of Government, and Non Government institutions that run on aids, and some without such aids.

- **Population vs Literacy Rates**

Total Population of Maharashtra as per the Actual population figures was total provisional statistics on population 2001 census is about 9.42% of India's total population. The Female to Male ratio is 1000:922. Total literate population is 645:66 lakhs with males being 374.87 lakhs and females 270.79. As per the population census 2011 total literate population in Maharashtra is 82.91%, male literacy is 89.82% and female is female literacy is 75%.

- **Distance Education System :**

In Distance Education System as the name suggests the teacher and the learners are separated by distance in comparison to the classroom teaching of the conventional system. In early days they were separated both in time and space. Live teaching in the classrooms is replaced by providing study material prepared in advance. The study material is prepared taking into account the capability of the

expected learner group. The learner can study at his place of convenience and at his own pace. With the advent of technology the separation in time and space is losing its meaning. Online teaching using Internets, one-way video, and two-way audio is an example.

Print is the basic form of study material widely in use. The different aspects of self-instructional material like self-explanatory style, self-motivating nature, use of a number of day-to-day examples, 'You' and 'I' style of writing, clear headings to steer their way around with self-check questions etc. are incorporated in them. Along with Print, a number of other modes are also used for providing study material depending upon their utility in the programme of study, needs of target group, feasibility and availability of the technology.

The Distance Education System uses different modes of teaching as per the requirement of the target groups. The channel most popularly and widely used is the print medium. Print material is such that it can be made use of by the learner at the time and place and pace convenient to him without any additional requirements. Personal contact programme, home assignments, audio/video cassettes are supplementary to the print material provided to learners for interaction with teachers and peers and solving their academic, administrative and other difficulties. A learner is attached to one of such centres as per his/her choice and the availability of centre. Teleconferencing with one-way video and two-way audio can act like big classrooms where a learners can get an opportunity to clear their doubts on relevant matters.

Different Channels used in the System.

- Print Medium : Study material prepared in the self-instructional format suitable for the expected target group.
- Audio and Video : Wherever possible the component of audio/video is incorporated. It's development is dependent upon the availability of funds, human resources, and target group designed for the programme of study.
- Broadcasting and Telecasting : Radio/television is used as a major way of reaching distances and with ease.
- Online interactive Sessions using Internet, and Teleconferencing.
- Web-based learning and Virtual University : Campuses are possible with advanced technology.

- Mobile Laboratory and Libraries are arranged whenever possible for supplementing study in remote places.
- Personal Contact Programmes : The learners are provided with the opportunity to clarify their doubts through the intermittent contact programmes.
- Home Assignments : Home assignments are generally useful to keep the learner in touch with the studies. He is provided guidance on what is expected out of him and how he is doing in the assigned work. Generally it is compulsory and forms a portion of the total assessment of the student.

Distance Education Institutions in India :

The institutions that offer programmes of study through distance mode include single mode institution that offer programmes through distance mode alone and Correspondence Course Institutions (CCIs) or Distance Education Institutes of the dual institutions (DEIs)

Presently, there are thirteen open universities in India, Indira Gandhi National Open University (IGNOU) being one National Open University and the rest thirteen State Open Universities. There are over One Hundred and thirty Correspondence Course Institutions (CCIs/DEIs) of dual mode institutions offering education through distance mode.

Fact Sheet of State Open Universities (Other than IGNOU)

Details of Open Universities for the year 2007-8, 2008-9 and 2009-10

No	Name of University	Student Enrolment		
		2007-08	**2008-09**	**2009-10**
1	BRAOU	75141	89416	179868
2	VMOU	16324	28126	55879
3	NOU	25501	27312	30432
4	YCMOU	260569	307860	311408
5	MPBOU	137073	134580	93178
6	BAOU	82980	38300	89465
7	KSOU	59474	8325	106861
8	NSOU	43895	51461	40214
9	UPRTOU	16668	17779	22653
10	TNOU	22048	49111	57150
11	PSSOU	10742	11032	16927
12	UOU	3661	4065	625
13	KKHSOU	-	16510	22452
TOTAL		**754076**	**783877**	**1027112**

Total no. of learners in Conventional Universities (approx) : 16000000

Total No of learners in ODL (approx) SOUs : 1629732

DEIs : 2107012

Total : 3736744

Percentage of ODL learners (approx) : 23.35%

Source : Distance Education Council, New Delhi.

In Western Maharashtra, there is one State Open University, namely, the Yashwantrao Chavan Maharashtra Open University, Nashik (YCMOU), two Regional Centre of Indira Gandhi National Open University one in Pune (IGNOU, RC) and the other in Mumbai, four DEIs, the Institute of Distance Education, University of Mumbai (IDE, Mumbai University), Department of Distance Education, Tilak Maharashtra Vidyapeeth, Pune, Centre for Distance Education, SNDT Women's University, Mumbai (CDE, SNDT University) and Shivaji University, Kolhapur.

Data Analysis and Interpretation

The total enrollments of students (2005-2006) in faculty of Distance Education of above mentioned 4 universities were, University of Mumbai 58326, SNDT University 10306, Tilak Maharashtra University 31000, and Shivaji University 22031. Each University is conducting number of traditional as well as professional programmes. It was observed that the enrollment differs as per the nature of programmes: The total enrollment in 2005-2006 of all the four universities in Western Maharashtra was around 1,21,663 student. Among these students the sample of 1000 students i.e. 1% were selected randomly from different programs.

Questionnaire was prepared as per the objectives of the research statement. Questionnaire was tried out with students of B.A. program of TMV. Based on the feedback and necessary corrections it was finalized.

Questionnaire was given to students who attended the Personal Contact Programs (PCPs) at different Study Centers of Mumbai, Pune and Kolhapur and were asked to fill it up and give back to the co-ordinator / incharge faculty members. The questionnaires were given to about thousand students and out of it 1020 questionnaires were received.

There are altogether five conventional Universities in Western Maharashtra. Mumbai University was established in 1857 having the Department of Distance Education from 1971, Tilak Maharashtra Vidyapeeth established in 1921, having the department of Distance Education from 1985, SNDT University was established in 1951, having the department Distance Education from 1979 and Shivaji University was established in 1962 having the department of Distance Education from 2005.

Researcher has selected Distance Education Institutes of Mumbai, TMV, SNDT where department of Distance Education has been in existence for more than 25 years and Shivaji University established the Department of Distance Education in 2005.

TABLE – 1

Number of Respondents from the Distance Education Institutes, situated in Western Maharashtra

Name of the University	Total Number of Respondents	Percentage
University of Mumbai (B.A., B.Com)	528	51.76%
Tilak Maharashtra Vidyapeeth (B.A., M.S.W.,M.B.A)	222	21.76%
S.N.D.T. University (B.A., M.A.)	200	19.60%
Shivaji University (M.B.A.)	70	06.88%
Total	**1020**	**100%**

The respondents were given the questionnaire at the time of Personal Contact Programmes (PCPs) at Head Quarters and at Study Centers, because getting the Questionnaire filled up from distance learners by mail was more difficult. Hence only respondents attending PCP's were taken into consideration in the present Research Work. Awareness about attending PCP's for the quality academic progress was less as 83% of learners were employed, therefore from the total enrollment hardly 20 to 30% students attended the PCP.

TABLE – 2

Programmewise distribution of Respondents.

Name of the Programme	Total Number of Respondents	Percentage
Bachelor of Arts (B.A.)	440	43%
Bachelor of Commerce (B.Com)	377	37%
Master of Social Work (MSW)	131	13%
Master of Business Management (M.B.A.)	72	07%
Total	**1020**	**100%**

Among the total respondents, the percentage of respondents from the general programmes i.e. B.A. and B.Com. was 80%, whereas from the professional program i.e. MBA and MSW they were 20%.

Most of the programmes of SNDT University and Mumbai University were traditional ones however these programmes had significant enrollment.

TABLE – 3

Academic yearwise Enrollment of Respondents.

Year of Enrollment	Total Number of Respondents	Percentage
2008-2009	538	53%
2007-2008	364	36%
2006-2007	118	11%
Total	**1020**	**100%**

53% of the total respondents were enrolled in the academic year 2008-2009, 36% in academic year 2007-2008 and 11% in the academic year 2006-2007.

The students were well aware of the working of administrative and academics of the different programmes. It showed that enrollment was increasing in successive years. The information gathered thus suggests that the student community has been taking the advantage of Open Distance Learning systems. It's a positive sign which showed the increase in accessibility.

TABLE – 4

Areawise distribution of Respondents.

Area of Respondents	Total Number of Respondents	Percentage
Urban - City	703	69%
Rural – Town	317	31%`
Total	**1020**	**100%**

From the above table it is very much clear, that the percentage of respondents from the Urban area was 69% while the Rural respondents were 31%. Number of rural student was less due to limited access that related to the geographically unreached hilly terrain. Though distance and open learning can be reached by Regional Centre and Study Centers in remote rural area students placed at distance and inaccessible areas finds it difficult to avail the educational opportunities. The basic objective of Open Distance Education System has been to increase the accessibility of rural deprived learners.

TABLE – 5

Genderwise distribution of the Respondents

Gender	Total Number of Respondents	Percentage
Male	554	54%
Female	466	46%
Total	**1020**	**100%**

Table 5 shows the Genderwise distribution of respondents. The percentage of male respondents was 54% and female 46%. The difference in percentage though not very significant can be attributed to the low status of women in our society and preferential treatment given to males at every level and hence less percentage of female. The other reasons for less percentages of female enrolled for Distance Education can be related to aspects like : educated girl generally prefers to have educated husband however chances are that who as a result of his education would demand higher dowry. Besides this also child marriage and purdah, widely prevalent in rural areas were the socio cultural factors responsible for this percentage variation. More over lack of facility and lack of accessibility were important factors in the education of girls in rural areas. In near future female percentage will increase because facilities and concessions are now extended by State as well as Central Government for female learners. Marital status, employment status and academic qualification of women affects their access to Distance Mode programs.

TABLE – 6

Marital Status of the Respondents

Marital Status	Total Number of Respondents	Percentage
Married	438	43%
Unmarried	558	55%
Widow	10	01%
Divorce	14	01%
Total	**1020**	**100%**

The table 6 shows the marital status of the respondents. Maximum i.e. 55% of the students were unmarried while 43% students were married. The percentage of widows and divorcee was found hardly 1% and 1% respectively. The unmarried students who had no family responsibility or also who were earning can afford to take admission in Open Distance Learning Mode. Mobility was found to be more among them and also flexibility of the Open Distance Education System results to support them to complete their education while earning.

The married students have the family responsibilities and sometimes job responsibilities hence their taking of the responsibilities of their own studies, is certainly more appreciable. The percentage of married students can increase if they are give any concession in academic internal submissions.

TABLE – 7

Religionwise Classification of the Respondents

Name of the Religion	Total Number of Respondents	Percentage (Rounded)
Hindu	553	54%
Muslim	260	25%
Sikh	83	08%
Christian	108	11%
Others	18	02%
Total	**1020**	**100%**

The total population of Maharashtra according to 2001 census Maharashtra was 9.69 crore. Among them Hindus were 7.78 crore, Muslims 1.02 crore and Christian 10 lakhs 58 thousands and Sikhs were 2 lack 15 thousand.

Religionwise classification shows that learners from Hindu religion accounted for 54% which were the majority section of the society while 25% Muslim, were the respondents, which is minority religion. Whereas Christians accounted for 11%, Sikh 8%, and 2% were from others religions. The total population percentage of different religions was reflected in religionwise respondents percentage.

TABLE – 8

Castewise classification of the Respondents

Caste	Total Number of Respondents	Percentage
Scheduled Caste	185	18%
Scheduled Tribe	152	15%
Nomadic Tribes	143	14%
VJ NT	162	16%
Other Backward Class	183	18%
Open	195	19%
Total	**1020**	**100%**

As observed from Table 8 the Caste wise classification of the respondents shows that there was no significant difference in the percentage of SC (18%), ST (15%), Nomadic Tribes (14%), VJNT (16%), and other Backward Class (18%). In Open category the respondents were 19%.

The percentage of enrollment from reserved categories has increased significantly after independence. This is so as the government has provided different facilities to these categories to enroll them for formal as well as non formal education. The objective of Open Distance Learning System is to 'reach the unreached' and 'the weaker section' at the Society. Thus the above percentage shows that the objective has been fulfilled to some extent.

As per the History of education in 19th Century Maharashtra, the right to take education was given only to upper castes i.e. Brahmins, but after the advent of the British rule the right to take education was made open all the castes. Till 1947 the percentage of literacy was very low in Formal Education and after independence with the recommendations of Radhakrishnan and Kothari commission the literacy percentage increased slowly, these commissions had made recommendations only for Formal Educations.

With growing population the efforts like reservation policy made in formal and non formal education showed positive result. The percentage of enrolment Higher Education showed significant difference after independence. From 1970 higher

education though Distance mode was made available in India. Initially the enrollment was less but with the changing times, and upcoming facilities in the field of Information communication technology and the changing trend of 'Earn while learn' has resulted in the increase in the enrollment in higher Education through Distance Education Mode. This in turn has positively affected the access and equity in Distance Education. At present in the 11^{th} plan period UGC has recommended special facilities to increase the access and equity in Higher Education.

TABLE – 9

Income wise classification of the Respondents

Income Status	Total Number of Respondents	Percentage
Higher	111	11%
Middle	704	69%
Lower	205	20%
Total	**1020**	**100%**

Table 9 indicates the Income wise classification of the respondents. This table reveals that about 11% respondents were from the higher income group and 20% from the lower income group. The percentages of respondents from middle class income group was found to be high which account to about 69%. As the fee structure of Distance Programmes were comparatively low than conventional regular mode programs, the middle class learners could afford to take higher education. According to the feedback received from learners most of them responded that the financial condition was one of the barriers in getting higher education. Another factor stated by the learners was that they themselves were earning members and they have taken the responsibility of their own education. These learners stated that spending on their education was not burden for them.

TABLE – 10

Employment status of the Respondents.

Employment Status	Total Number of Respondents	Percentage
Yes	848	83%
No (dependent)	172	17%
Total	**1020**	**100%**

If is known that the Objectives of Distance Education System was to provide opportunity to take higher education (HE) to those who had missed the chance when it was expected, and to those who were employed themselves due to financial constraints. From the table 10 it is quite clear that most of the respondents i.e. 83% were employed, and therefore taking higher education through Distance mode has been a convenient mode for them to avail the higher education, while performing all the domestic social and financial responsibilities.

TABLE – 11

Number of Family Memberswise Classification of the Respondents.

Number of Family Members	Total Number of Respondents	Percentage
1-2	536	53%
3-4	272	27%
5-6	135	13%
7 and above	77	07%
Total	**1020**	**100%**

The respondents response to the number of family members indicates that more than 50% of respondents have 1 to 4 members in the family. The education plays a key role in deciding the status of individual and also the status of a particular society. In this context distance education has played a important role because due to enhancement in educational qualification an individuals capacity of taking decisions have improved. The respondent had recognized the importance of small family as a result, family budget certainly allows the members to spend on their education.

Table 11 indicates the family wherein it was observed that more but 50% of the respondents had family size of 1-2 members (53%). This was followed by 27% respondents with 2-4 member family size. About 13% respondents has slightly large family size of 4-6 members. It is also observed that only about 7% respondents accounted to have large family size of more that 6 members.

TABLE – 12

Nature of Accommodation wise Classification of the Respondents

Nature of Accommodation	Total Number of Respondents	Percentage
Ownership	408	40%
Rental	346	34%
Other	266	26%
Total	**1020**	**100%**

By and large the nature of Accommodation indirectly related to the financial status of the respondents. In table 12 it is observed that 40% of respondents had their ownership accommodation while 60% of the respondents resided in rental and other accommodation. These respondents selected were from lower and middle class economic category.

TABLE – 13

Classification of the Respondents about available Space for Study and Infrastructure

13 (A) Available Space for Study wise Classification

Separate Room for Study	Total Number of Respondents	Percentage (Rounded)
Yes	169	17%
No	851	83%
Total	**1020**	**100%**

13 (B) Available Infrastructure wise Classification of the Respondents.

Infrastructure	Total Number of Respondents	Percentage (Rounded)
Writing table	230	23%
Chair	518	51%
Light	272	26%
Total	**1020**	**100%**

With regard to table no 13A and 13B one can observe the availability of space and infrastructure for learners. Here in table 13A it is formed that large number of respondents 83% do not have separate space for their studies. Only 17% respondents were fortunate to have space for their studies.

With regard to table 13B it is focused that more than 50% of the respondents (51%) had chair facility for their study and about one forth had writing table with them 23%. It is striking to note that of all the respondents only about 26% had basic amenity of electricity i.e. light.

A comfortable space and proper infrastructure for study are definitely the factors affecting the concentration in the learning process. Respondents doing their studies with the help of self learning material has to put more efforts in the learning process. Hence proper space or infrastructure facilities are provided or improved then it may improve the study performance of learners. It is true that if the proper educational environment is provided or available to distance learner then their quality of self learning will largely improve.

TABLE – 14

14 (A) Educational Qualifications at the time of Enrollment

Educational Qualification	Total Number of Respondents	Percentage
IVth standard	212	21%
VIIth standard	133	13%
SSC	399	39%
HSC	43	04%
Graduate	203	20%
Post Graduate	30	03%
Total	**1020**	**100%**

The present study also took into consideration the educational qualifications of the learners at the time of their enrollment for Distance Education Programmes. The table 14A indicates that about 40% of learners had SSC as their qualification when they enrolled themselves for Distance Education Program. The respondents who were qualified below SSC together accounted for 34% of which 21% had passed IVth standard while 13% has VIIth standard qualification.

Only 4% respondents has cleared the 12th standared examination. It is interesting to note that only about 3% respondents has post graduate qualification. The graduates who were interested to continue their studies through Distance Education accounted for 20%.

Considering the educational qualification as a criteria while enrollment it is found that 73% respondents were either SSC or below that hence if the flexibility in eligibility at the entry level given to the deprived learner then their dream of getting higher education could be fulfilled.

14 (B) Additional Qualifications wise Classification of the Respondents.

Additional Qualification	Total Number of Respondents	Percentage
Typing	160	16%
Computer Literate	675	66%
Drawing	81	08%
Other	04	00%
No Response	100	10%
Total	**1020**	**100%**

Considering table 14B it is observed that almost all Distance Education learners do acquire skills other than conventional educations. The skills are general such as knowledge about Typing, Computer or Drawing.

In today's era of ICT, it is important to note that about 66% respondents were computer literates while rest of the respondents either had typing or drawing skills. As we all are aware that 21st Century is the age of knowledge explosion and age of information communication technology (ICT). Thus the world has become a global village, where computer literacy has become the need of the hour. 66% of the respondents were computer literate, which shows their awareness about ICT and also their awareness about the use of ICT in Distance Education mode. The online operation of different programmes may increase the access rate of distance programmes which will break the barrier of distance between the teacher and the learner and will save time and administrative resources of an institution.

TABLE – 15

Reasons for joining Higher Education wise Classification of the Respondents

Reason for joining Higher Education	Total Number of Respondents	Percentage (Rounded)
to improve educational qualification	223	22%
For Promotion	464	45%
For better job	333	33%
Total	**1020**	**100%**

The respondents were well aware about the practical application of their knowledge, and therefore enrolling themselves with specific objectives, as we believed that the Distance Education system is student centric, therefore to increase the number of enrollment of programmes and courses. The needs and expectation of the students should be taken in to account.

These factors like needs and expectations of the learners which surely are the reasons for them to join higher education were considered. Thus form table 15 it is observed that most of the learners about 45% had expectation of promotion in their job. Also the learners accounting to one third were keen to change their job with completion of higher educations. Similarly there were 22% learners more inclined to upgrade themselves in term of their educational qualifications.

TABLE – 16

Reasons for Enrolling through Distance Mode wise Classification.

Sr. No	Reasons for joining Distance Mode	Total Number of Respondents	Percentage
1	Employed	391	39%
2	Housewife	200	20%
3	Couldn't get admission to regular college	00	00%
4	Simultaneously pursuing other courses	19	02%
5	Unavailability of colleges near residence	35	03%
6	Unavailability of College near work place	39	04%
7	Distance Education mode saves Time and Cost	122	12%
	Both 1 and 2	58	05%
	Both 3 and 4	32	03%
	All 5,6,7	124	12%
	Total	**1020**	**100%**

The objective of Distance Education has been to reach mainly the unreached, i.e. the weaker section of the society. It is a fact that females are one of the weaker section in Indian society. Role of female as homemaker in any society is as important as the earning male member. Distance Education is the best alternative considered by female respondent to achieve their aim of higher education, because they found it more convenient to perform the domestic responsibility as well.

Table 16 shown that 20% the learners were housewives of the total respondents the female learners accounted for 44%. It is important to note that about half the numbers of female respondents are housewives.

Affordability is another aspect in pursuing of further education. The table indicates that 39% of the respondents had employment and then they could afford to continue them education. On the other hand it can be noted that 12% of the respondent joined Distance Education as it saved the cost and time of education as compared to the cost of regular mode of education.

Access to education plays an important role. Thus it is focused that equal

percentage of respondents had found Distance Education either due to unavailability of college near their house or the work place.

Few learners 2% were found to pursue other education i.e. joining other courses while doing the education through distance mode.

The nature and characteristics of Distance Education system i.e. flexibility, learner centric and learner friendly were proved practically.

TABLE – 17

Whether to continue Study, if the facility of Distance Education will not be available

Response towards continuation	Total Number of Respondents	Percentage
Yes, but inconvenience	594	58%
No	396	39%
Cannot say	30	03%
Total	**1020**	**100%**

R.M. Delling the distance educationist claims, Distance Education has little of the characteristics of 'Teaching' because there is in general no teacher in the system and the function relating to students learning within the helping organization are performed by a variety of machines, people and material. The function of the helping organization is to take over upon the wish of learners, eventually the learner become autonomous. After this the only function left over to the organization is to provide information, documentation and library facility. Charles Wedemeyer describes that learners who accept degrees of freedom and responsibility in initiating and carring out the activities independently that lead to learning.

David Sewart the distance educationists approach to teaching at a distance can be summed up as a continuity of concern for students learning at a distance. He emphasized the role of intermediary in distance system, an intermediary is necessary between the individual student and the teaching package. The intermediary will work for the individual in the system and individualize their problems.

The respondents were asked if they would continue their education if there was no facility such distance education. To this more than 50% of the respondents were affirmative but specificity mentioned regarding the inconvenience they may have to face. Hence 58% were ready to continue their higher education.

However in absence of Distance Education System nearly 39% would certainly not agree to continue their education. This has been reflected in the table no 17.

TABLE – 18

Infrastructural Facilities wise Classification of the Respondents

	Classroom Facility		**Seating Arrangement**		**Furniture**	
	No of Respondents	%	No of Respondents	%	No of Respondents	%
Very Good	642	63%	766	75%	664	65%
Good	313	32%	200	20%	181	18%
Not Good	65	05%	54	05%	175	17%
Total	**1020**	**100**	**1020**	**100**	**1020**	**100**

In the established system of Distance Education a study center plays vital role as it is the link between the learner and the teaching mechanism. Thereby a study center must be well equipped in term of infrastructural facilities namely classrooms and seating arrangements along with necessary furniture.

Table 18 shows the status of infrastructural facilities that are available for learners with regard to classroom facility as 5% have responded that the facility is not Good. However of the remaining respondents large number of learners 63% are availing Very Good class room facility.

With regard to seating arrangement as high as 75% respondents have stated that the facility is Very Good while only 5% have quoted that the facility is Not Good. About 20% are satisfied with seating arrangement and hence have states that facility is Good. Alike seating arrangement facility, the learners have responded similarly for the furniture facility where in 65% describes it to be Very Good. About 18% of learners say the facility is Good and rest 17% say that it is not Good.

TABLE – 19

Response received from the administrative staff wise Classification of the Respondents

Response/Attitude Received	Total Number of Respondents	Percentage
Very Good	702	68%
Good	212	22%
Not Good	106	10%
Total	**1020**	**100%**

Student Support Service is the backbone of Distance Education System. Students were supported by preadmission and post admission administrative and academic counseling and support. In both the supports the administrative staff has to play very important role. In open distance learning system, the learner is away from the institution and whenever learner visits the institution /study centre for some administrative procedure 68% of respondents state that they get Very Good administrative support from the staff. About one fourth of the respondents 22% state that the support from administrative staff is Good and only 10% learners are not satisfied, thereby giving their response as Not Good.

TABLE – 20

Classification of respondents towards adherence to time Schedule regarding following.

	Counseling		Study Material		Query Solving	
	Response	**%**	**Response**	**%**	**Response**	**%**
In Time	972	95	872	85	901	88
Delayed	48	05	148	15	119	12
Total	1020	100	1020	100	1020	100

Table Continued

	Exam Dates		Exam Time Table		Hall Ticket	
	Response	**%**	**Response**	**%**	**Response**	**%**
In Time	912	89	867	85	840	82
Delayed	108	11	153	15	180	18
Total	1020	100	1020	100	1020	100

The learners studying through Distance Mode are totally depending on institution/study centre or University for academic and administrative support, because they were away from the institution. They could complete the programme successfully, only when the support services are provided in specific time schedule. The respondents gave very positive response toward adherence to time schedule regarding Counseling (95%), Study Material (85%), Query Solution (88%), Exam Time Table (85%) and Hall Tickets (82%). The successful implementation of programmes of the universities under study is due to the adherence to time schedule. The percentage of delay in above services was comparatively very less (Table 20).

TABLE – 21

Classification of respondents towards Counseling quality

	Pre admission Counseling		**Regularity in academic Session**		**Counseling Quality**		**Learning atmosphere**	
	Response	%	Response	%	Response	%	Response	%
Very Good	718	70	826	81	452	44	546	54
Good	286	28	160	16	482	47	267	26
Not Good	16	02	34	03	86	08	207	20
Total	**1020**	**100**	**1020**	**100**	**1020**	**100**	**1020**	**100**

Table no 21 deals with the feedback regarding pre-admission counseling, regularity in academic session, counseling quality and learning atmosphere.

In Distance Education System regular counseling, preadmission counseling, post admission counseling, plays very important role, because in self learning process, distance learner depends on counselor for guidance, for solving the problems and for motivation too. According to table 21 it is found that 70% respondents were too satisfied about preadmission counseling and has classified it as Very Good while 28% respondent were satisfied. The percentage of respondents (2%) who just were not satisfied was comparatively low.

Conduct of or organizing of the academic sessions at regular intervals in most important to establish link between the teacher and learner. The feedback given by the target population is really encouraging as more than 80% respondents have stated that regularity in academic programs is Very Good. Only 3% respondents have stated it in negative manner i.e. Not Good.

Quality Academic Counseling plays important role in learning process through distance mode. Interaction and two way communication are considered central in the distance education process: According to J. A. Baath for quality counseling, a tutor may play principal part in the linking of learning material to learning. Regarding quality of Academic counseling other researcher have put forth their views : by trying

to relate the learning material to each students reinforcement pattern (Skinner), or to his math magnetic activates (Rothcorf), or to his previous knowledge and cognitive structure (Ausubel) Or to his previous comprehension of the basic concept and principles of curriculum (Bruner), or by establishing good personal relationship with the learners (Roger).

B.Holmberg insists that the distance student benefits from interaction with his tutors and other representatives of supporting organization. The relationship between supporting organization and the student was described as a guided didactic conversation.

In the context of counseling quality only 8% respondents has stated that it was Not Good. However this feedback can't be taken seriously as rest of the respondents are satisfied with 47% saying counseling quality is Good and 44% says it to be Very Good.

Learning atmosphere is another factor which affects the attitude of learners in continuation of their education. In this context the table 21 reveals that 54% learners can avail Very Good learning atmosphere and another 26% are also satisfied with their remark as Good. However it can be a concern when 20% respondents and have stated it Not Good.

TABLE – 22

Classification of Respondents towards Study Material.

	Adequate Content		Language – Easy	
	Respondents	%	Respondents	%
Very Good	328	33	754	74
Good	219	21	152	15
Not Good	473	46	114	11
Total	**1020**	**100**	**1020**	**100**

In Distance Education mode, the learning process through self-instructional material (SIM) plays key role. It is a fact that students totally depends on SIM. The feedback regarding the content of the SIM indicates that 46% of respondents said that the content of SIM was Not Good. This feedback is not for good for any distance education institute as for learning particular subject learners should get a adequate content knowledge of that subject. To provide adequate learning material, the process for developing SIM should be followed as per norms and should be train with technique, skills and methodology of SLM writing. The course writer, the language editor and content editor should take more responsibility for providing quality content. However the scenario is not too bad as 33% and 21% respondents say that the adequacy of the content is Very Good and Good respectively.

Otto Peters in his theory of Industrialization, states similarities between industrial production process and the teaching learning process in distance education. He claims that the production of learning material for distance student is, in itself an industrialized process and one that is in its didactic procedures quite different from book production. He compared developing learning material with the stage of assembly line in industry. In distance teaching the staff remains at their posts but the teaching / manuscript is passed from one to another and specific changes are made at each stage. The study undertaken between that such changes in content may not have taken appropriate shape and hence 46% respondents states that content is Not Good/adequate. to a which may be due to the decentralization process. With regard to language of the SIM 74% respondents have reflected their feeling that it is Very Good and another 15% states it to be Good.

TABLE – 23

Classification of Respondents towards facilities available at RC/SC/Residence/Workplace

23 (A)

	Availability Broadcast/ Telecast		**Computer aided Packages**		**CD ROM's**		**Audio Cassettes**	
	Response	%	Response	%	Response	%	Response	%
Regional Center	818	80	825	81	742	73	513	50
Study Center	202	20	174	17	278	27	394	39
Residence	-	-	20	02	-	-	94	09
Work Place	-	-	-	-	-	-	19	02
Total	**1020**	**100**	**1020**	**100**	**1020**	**100**	**1020**	**100**

From Table 23(A) it is known that the facilities like Broadcast/telecast Computer aided packages, CD ROM's, Audio Cassettes were almost available in most of the Regional Centers (R.C.), while availability of such facilities at Study Center (S.C.) level was comparatively very less.

Significant variation of each of the above mentioned facilities is found with regard to R.C. and S.C. with regard to Broadcast / Telecast the variation was 80% at R.C. and only 20% at S.C. Same is the case about the availability of Computer aided Packages which was 81% and 17% of R.C. and S.C. respectively wide percentage variation is also found with respect to CD Rom's facility as 73% respondents states the availability of this at R.C. while 17% respondents states the availability of this at S.C.

The only facility of Audio Cassettes were largely found both of R.C. and S.C. on their proportion was 50% and 39% respectively. Access to similar facilities at respondents residence was very less. Only 02% respondents had access to computer aided packages at their residence.

With regard to availability of Audio Cassettes at home only 9% respondents

were found to have the same. Besides this 2% respondents could have Audio Cassettes facility at their work place. Study Center were more accessible to Learners.

23 (B)

	Seminars		**Assignments**		**Email/Internets**	
	Response	%	Response	%	Response	%
Regional Center	564	55	328	32	408	40
Study Center	456	45	692	68	271	27
Residence	-	-	-	-	204	20
Work Place	-	-	-	-	137	13
Total	**1020**	**100**	**1020**	**100**	**1020**	**100**

It is found from Table 23 (B) that of the total respondents 55% attended seminars conducted at Regional Center while 45% respondents attended seminars conducted at Study Center level.

With regard to processing and submission of assignments the S.C.s were playing vital role. This can be observed from table 23B as study center caters to 68% respondents and 32% respondents are dependent on R.C.

Considering the growing influence of the use of ICT it is observed that 40% respondents could avail Email/Internet facility at R.C. and another 27% at S.C. Availability of such facility at home and at workplace is used by 20% and 13% respondents respectively.

TABLE – 24

Classification of Respondents about the (Distance/Time/Duration) Personal Contact Program Facilities.

(A) Distance

PCP Location in Distance	From Residence		From Work Place	
	Respondents	%	Respondents	%
0-1 km	398	39	222	22
1-2 km	173	17	154	15
2-4 km	93	09	293	29
Above 4 km	356	35	351	34
Total	**1020**	**100**	**1020**	**100**

Interest of learners in Distance Education can well to judged with their attendance at PCP. However distance between learner and the center where PCP is arranged directly affects on the attendance of the learners. Table 24 A reveals that 39% of the respondents had to travel less than 1 k.m. the distance from the residence for attending PCP. Slightly less proportion of respondents 35% had to travel more than 4 k.m. distance. Distance of about 2 to 4 k.m. was travelled by 9% respondents while double the percentage of respondents (17%) just were away from center by 1 to 2 k.m.

Same table also deals with distance aspect with regard to the respondents work place of the total respondents about 34% travel a distance of more than 4 k.m. to attend PCP. 29% respondents were between 2-4 k.m. distance. About 22% respondents were close to the center of PCP (less than 1 k.m.) while 15% respondents had to cover 1 to 2 k.m. distance.

(B) Time

Time Required to Reach PCP Center	Total Number of Respondents	Percentage
15 min	279	27
30 min	156	15
1 hours	335	33
More than 1 hr	250	25
Total	**1020**	**100**

With regard to time aspect it is found that 27% respondents at least had to travel 15 min. to reach the PCP center while 1/4th respondents required more than one hour to reach the center of PCP. Large number of respondents (33%) had to take efforts to reach the PCP center as time required for them was 1 hour. Also 15% respondents required 30 min to come at the PCP center.

(C) Duration

Duration of Counseling	Total Number of Respondents	Percentage
Adequate	405	40%
Inadequate	292	28%
Can't Say	323	32%
Total	**1020**	**100%**

With regard to Duration aspect devoted for counseling the remark 'adequate' was reported by 40% of respondents however 28% of the respondents stated that the duration of counseling was inadequate. About 1/3rd of the learners were found to be confused or could not state anything regarding their satisfaction with regard to the available duration of counseling.

TABLE – 25

Classification of Respondents about Organization of Counseling Session

Organization of Counseling Session	Total Number of Respondents	Percentage
Every Saturday/Sunday	284	28
Six day in a Year	317	31
Other Options	419	41
Total	**1020**	**100**

Considering the suitability of a day for respondents to attend the counseling session it is found from table 25 that it is convenient for 28% respondents to attend counseling session that held on every Saturday / Sunday. However 31% respondents were happy to held such counseling session only for 6 day in a year.

Beside this large number of respondents 41% showed indication to have another option rather than counseling session organized on every Saturday / Sunday or 6 days in a Year.

TABLE – 26

Classification of Respondents about PCP's

(Regularity and Time Schedule)

(A)

Regularity & Time Schedule	Total Number of Respondents	Percentage
Yes	399	39
No	350	34
Can't Say	271	27
Total	**1020**	**100**

The present study also considered the factor about respondents regularity of attending the PCP. In this context table 26 A reveals that 39% of learners are regular ones while 34% are not regular. About 1/4th learners 27% were not sure of their regularity.

(B)

Timings suitable of PCP's	Total Number of Respondents	Percentage
Yes	273	27
Some extent	133	13
Not at all	144	14
Can't Say	470	46
	1020	**100**

The study also covered the aspect such as Time suitability of PCPs for the learners. The table 26 B shows that only 27% respondents were satisfied or agreed about the PCPs timing. However 14% response that the timing was not at all suitable. Only 13% learners agreed to the timing that too to some extent. The table also reports the large number of respondents 46% who could not make any comment of suitability of timing.

TABLE – 27

Classification of Respondents about Availability of Residential PCP's

Availability of Residential PCP/s	Total Number of Respondents	Percentage
Yes	65	06%
No	955	94%
Total	**1020**	**100%**

Table 27 reveal that most of the learners (94%) do not get facility such Resident PCP. This directly deals with the fact that hardly any of the Distance Education Institute under study conducts such in Residential PCP.

TABLE – 28

Question Paper Pattern, Rule of ATKT and Recognition wise Classification of Respondents.

Old Question Papers			Did they help?			Satisfied by pattern of Question Papers		
	Response	**%**		**Response**	**%**		**Response**	**%**
Yes	735	72	Yes	670	66	Yes	858	84
No	285	28	No	350	34	No	125	12
						Can't Say	37	04
Total	**1020**	**100**	**Total**	**1020**	**100**	**Total**	**1020**	**100**

Table continued

Rule of ATKT			Awareness of Recognition of DE Degree		
	Respondents	**%**		**Respondents**	**%**
Yes	1020	100	Yes	622	61
No	-	-	No	398	39
Total	**1020**	**100**		**1020**	**100**

72% respondents were of the opinion that old question paper were made available for them, and 66% feel that it helped them. 84% were satisfied by the pattern of question paper, all the Distance Education Institutes were having ATKT (Allowed To Keep the Term) rule, which supporting the flexibility nature of the Distance Education mode. 84% of students were satisfied by the nature of question paper, they did not give any suggestion for the improvement in the question paper pattern.

61% respondents were aware that the degrees awarded received through distance education mode were recognized at national level 39% were not aware about it.

❑❑❑

CHAPTER – VI

DISCUSSION, CONCLUSION AND SUGGESTIONS

Improvements in the field of Education :

Since India achieved Independence (1947), providing access to higher education to the masses, and ensuring equity in the higher education system, have been major issue of national concerns. In absolute terms, India has succeeded to a great extent in providing increased access as the number of students in higher education has registered a phenomenal 37 fold increase from about 0.2 million in 1947 to about 7.4 million at the turn of the millennium. However, the last figure represents only 7.5 percent of the country's population in the relevant age group of 18-23 years and obviously, a great deal remains to be done. Various steps have been taken by the government to protect the interests of those sections of society that remained deprived of the equality in the past. These sections consists of women, the scheduled castes, the scheduled tribes, the other backward classes, the educationally backward sections and the inhabitants of educationally backward areas.

Access to higher education :

During the second half of the twentieth century, higher education acquired an egalitarian character with the process of 'massification' being especially intense in the developing countries and particularly in India. Worldwide, there has been a near seven fold expansion in the number of students, from 13 million in 1960 to 82 million in 1995 (UNESCO, 1998) and 85 million at the turn of the century. In India the expansion has been even more spectacular. In the fifty-odd years since independence the number of universities has grown from 18 to 353 (end of 2005), of colleges from 591 to over 11,000 and of students from 0.2 million to 7.4 million. The growth in the number of university-level institutions from independence to the turn of the millennium is detailed in Table VI.1. Also the number of state universities almost doubled every ten years in the period 1947-67. Later on the growth in their numbers has been gradual but slow in the subsequent years. By the end of year 2000 there were 183 State Universities and by 2005, there were 217 State Universities. Besides the State Universities there were Central Universities since 1947 i.e. 3. Table VI.1 shows that it took 30 years for Central Universities to double their strength. i.e. 3 in 1947 to

7 in 1977. Later on this number doubled in next 20 years i.e. by the end of 2005 there were 20 Central Universities. However during next 20 years the scenario of Central Universities has been grown as only 3 more Central Universities were established and thus by end of 2000 the number was 17, and by 2005, the number was 20.

Table VI.1 : Categories of University Level Institutions.

University-Level Institutions	**Year**								
	1947	**1957**	**1967**	**1977**	**1987**	**1997**	**1999**	**2000**	**2005**
Central Universities	3	4	4	7	9	15	17	17	20
States Universities	17	35	65	98	134	164	182	183	217
Deemed Universities	-	-	7	9	22	39	43	46	106
Institutions of National Importance	-	2	9	9	10	11	12	12	13
Total of University-Level Institutions	**20**	**41**	**85**	**123**	**175**	**229**	**254**	**258**	**353**

Source : Association of Indian Universities (2000) Universities Handbook, AIU, New Delhi.

On the contrary the scenario of Deemed Universities is very different. The concept of Deemed University came into existence only in year 1967 when 7 Deemed Universities were established with next 20 year period this number increased by 3 fold (22 in 1987). Later on the number of Deemed Universities doubled by 1999 (43 Deemed Universities). By the end of year 2000 there were 46 Deemed Universities and by 2005 there were 106 Deemed Universities. Similarly there are Institutes of National importance which number to 13 (year 2005).

Enrollment :

Enrolment in Higher education has been rising steadily, although the enrolment rate has continued to remain low compared even to some of the developing countries of Asia and Latin America. Table VI.2 shows the growth of enrolment in Tertiary education (at Doctorate, Post-graduate, Degree and Diploma levels) during the period 1980 to 2003-04.

Table VI.2 : Enrolment by Levels and Major disciplines

Year	Ph.D.	PG	General Graduate (Art, Science and Commerce	Technical Graduate (Engg., Medical, B.Ed)	Total Higher Education (Degree 2+3+4+5)	Diploma	Total Higher Education (Degree. Diploma) (6+7)
1	2	3	4	5	6	7	8
1980-81	25417	291341	1886428	239267	2442453	430126	2872579
1990-91	32468	354216	3285776	416828	4049288	796686	4885974
2000-01	45004	647338	7244915	688685	8625882	987279	9613161
2001-02	53119	647016	7139497	790050	8629682	1104594	9734276
2002-03	65357	782590	7633125	1035701	9516773	1199785	10716558
2003-04	65525	806636	8026147	1110840	10009148	1191447	11200595

Source : Selected Educational Statistics, Different years.

Table VI.3 : Student Enrollment in General and Professional / Special Higher Education.

Year	General	Professional	Total
1947	183238 (80.06)	45646 (19.94)	228881
1957	661975 (76.79)	200100 (23.21)	862075
1967	936117 (68.39)	432686 (31.61)	1368803
1977	1829801 (78.43)	503134 (21.57)	2332935
1987	3179725 (85.28)	548882 (14.72)	3728607
1996	4983329 (90.07)	549669 (9.93)	5532998
1998	6530098 (91.97)	570344 (8.03)	7100442

Figures in brackets indicate percentage

Sources
1. Government of India (1953) Progress of Education in India (1947-1951), Quinquennial Review, Ministry of Education, New Delhi.
2. Government of India, Education in India (1957-58), Ministry of Education, (1967-68) Ministry of Education & Social Welfare, and (1977-78) Ministry of Education and Culture, New Delhi.
3. Government of India, Selected Educational Statistics 1986-87 and 1995-96, New Delhi: Ministry of Human Resource Development (Planning, Monitoring and Statistics Division), New Delhi.

The growth in enrollment of students, based on Government of India data is given in table VI.3. It shows that in 1998 there were about 7.1 million students of whom nearly 92 percent were in general education and only about 8 percent in professional / special education. According to the table VI.3 during the period of independence (1947) of the total enrollment of students about 80% were registered under General courses while 20% for professional courses. The increase in tendency

of students to enroll for professional courses can be observed for following 2 decades i.e. 23% in 1957 and 31% in 1967. However it is observed that the attitude of students to join professional courses in following decades. By end of 1998 the percentage dropped to 8% while is significantly low. Hence greater attention has to be directed towards professional education for it is essential for national development and growth of indigenous technologies.

Current and 11th Plan Enrolment :

Table VI-4 Current and 11th Plan Enrollment Rates based on SES and Census Data

Year	Academic Year	Population 18-23 Years	Total Higher Education enrolment based on SES	Total GER based on SES	Total Higher Education enrollment based on Census Data	Total GER based on Census Data
	Base Year					
2006	2006-07	132243	13934	10.5	20666	15.6
	11th Plan					
2007	2007-08	135440	15034	11.1	22212	16.4
2008	2008-09	138318	16460	11.9	23929	17.3
2009	2009-10	141257	18222	12.9	25850	18.3
2010	2010-11	144259	20341	14.1	27986	19.4
2011	2011-12	144287	22365	15.5	29723	20.6

Source : Draft Report of Working Group on Higher Education for 11th Five year Plan

The working group for Higher Education for the 11th plan has projected a growth of General Enrolment Rate (GER) based on Selected Education Statistics (SES) from current 10.5 to 15.5 by the end of the plan period as well as based on census data from 15.6 (current) to 20.6 by the end of the plan. Table VI-4 details the projection based on enrollment in the base year 2006-2007.

Equity in Indian Higher Education :

In a democratic society, access to higher education must necessarily be linked to equity. In keeping with this expectation, the National Policy on Education, 1986 (Government of India, 1986) emphasised the need to remove disparities so as to equalize educational opportunities, especially for those sections of society that were deprived equality in the past. The categories identified for special consideration by the Government of India were women, the scheduled castes, scheduled tribes and other backward classes, the educationally backward sections and the educationally backward areas. Reservations are provided in educational institutions and admission criteria are relaxed for students from most of these categories. In addition, financial support is provided by governments in the form of freeships and grants. Reservations are also operative in respect of recruitment to teaching and non-teaching positions in Indian Universities. In an effort to remove gender disparities, women's studies are being encouraged in Indian Universities and efforts are being made to introduce teaching and research on gender issues. The access to private professional colleges, where the fees charged are beyond the reach of most students from low and middle income groups has also now been facilitated by judgments of the apex court. It is now mandatory to admit 50 percent of students against 'free seats' (that require nominal fees) on the basis of merit. Thus, in India the thrust of the educational policy has been on 'growth with equity', though there may be shortfalls in actual implementation (Powar, 1996).

The efforts made during the last five decades have reduced disparities but the overall picture is not satisfactory. Specifically :

- The percentage of female students has steadily increased since independence. This increase can be observed from table VI 5 where in the case of general higher education, it has increased from 10.77 percent in 1947 to 39.71 percent in 1998. With regards to such increase in female students the **male-female ratio has changed significantly. In 1947 this ratio was 8:1 which gradually changed to 1.5:1 by end of year 1998.**

Table VI.5 : Student enrollment (by gender) in general higher education

Year	Male	Female	Total	Male/Female Ratio
1947	163511 (89.23)	19727 (10.77)	183238	8.3:1
1957	555079 (83.85)	106896 (16.15)	661975	5.2:1
1967	674043 (72.00)	262074 (28.00)	936117	2.6:1
1977	1307534 (71.46)	522267 (28.54)	1829801	2.5:1
1987	2147416 (67.53)	1032309 (32.47)	3179725	2.1:1
1998	3936760 (60.29)	2593338 (39.71)	6530098	1.5:1
* 2004-05	7135720 (60.59)	4641576 (39.41)	11773296	1.5:1

Figures in brackets indicate percentage

Sources same as for Table VI.3

* Sources : Selected Educational Statistic (SES) 2004-2005, MHRD 2007

Similarly in Open Distance Learning system the enrollment percentage of females in Distance Education Institutes is 45% in 2004 and by 2006 to 2010 its decreased by 2% while in Open Universities it is increasing steadily.

Table VI-6 Total Enrolment in Open Distance Learning System for the year 2009-2010 and percentage of females

No	Percentage of Females out of total enrolment	Type of Institutions			
		State Open Universitites (SOUs)		Disance Education Institutions (DEIs) in Dual Mode Universities	
		Total Enrolment	Percentage of Female (Approx)	Total Enrolment	Percentage of Female (Approx)
1	**2004**	780507	220773 (28.28%)	932795	417719 (44.78%)
2	**2005**	783771	281258 (35.88%)	857621	374700 (43.69%)
3	**2006**	833072	292952 (35.12%)	906256	392237 (43.28%)
4	**2009-10**	1424428	35% approx 498550 (Approx)	2107012	43% approx 906000 (Approx)

Note : The percentage of females in the above data for the year 2009-10 is approximate value on the basis of the percentage of females in total enrolment during

previous three years (2004-2006) (approx 43% in DEI and approx 35% in SOUs). The data of only those Institutions which have submitted data to the DEC has been taken.

The table VI 7 indicates category wise (Open and SC/ST) students that enrolled in General Higher Education.

In accordance with the demographic pattern, the percentage of students belonging to the scheduled caste and scheduled tribe categories should be about 23 percent, and keeping in view the need to encourage their access, 15 percent reservation is provided for them in academic institutions. Yet, these categories have remained very much under represented in higher education throughout the last five decades. In fact, the percentage of students of the reserved category in general higher education has not increased upto the mark. In the case of professional and special higher education, there has been a marginal increase from 7.93 percent in 1957 to 11.29 percent in 1998. In the next decades there was gradual increase and percentage rise was 12.25%. The SC/ST enrollment again dropped to 10.67% in 1998. It suggests that the benefits of reservation have not percolated to the poor amongst SC/ST and it is important to analyze the reasons and identify the barriers.

Table VI.7 : Enrollment of General and SC/ST Students in General Higher Education.

Year	General	SC/ST	Total	Male/Female Ratio
1947*	-	-	45654*	-
1957	570885 (86.24)	91090 (13.76)	661975	6.27:1
1987	2950610 (92.79)	229115 (7.21)	3179725	12.88:1
1996	4372820 (87.75)	610509 (12.25)	4983329	7.16:1
1998	6530098 (89.32)	780522 (10.67)	7310620	8.36:1

Figures in brackets indicate percentage

* Category-wise data not available.

Sources : Same as for table VI.3

Table VI 7 reveals that of the total enrollment of learners in 1957 about 13.76 comprised of SC/ST learners however this proportion drastically dropped in 1987 and was recorded to be 7.21%. As per National Sample Survey by 2003 the enrolment ratio for SC/ST was 4.0 and 5.9 respectively.

Table VI- 8 Enrolment Details of the Open Universities in India (2009-2010)

S.No	Name of the University	Year of Establishment	Student Enrolment
1	IGNOU	1985	652286
2	BRAOU	1982	179868
3	VMOU	1987	55879
4	NOU	1987	30432
5	YCMOU	1989	311408
6	MPBOU	1991	93178
7	BAOU	1994	39799
8	KSOU	1996	106861
9	NSOU	1997	40214
10	UPRTOU	1999	22653
11	TNOU	2002	57150
12	PSSOU	2005	16927
13	UOU	2005	625
14	KKHSOU	2006	22452

Total Fresh Enrolment of SOUs for the year 2009-10 : 1629732

Source – Distance Education Council, New Delhi, March 2010.

Table VI.9 : Student Enrollment in Mega Open Universities of India (2009)

S.No	University	Total	Percentage
1	IGNOU	253231 (100)	17.6
2	BRAOU	178289 (100)	12.4
3	YCMOU	307860 (100)	21.4
4	TNOU	243186 (100)	16.9
5	KSOU	106642 (100)	7.4
6	MPBOU	222923 (100)	15.5
7	VMOU	126946 (100)	8.2
		1439077	100%

Source " AIU Handbook (2010)

The present strength of students enrolled in Distance Education has been estimated by University Grant Commission at about thirty seven lakhs. Of these a large numbers are with Distance Education Institutes attached to dual mode

universities. It is significant to note that of the fourteen Open Universities seven are mega universities i.e. universities with enrollment of more than one lakhs (Table VI.9)

Considering the estimated figure of 37 lakh students in Distance mode it is found that the 7 mega universities account for 40% of the total enrollment of students.

The table VI.9 reveals that the state Open University of Maharashtra has maximum enrollment (21%) among the 7 mega Open Universities. The 17.6% enrollment of students for National Open Universities and that of Open Universities Tamil Nadu are more or less same (17%).

Table VI.10 : Student Enrollment in Mega Open Universities of India (2009)

S.No	University	Male	%	Female	%	Total
1	IGNOU	159036	62.8	94195	37.2	253231(100)
2	BRAOU	103678	58.2	74611	41.8	178289(100)
3	YCMOU	171613	55.7	136247	40.3	307860(100)
4	TNOU	133774	55.0	109412	45.0	243186(100)
5	KSOU	56923	53.4	49710	46.6	106642(100)
		470574		**464175**		**1089208**

Source : AIU Handbook on Distance Education (2010)

Table VI.10 show the student enrollment in 5 mega universities wherein it is observed that in all these universities except Open University of Maharashtra YCMOU, the average male student enrollment is 55 to 60%, and average female enrolment is 40%.

The role of women in higher education has been the issue of discussion. As previously stated, the number of women in higher education in India is a little more than 39 percent. It is encouraging that the situation is steadily improving even in the non-urban areas. For example a study by Padmini (1999) on the Shivaji University, Kolhapur, Maharashtra, which is located in a rural setting, reveals that the percentage of women students at the undergraduate level during 1997-98 was about 38 percent in Arts (including Social Sciences), 41 percent in Sciences, 42 percent in Commerce, 32 percent in Education, 34 percent in Medicine and 13 percent in Engineering. At the post-graduate level, it was 33 percent in Arts (including Social Sciences), 46 percent in Sciences, 26 percent in Commerce, 35 percent in Education, 50 percent in

Medicine and 20 percent in engineering.

Reservations have been provided for them and they are also financially supported. Yet the enrollment today unsatisfactory and they have a drop out rate of nearly 80 percent which is very high. This is due to socio-cultural and economic disparities, and the elitist culture and curriculum of universities.

It is necessary to ensure that a much larger number of young people and especially those belonging to the under privileged classes or living in rural areas, get the benefit of higher education. Otherwise, there is danger of an increased socio-economic stratification with the gap between the 'haves' and 'have-nots' widening further. In order to promote equity, it may be necessary to substitute the word 'merit' by 'minimum merit', while dealing with applications from the extremely underprivileged. The immediate requirement is to raise the enrollment ratio to at least 20 percent. Looking at the financial constraints, to which the higher education system is subject, access can be promoted to only a limited extent, through the establishment of new educational institutions in the formal stream of higher education.

Balancing Access and equity with quality :

It is observed that with the 'massification' of higher education there has been a lowering of the quality of higher education in an average institution. There is no doubt that, there is a great variation prevails in the standard of education provided by different institutions in all higher education systems. With quality being regarded as a prime requisite in the 'knowledge era', emphasis is being placed on the need to balance access and equity with quality. The report of the World Bank UNESCO Task Force on Higher Education and Society places this problem in proper perspective when it states: ''Higher education systems need to find a way of reconciling the dual values of excellence and equity (and access). In an ideal society, excellence is best promoted by policies that select a society's most creative and motivated members for advance education. But selection based on prior achievement will only reinforce a history of discrimination and underachievement. Equally, programmes to increase equity will prove unsustainable if they are seen to undermine the standards of excellence on which higher education is based''. The solution to this dilemma, provided by the Task Force is ''to combine tolerance at point of entrance with rigor at the point of exit. Proactive efforts to attract promising members of the disadvantaged groups must be coupled with well designed, consistently delivered remedial support''.

The strategy outlined is not new and its attributes were put into practice in India five decades ago. Thus as mentioned above there is reservation of seats in academic institutions for members of the disadvantaged groups (except women), the minimum eligibility requirements are lower for them and they are granted fee-waivers and other support. There are in at least a few places remedial classes and additional coaching programmes. What is required is careful planning, judicious utilization of scarce resources and commitment to the cause with dedicated personnel providing the motivation. There has to be a campaign to highlight the benefits that get from higher education, careful search for talent and its nurturing after admission to different programmes. It has to be ensured that the drop-out rate falls to the minimum. Remedial classes and additional tutoring should be introduced in every institution on a mandatory basis. These should be supplemented by confidence-building strategies and if necessary by incentives.

The Role of Distance Education :

In recent years distance education long regarded to be secondary of the conventional form of education has gained acceptance and emerged as a possible alternative to the formal system. It offers an alternative to those who are unable to secure admission to academic institutions in the formal stream and second opportunity to those who missed education earlier. The flexibility it offers, in terms of choice of programmes and the period over which these can be pursued, makes it attractive to those who are employed and cannot attend regular classes. Hence flexible, distance education has been projected as a possible answer to the problems of access and equity.

In India higher education is imparted through the distance mode by two types of institutions, the Distance Education Institution (DEI) attached to the conventional universities and the Open Universities (OUs). The former were promoted in the decade of 60s largely to meet the rapidly increased demand for higher education in the years immediately following independence, the latter were set up to provide a flexible and open form of education in which the quality of education could be ensured through an optimum use of technology. Today both forms of distance education are firmly established. At the turn of the millennium, there were 21,07,012 students enrolled in more than hundred DEIs. The Total cumulative enrollment in the thirteen Open Universities and one National Open University is over 37,36,744. Thus about

23.35 percent of registered students in Indian higher education belong to the distance education stream. The growth of open distance system in the Ninth Plan has been around 15 percent and as per Tenth Plan document it is envisaged to double its growth rate so that by the year 2008, almost 40 percent of total enrollments in higher education will be in open distance learning system.

The programmes offered through the distance stream are no longer confined to the arts, social science and commerce streams. Advances in communication technology has now made it possible to offer programmes in management, science, engineering, agriculture and even medicine through the distance mode. Realising the future needs for human resource development and promise of World Wide Web and Internet, some Open Universities started offering Computer and IT education on-line. What is more significant is that even formal institutions (e.g. Indian Institute of Technology, Kharagpur and Mumbai, the Birla Institute of Technology and Sciences, Pilanai) have already entered the 'Virtual Class' mode. It is expected that by the end of the first decade of the new century virtual classes will be common.

The founding fathers of the Indira Gandhi National Open University (IGNOU) visualized distance education as being the most promising medium through which higher education could be made available to the disadvantaged groups and to those living in rural areas. However twenty five years down the line, it is clear that things have not worked out as anticipated. The student profile of IGNOU for 1999 reveals that time there were 73.53 percent males against 26.47 percent females, 22.40 percent students from rural areas against 77.60 percent from the urban areas, and 95.30 percent students from general category against only 4.60 percent from the reserved category (Vijayshri and Garg, 2000). These and other facts related to access and equity, suggest for re-appraisal of the strategies adopted. Looking back, one observes that the programmes offered by IGNOU, in the first decade of its existence, were those adapted from the formal stream (B.A., B.Com., and B.Sc) and professional courses in the newly developing areas (e.g. Management, Computers). This was, possibly dictated by the immediate need of meeting the requirements of the employed and others seeking professional skills that facilitated continuous professional development. The stated objectives of meeting the needs of those living in the rural areas and providing opportunities for higher education to the disadvantaged sector did not get due importance. The necessity of generating funds and making distance education self-supporting may have also been a contributing factor in decision

making.

Recently IGNOU has devised new measures for improving the access of these groups. It has now adopted a two way strategy of offering both conventional degrees and continuing/awareness programmes. The aim is to develop a programme profile comprising knowledge based as well as competency based technical/vocational and skill development courses (Vijayshri and Garg, 2000). Recently the Ministry of Human Resource Development, GOI has identified IGNOU as the nodal agency and charged it with the responsibility to co-ordinate a 24 hour educational channel Gyan Darshan, interactive radio counseling through radio cooperative Gyan Vani and 40 FM channels all over the country.

In Western Maharashtra Mumbai University, SNDT University and Tilak Maharashtra Vidyapeeth, the dual mode universities were in the field of distance education for last 20 to 30 years together with more than One Lakhs students. Therefore the researcher has taken the analysis of access and equity for effective social intervention and national development.

After analyzing the data of one thousand students from the above dual mode universities the researcher has come to the following **conclusion.:**

1. **Flexibility :** Access i.e. enrollment for general programmes is increasing steadily, the reasons for this steady growth are :
   - Flexibility regarding age, time, space and low cost.
   - Flexibility of entry and exit point.
   - Most of learners were employed. Formal system could not offer this flexibility and convenience. Their socio-economic environment motivated them to enroll in open distance learning.
2. **Urban vs Rural :** Enrollment percentage from urban area was more than rural. The total number of students enrolled in Metros like Mumbai was the highest one but in the city like Pune which is not a metro enrollment was less. While in rural towns it was much less. This was due to facilities available in metros, the facilities of medium of communication, transport, academic, administrative support, use of information technology etc. Since independence steps have been taken by the Government to protect the interests of the inhabitants of educationally backward areas. Though the efforts have reduced the disparities but it was not satisfactory.
3. **Access to Women :** The basic objective of distance education system was to reach the unreached i.e. the weaker sections of the society. Women were included

in the weaker sections of Indian Society. In the male dominated Indian Society, the male-female ratio was 1000:922. The number of women in general higher education in India in 2000 is more than 40%. It was encouraging that it was steadily increasing. The number of women enrolled in Distance Education in 2004 in Western Maharashtra in dual mode universities was 54% and in 2005 it was 58%. It is encouraging that the situation is steadily improving. (Source-Data base published by IGNOU)

The marital status of women the employment status of women and the academic qualification affect their access in Distance mode programme.

4. **Marital Status :** More than 50% of learners were unmarried but the percentage of married learners also was not very less (41%). The responsibilities carried out by married students compared with the unmarried were more. Domestic responsibilities play very important role in making decisions to continue the higher education through distance mode.
5. **Religion :** Though India is a secular country, it was observed that of the total population of each religions, India has vast differences. Hindu religion observed by the maximum number of people in India. Remaining all the religions i.e. Muslims, Christians and Sikhs are considered as the minority religions. Although the constitution of India has given equal right to take education to all the religious communities, the literacy percentage and the percentage of higher education are lower among the minorities. During 2009-2010 Government of India has announced special concession for the learners from the minority communities. If the constitutional provision and the separate laws for minority communities are implemented in their true spirit the accessibility would have improved.
6. **Caste :** Caste system happens to be the unique feature of Indian Social System. Caste is the deciding factor of an individuals socio-economic status, but after the advent of British rule the caste system in Hindu religion started loosing its control over the social structure. In British rule the facility to get education was assumed to be made open to all. With this the result was that few of them from the lower castes got the opportunity to educate themselves. Simultaneously after independence the socio-economically backward castes were given special concession and seats were reserved for them in higher education. For the last sixty years of independence the Government has been providing the additional concession in formal education at primary, secondary and higher education level

to the deprived section of society. Today in distance education system the fee structure is considered to be quite reasonable and the criteria for admission in General and Professional programmes are flexible, the enrollment of learners from the SC, ST, and OBC are found increasing. But the process of social change is very slow, which requires continuous follow up. The caste wise enrollment of learners in Western Maharashtra through distance mode shows positive result. The difference of percentage between the reserved and open categories.

7. **Financial /Economic independence** is one of the deciding factors for accessibility to higher education. During the 19th century, availing education was considered to be a luxury but with the changing times, the importance of education became known to all. Education means the Mental, Spiritual and Physical development of an individuals capacities. It helps in nurturing the human being into a responsible citizen. With industrialization and with objectives of welfare state, each individual has been provided with an opportunity to earn and live independent life. Spending on education is considered as an investment for the future life of an individual. If the individual was economically independent then one can afford to take the higher education.

   Financial independence reflects through the social life too.

8. **Education leading to education :** It is believed that once the financial status is improved, an individual develops the urge to develop his social status also. As a result a learner who had education upto primary level is inspired to increase the level of education which is one of the deciding criteria of individuals social status. Most of the enrolled learners i.e. 35% from Western Maharashtra had education below SSC level and 40% were SSC passed. Flexibility in eligibility criteria could have resulted into increasing accessibility.
9. **Computer literacy to edge in furthering education :** More than 60% of learners were computer literate, hence were aware of the importance of ICT in this knowledge era. This is a positive sign for the futuristic academic development of the distance learner.
10. **Needs of the Learners :** Distance education that which is one of the stream of non formal education and have flexibility and learner centerness are the characteristics of Open Distance Learning system. The basic objectives of non-formal education is to avail the facility of education anywhere and anytime to the deprived one and secondly to update the knowledge of ones respective discipline.

Most of the distance learners were employed; they had taken admission in Distance mode with the intention to get promotion and or for better job prospects. Before developing or launching any new programme, the aspirations and needs of the learners should be taken into account. Need based programmes definitely directly reflected the percentage of accessibility of the programme.

11. **Distance Education Institute :** As a Helping organization plays an important role in ODL system. Distance Education Institutes (DEIs) serves as the bridge between the student and the teaching packages. DEIs provide learning support services to the distance learner with the help of machine, people and material. The DEIs are taking care that learners should not feel isolated from the system. Counseling sessions organized by the DEIs were with the objectives to give the academic support, to develop the we feeling among them. Without intermediary organization the feeling of isolation may hamper the learning process. Pre-admission counseling, completing the administrative procedures was done by administrative staff, which has a longer lasting impression on the student's mind.

    Independent and autonomous learners were totally dependent upon the DEIs for counseling sessions for study material, for query solution, for exam dates, timetable and hall tickets etc. If these services are not provided in given time schedule, the learner may face difficulties. Decentralization and dedicated staff of all the above services help in effective implementation of Open Distance Learning system.

12. **Quality of the Academic Counseling** : Academic counseling plays an important role in the learning process through distance mode. Interaction and two-way communication are considered central in the distance education process. According to J. A. Baath, for quality counseling, a tutor may play principal part in the linking of learning material to learner by trying to relate the learning material to each student's reinforcement pattern (Skinner), or to his math magnetic activates (Rothcorf), or to his previous knowledge and cognitive structure (Ausubel), or to his previous comprehension of the basic concepts and principles of curriculum (Bruner), or by establishing good personal relationship with the learners (Roger).

    B.Holmberg insists that the distance student benefits from interaction with his tutors and other representatives of the supporting organization. The relationship between the supporting organization and the student was described as a guided

didactic conversation.

Academic counseling done by trained academic counselor, motivates distance learner for completion of programme in given schedule

13. **Self-Instructional Material (SIM)**

Distance Education is a form of indirect instruction. It is imparted by technical media such as correspondence, printed material, learning aids, radio, television and computers.

SIM has a sound pedagogic base and has to pass through rigorous procedure of design and development. According to Rowntree the SIM is of three types- Tell and test, Tutorial in print and Reflective action guide. It is effective in giving content in detail where analytical, mathematical, conceptual skills are to be developed. DEIs prepare their syllabi, study material as per the format, text presentation, focusing the course objective, course content answers.

The content is made practically according to the nature of the learners. It is divided in units, sub units in different packages. The presentation style motivates the learner. Learning objectives are made clear. Self Assessment Questions (SAQ) are prepared in different sub units. It encourages the learners to respond in written form, through assignments and projects. Enough space is given to answer the questions. It is observed that effectiveness of course material is directly related to learning process. 48% of the learners responded that the content of the course material is not good. The course writers, the language editors and content editors are responsible for providing quality content in SIM.

In the ODL system teaching staff is not involved directly in preparation of SIM but the experts / qualified faculties from the respective disciplines are given the training of SIM writing. For each stage of SIM production the content is handed over from one person to another, who has no direct interaction with the learners. If the teachers themselves participate in SIM preparation then it will be to the point and will be more useful for the learners.

It is believed that if the content is given in mother tongue or regional language it would be easy to grasp, and will naturally motivate the learner to learn in his regional language. In the diverse country like India, this point should be considered.

14. **Decentralization** : For the effective implementation of ODL system, the process of teaching is decentralized. There is a Head Quarter of each DEI and Open

Universities. Regional centers are to liaise between the University on the one side and the students, study centers, the public, the local educational institutions etc. on the other. The Regional centres are established are to maintain and monitor the services offered through the study centers.

Study centres (SC) are locations where most of the face-to-face interaction between teachers and learners of a Distance Education Institutes (DEI)/Open Universities (OU) takes place. Apart from organizing the face-to-face session, SCs provide library, audio-video and classroom support, besides the necessary information service to the learners and to the public as and when required. SCs are located generally in full fledged existing conventional institutions.

It is observed that most of the supporting services like broadcast, computer aided packages, CD Roms, audio cassettes are available at the Regional Centers, even the events like seminars/internet facilities are also made available at Regional Centres only. But most of the distance learners visit study centre more frequently for PCP's and other administrative services. Hence it would be appreciated if these facilities available in Regional Centres also are made available at Study Centres so that more learners could be benefited by it.

15. Personal Contact Programme (PCP)

What is self-study? How to do it? How to use the Study material? How to solve the problems? How to write home assignments? All these questions which may arise in learners mind are included in academic counseling. Academic counseling is carried out in PCPs and in face-to-face meetings also.

G.Holmberg characterizes study in a distance system as self-study but it is not, he insists, private reading. The student benefits from interaction with his tutor from the supporting organization i.e. DEIs. The relationship between the organization and student is described as guided didactic conversation.

The PCPs motivate the learner to learn, learner gets the feeling of being a part of the group develops the we feeling, then the learning process becomes easy. Frequency in PCPs will increase the communication between the tutor and the learner. The learner will get more support, and the fear about completion of program will be lessend.

- **Suggestions**

1. To encourage increased access of person from the disadvantaged groups the Distance Education Institute should-

- Increase the number of study centres in rural and tribal areas.
- Design programmes that would suit the needs of learners from the disadvantaged groups and preferably offer programmes in the regional language.
- Undertake promotional programmes to create greater awareness about distance learning programmes and offerings.

2. Open Universities and Distance Education Institutes need to come together to evolve strategies for effective social interventions.

3. To usher in e-revolution in delivery of education successfully, alliance and partnership amongst open universities and with the conventional universities and institution is necessary. It will provide newer option to greater percentage of people from marginalized and disadvantaged groups.

4. The learning material need to be relevant to the background of the rural or disadvantaged learners containing situations and examples with which he/she can relate. Material for the urban and rural learners varies in some respect.

5. In Academic internal assignments submission, concession should be given.

6. A major responsibility should be the creation of an environment that which will discourage discrimination and promotes equality.

7. Skill-based education :- The need-based education at the post secondary level is becoming acute considering the fact that nearly 50 percent of India's population consists of persons below 25 years of age. It is recognized that we need the programmes that impart knowledge intensive skills as well as basic vocational skills. With the passage of time India will face higher demand for Skill based education hence to include the deprived group below 25 years old, skill based programmes should be developed which will promote access in distance mode.

8. To remove the severe disciplinary distortion :- One of the important features of the development of formal education in the post-independence period has been the rapid expansion of professional education in engineering, medicine, agriculture and the science courses for the first and second degree. By and large this expansion has had adverse effects on standard. At the same time there has also

been a rapid expansion in arts and commerce courses at the 1st degree level. This has been dictated by the pressure of public demands for higher education.

Within the disciplines of technical education in Distance Education mode there is a sharp skew in favor of few branches, such as IT, Electronics and so on which are considered as offering better job prospects, and promotions. The major cause of distortion among disciplines is the absence of organized counseling and guidance programme and intelligent mentoring of the learners. The open universities and distance education institutes can offer organized counseling for mentoring the learners.

9. Equating degrees from conventional full time system and from open distance learning system. In this context there is a standing UGC notification that degrees of both these modes are accorded equal status for all practical purposes.

Practical oriented professional programmes in Open Distance Learning system have to take efforts to arrange additional inputs equivalent to regular mode, such practical inputs can be given through tie-ups with available private or Government organizations. This will help in producing quality professionals, and will be treated equally with the professionals passed out from regular mode.

10. Use of ICT- ICT stands for Information Communication Technologies and it is defined as a diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information" These technologies include computers, the internet, broadcasting technologies viz radio and television and telephony.

ICT plays a vital role in higher education by providing different channels for distance learning. Based on the technological changes the four generations of distance education that have occurred are – the first generation was based on the printed word delivered by mail. The second generation was ushered in with advancement of broadcast media in the form of TV and radio. The third generation of distance education occurred with the advent of computers and their use to deliver instructional material. Now students expect institution to deliver courses "Online". Digital information has allowed for a new generation of distance education called as IV generation that will lead to the Virtual Campus, Virtual labs and Virtual libraries. It is based on learning using interactive multimedia, internet and computer-mediated communications such as web conferencing, teleconferencing, extend/supplement the class room teaching

beyond its immediate walls. The telecommunication revolution offers different channels of instructional communication from telephone, microwave and satellite computer, it can be cost effective and time saving.

ICT is an important part of formal education institutions, it can be just as powerful in non-formal education settings, creating opportunity for lifelong learning. It can be used to provide mass education and overcome geographical and financial barriers. It will help to take higher education to the doorsteps of the hitherto unreached. One significant feature of ICT is the ability to save time and space. Online course material may be accessed 24 hours a day, 7 days a week. ICT based educational delivery fulfills the need of all learners and the instructors not be in one physical location, certain types of ICTs such teleconferencing technologies, enable instructions to be received simultaneously by multiple, geographically dispersed learners. It provides important tools for delivering education around the world.

Now in ICT knowledge era teachers and learners no longer have to depend solely on printed books and other physical media housed in libraries. E journals, CD Rom, data bases, online data bases, E-books, web based resources are replacing the traditional resources of libraries.

ICT can enhance the quality of education in several ways, by increasing learner motivation and engagement, by facilitating the acquisition of basic skills and by enhancing teacher training. It is also a transformational tool which, when used appropriately can promote the shift to a learner centered environment.

ICT has been ubiquitous with current and future social and organizational development.

With the universal acceptance of the fact that higher education is a crucial factor in national development, it is necessary for the developing countries like India, to ensure easier and greater access to its young people and especially to those belonging to the disadvantaged section of society. A broadening and deepening of the higher education base is crucial for social, economic and human development. As the report of the World Bank/UNESCO Task Force points out, broadening access is an on-going process that requires continuous efforts and a crucial aspect is helping disadvantaged groups to overcome the endemic problems that exclude them from the system. A major responsibility should be the creation of an environment that discourages discrimination and promotes equality. ❑❑❑

QUESTIONNAIRE

Dear Student,

The information provided by you in this questionnaire will be used for the research purpose only. Please feel free to answer the questions and co-operate for the same.

Thank you for your valuable inputs and sparing some time for the project.

Mrs. Neelima Mehta
HOD, Faculty of Distance Education
T.M.V., Pune

Respondents – Questionnaire for the students of Open /Distance Education Institutions in Maharashtra.

A) GENERAL

I) General Profile

1. Name: ……...…
2. Name of the University/Institution: ……
3. Programme name: ……...
   (B.A /B.Com /BBA /BCA /MBA /MCA /MSW/ Certificate in/Diploma in etc.).
4. Year of passing : ……..
5. Enrolment Number : ……..…
6. Place of residence City/ town…….
7. Area – : Rual ☐ / Uraban ☐ / Any other ☐
8. Contact number : Mobile /Telephone ……..
9. Date of Birth : ……..……
10. Sex (M/F) : …….....
11. Marital Status : Married ☐ / Unmarried ☐
    Otherwise : Widow ☐ / Widower ☐ / Divorcee ☐
12. Religion : .…….
13. Social Status : ……. SC / ST / NT / VJNT / OBC / OPEN

14. Income status-of the family ..... High ☐ / middle ☐ / low ☐

15. Whether earning member of the family

If 'No' , dependent on …….

If earning member please give employment status

Sr. No.	Employment Status	Government	Private	Self-employment
1	Sector	Army	Specify	Specify the business
		Navy		
		Air force		
		Other: Specify		
2	Level	Lower ☐ Middle ☐ Higher ☐	Lower ☐ Middle ☐ Higher ☐	
3	Number of years of service			

II) Details of the family :

i. No of members in the family:

Father……./ Mother……./ Spouse……./ Brothers……./ Sisters ……./

Children …….

ii. Accommodation:1. Ownership ☐ / Rental ☐ / Otherwise

(Please specify) ……

iii. Whether there is a separate room, corner portion in the room, space for study.

Yes ☐ / No ☐

iv Arrangement for study : Writing table ☐ Chair ☐ Light ☐

III) Educational Qualification:

Sr. No	Education	Year of Passing	Percentage Obtained/ distinctions if any
1	IV		
2	VII		
3	X		
4	XII		
5	Graduate (Please Specify)		
6	Post Graduate (Please Specify)		

Any other educational qualifications/ skills.

1. Typewriting : 1. English ☐ Marathi ☐ Hindi ☐
2. Computer Skills : elementary ☐ / programming ☐
3. Drawing ☐ Music ☐ Dance ☐ Any other, specify ……..
4. Sports/Athletics (you participated at School Level, Interschool, Taluka, State, National) ……..

Reasons for education/ training . (Please tick wherever applicable)

1. To improve educational qualification …… ☐
2. To be eligible for promotion / higher salary in the present job …. ☐
3. To be eligible for better job ……... ☐
4. Any other, please specify …….. ☐

Reasons for joining Open / Distance Education Course

1. I am employed ……... ☐
2. I am a housewife, family responsibility. ……..…. ☐
3. I did not get admission to regular college of my choice……..….. ☐
4. I am also pursuing another course simultaneously…… ☐
5. I do not want to attend fulltime college regularly……..…… ☐
6. There is no good college near my place of residence…… ☐
7. There is no good college near my work place……... ☐
8. It saves the cost of day / daily traveling for attending the class.… ☐
9. Any other, please specify. ……...…….……..
   …….……

Would you have still continued to study, if the facility for study through Distance / Open mode was not available to you.

1. Yes, but with inconvenience……... ☐
2. No…….. ☐
3. Cannot say……..… ☐

B) STUDENT SUPPORT SERVICE (S.S.S)

Facilities :

General

No.	Facility	Very good	Good	Not Good
1	Class rooms			
2	Seating facility			
3	furniture			

Administrative

No.	Facility	Very good	Good	Not Good
1	Attitude towards students			
2	**Timely Information on the following:**			
	– Counselling sessions			
	– I-card delivery			
	– Study material			
	– Response to query			
	– Examination dates			
	– Exam time-table			
	– Hall ticket			

Academic

No.	Faculty	Very good	Good	Not Good
1	Pre admission counseling			
2	Regularity in academic sessions			
3	Help from Placement cell			
4	Counselling quality			
5	**Study material**			
	– Adequate content			
	– Whether language is Lucid/ easy to understand?			
	– Matter presentation			
6	**Counselling quality**			
	Learning atmosphere			

Sr. No.	Facility availability	Regional centre	Study centre	Residence	Work place
1	Broadcast / Telecast				
2	Computer aided packages,				
3	Internships,				
4	Field training, / Seminars/ projects etc.				
5	Tutorial and Counselling				
6	Work books / Assignments				
7	Audio / Video Cassettes				
Sr. No.	**Facility availability**	**Regional centre**	**Study centre**	**Residence**	**Work place**
8	Home kits:				
9	Interactive radio-counselling				
10	Interactive Teleconferencing				
11	E-mails/internet, online education				
12	CD-ROMS:				
13	Any other telecommunication facility…….....				

Any other (Please Specify) : ……

……

……

……

C) ACADEMIC SERVICES

Academic :

1. Personal Contact Programme (PCP) :
   - i. Location - 1. At Study Center ☐ 2. Regional Center ☐
     3. Head Quarter. ☐
   - ii. Distance in k.m.- From place of residence _____
     From Place of work _____
   - iii. Time required for reaching :
     to Study Center _____
     to Regional Center _____
     to Head Quarter _____
   - iv. Cost of traveling daily to and from : _____

2. Teaching : Average no. of counseling sessions organized per subject during one
   1. Every Saturday / Sunday ☐
   2. Six days in a year ☐
   3. Any other _____

   Duration - 1. adequate ☐ 2. inadequate ☐ 3. can't say ☐
3. Overall quality of counseling :
   1. Very Good ☐ 2. Good ☐ 3. Not Good ☐
4. Overall learning atmosphere during PCP :
   1. Happy ☐ 2. Serious ☐ 3. Dull ☐
5. In general are the counseling sessions held regularly and in time as per schedule :
   1. Yes ☐ 2. No ☐ 3. Can't say ☐
6. Are you satisfied with the quality / quantity and overall organization of PCP
   1. Yes ☐ 2. Very much Satisfied ☐ 3. Not at all Satisfied ☐
7. Are the days and timings of session of the PCP's suitable or convenient to you.
   1. Yes to some extent ☐ 2. Not at all ☐ 3 Can't Say ☐

8. Whether the facility of Residential PCP is available.

1. Yes ☐ 2. No ☐

9. Are the Audio visual aids used during the PCP.

1. Yes ☐ 2. No ☐

10. Are the Audio visual aids available during the PCP.

1. Yes ☐ 2. No ☐

11. Curriculum based audio cassettes available during PCP.

1. Yes ☐ 2. No ☐

12. Curriculum based Video cassettes available during PCP.

1. Yes ☐ 2. No ☐

(**Audio Visual Charts, Pictures, Graphs, Illustration, Audio CD's, VCD's, DVD's**)

13. Reading Room and library facilities available.

At Head Quarters 1. Yes ☐ 2. No ☐

At Regional Center 1. Yes ☐ 2. No ☐

At Study Center 1. Yes ☐ 2. No ☐

14. Location : 1. Convenient ☐ 2. not convenient ☐

3. can't say ☐

Timings : 1. Suitable ☐ 2. not suitable ☐

3. can't say ☐

15. Availability of Reading Material:

1. adequate ☐ 2. inadequate ☐

3. can't say ☐

16. Home lending facility : available against deposits.

1. Satisfactory ☐ 2. Not Satisfactory ☐

3. Can't Say ☐

Reference Material :

1. Periodical & Journal available 1. Yes ☐ 2. No ☐
2. Audio Visual Cassettes available for viewing, listening on the spots or borrowing.

1. Yes ☐ 2. No ☐

3. Programmes relayed on dyandarshan / Dyanwani

1. Satisfactory ☐ 2. Not Satisfactory ☐ 3. Not Available ☐

D) Examination / Evaluation / Assessment

1. Is there a facility for continuous assessment and feedback through answering the response sheet or writing of assignments?

   1. Yes ☐ 2. No ☐

2. Are the marks or grades given for response sheet or assignments included in the final assessment?

   1. Yes ☐ 2. No ☐

3. Is there any other way of receiving the feedback of your performance, if so please specify.

   1. Orally in Classroom ☐ 2. Letter ☐

   3. individual Counselling ☐

4. Does your institute publish a newsletter for students like you.

   1. Yes ☐ 2. No ☐

- If yes give frequency or periodicity .

_____

5. Whether you receive the news letter at your resident or at your Study Center.

_____

6. What kind of information you received through this newsletter.

_____

7. Do you receive it in time – 1. Yes ☐ 2. No ☐
8. Is there a provision for providing readers feedback.

   1. Yes ☐ 2. No ☐

9. You find the newsletter useful/what do you want to say about the usefulness of newsletter.

   1. Very useful ☐ 2. Somewhat useful ☐

   3. Not useful ☐ 4.Can't say ☐

10. Give at least one suggestion for improving this service.

_____

10. Are you able to obtain a copy of the question papers of all the subjects for the last three exams - 1. Yes ☐ 2. No ☐
12. If yes do you think that they help you in preparing for your exam.

    1. Yes ☐ 2. No ☐

13. Are you satisfied with the type of / pattern of the question paper in all the subjects of your study – 1.Yes ☐ 2. No ☐ 3. Can't say. ☐

14. Please give at least one suggestion for improving the pattern of Question paper in any one of papers of yours study.

_____

15. Is there a system of ATKT in your exam.

1. Yes ☐ 2. No ☐

16. Do you feel that the degree awarded through Open / Distance education mode is in anyway inferior to the degree awarded through regular / traditional University or College. 1.Yes ☐ 2. No ☐ 3. Can't say. ☐

Give a brief reason in support of your reply.

_____

17. Do you feel that there is adequate awareness & recognition about the study and the degree receives through Distance Education in the society in general & in the employment field sector in particular.

1.Yes ☐ 2. No ☐ 3. Can't say. ☐

Give at least one reason in support of your reply.

_____

18. Give at least one suggestion for overall improvement in the system of Open and Distance Education in higher education.

_____

19. Have you passed all the previous examinations in 1st attempt.

1.Yes ☐ 2. No ☐

If not how many attempts did you make to pass the examination in parts.

_____

20. Have you received any scholarship Prize / Certificate of merit at any of the 1st year or 2nd Year examination held in the University.

1.Yes ☐ 2. No ☐

If yes please give details in three line.

_____

_____

_____

Signature of the Student

❑❑❑

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