IGNOU

STRIDE Handbook **1**

Open and Distance Education

Staff Training and Research Institute of Distance Education
Indira Gandhi National Open University
Maidan Garhi, New Delhi - 110068

STRIDE HANDBOOK 1

Open and Distance Education

Staff Training and Research Institute of Distance Education
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068, INDIA
http://www.ignou.ac.in

STRIDE HANDBOOK 1

OPEN AND DISTANCE EDUCATION

Revised and enlarged version of earlier (1989) Handbook 1 "Distance Education"
Prepared by
B.N.Koul and P.R.Ramanujam

Format
Re-designed by

Prabir Kr. Biswas

Content
Revised and updated by:

Prabir Kr. Biswas
&
Ashok Kr. Gaba

Format & Content Editing by

Santosh Kr. Panda

Language Editing by

Mrs. Mahasweta Baxipatra
&
Dr. A.S. Guha

Composed by

Shashi Surendranath
STRIDE, IGNOU

Print & Production
T.R.Manoj & C.N.Pandey
STRIDE, IGNOU

Published by Director, STRIDE, Indira Gandhi National Open University, Maidan Garhi, New Delhi-110068

Printed at
Cover Design:
Illustration:

FOREWORD

Starting from correspondence courses, a few decades ago, teaching and learning through non-conventional and non-traditional modes, have undergone very dynamic and effective changes to improve the quality of education through theses new systems. These emerging systems and trends are quite open, flexible and widely accessible to large target groups of learners. In view of these unique and distinctive features of these systems, they are now identified as the open and distance learning systems (ODL). It is now very well realized and understood that for effective and successful handling of the ODL systems, very well trained faculty and other professionals, and distance educators are all required to work together. The system has gained considerable importance and acceptance to attract significantly large number of learners seeking education and training through the ODL systems. It is in this background that the Indira Gandhi National Open University (IGNOU), which was set up in the year 1985 has already emerged as one of the largest universities in the world to day. A more recent realization of the effectiveness of the ODL systems is in its being uniquely capable of handling programmes for training of trainers and learners specially those related to empowerment and awareness programems involving substantially large groups of trainers and learners. Never before, we had witnessed such a great impact of any technology than that of the contemporary developments in Information and Communication Technology (ICT) to the system of education. It is becoming very apparent that in recent years the ODL has very well and meaningfully absorbed the ICT for the betterment of the system, to make it more cost effective and accessible so as to bring in equity in education.

The ODL has been growing at a very fast rate and massive human resource trained in the Open and Distance Learning System is required to handle the system efficiently. Keeping in view the above requirements of man power development, the Division of Distance Education of IGNOU prepared 7 Handbooks on 7 themes in 1989 to meet the above requirements of the ODL System. The Division of Distance Education grew into the Staff Training and Research Institution of Distance Education (STRIDE) in the year 1993 and 10 Handbooks on different themes of ODL have already been brought out. Theses Handbooks have found to be very useful for the teachers, administrators and other functionaries of the ODL. As of today, the STRIDE has successfully revised the 7 Handbooks and has also added 3 more Handbooks on 3 different themes relevant to emerging trends in ODL. I appreciate the efforts made by STRIDE and hope that the Handbooks will be immensely useful for different functionaries of the ODL System in the country and abroad.

(H.P.Dikshit)
Vice-Chancellor
IGNOU

Contents

Page

List of Tables **Page**

INTRODUCTION

Purpose of the Handbook

There is an urgent need for the freshers to understand, appreciate and enter the field of distance education. Under given circumstances, it is not always possible to provide face-to-face interaction. Sometimes training may be arranged at a distance, and one may even use self-instructional training resource materials for self-learning. Whatever may be the situation, we need some background resource materials in various forms. Here, we have made an attempt to prepare a handbook-cum-training material which can be used in both the situations for face-to-face interaction as well as distance training. This material is also useful for self-learning.

Features of the Handbook

1. The handbook has succinctly dealt with the concept of open and distance education, and the beginning and expansion of distance education the world over.

2. The handbook has dealt with components like delivery technologies, student support services. Knowledge in these areas is crucial for an individual who has joined or is likely to join this system of education.

3. In this handbook, various types of activities have been suggested. These activities are interesting, stimulating, thought provoking, motivating and rewarding.

4. Several examples, illustrations and graphics have been given for an easy assimilation of the various concepts.

5. Latest information in the form of tables has been provided.

6. The handbook has been written in easy accessible language.

How to Use This Handbook

This is a multi-purpose handbook. It can be used for:

i) Self-learning (i.e. acquiring basic knowledge in distance education); and
ii) training in distance education.

Learning purpose

Any distance learner/tutor/academic counsellor/course writer or any individual who is working with this system or wants to be associated with this system in the near future can use this handbook for developing a basic understanding of the concepts of distance education. There is no restriction

in doing the 'activities' as suggested in the handbook. You can take them up according to your own convenience.

Training purpose

A trainer in distance education can use it for training purposes. This is suitable for newly appointed academics (full-time or part- time) in distance learning institutes/ open universities — who need to be trained. The participants should be despatched this handbook at least one month before a face-to-face workshop. While working with this handbook the participants should attempt the pre-workshop activities suggested in the handbook. As hinted in the text, some activities may be completed during the workshop and the others in subsequent period.

SECTION I

Nature and Characteristics of Distance Education

This is the first section of the handbook. We would advise you to start using it from this very section. Do not proceed to the next section unless you have completed working with this section. In our discussion here, we have included: meaning of open education, characteristics of distance education and related terminologies. We have also suggested interesting activities that you may attempt as we go along.

Objectives

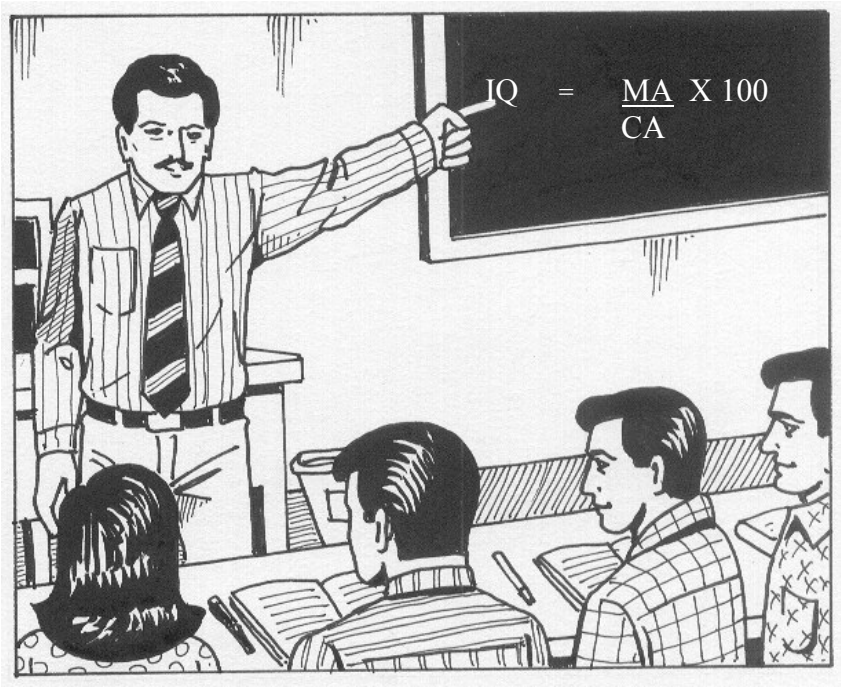
After working with this section you would be able to:

- ☛ differentiate between correspondence education and distance education
- ☛ discuss the characteristics of distance education
- ☛ distinguish between open education and distance education
- ☛ list various categories of people whom distance education is most suitable for.

Let us start with a simple activity.

Three different teaching-learning situations described below reveal three different systems of education available in our country. Study these situations attentively .

Situation 1: This is a face-to-face teaching-learning situation in a class-room. The teacher is solely responsible for teaching according to a pre-designed syllabus and uses the word of mouth as the sole method of communication. This is the situation where the learner interacts with the teacher and other fellow students, carries out activities and experiments within and outside the classroom as suggested by the teacher, and gets immediate feedback to his/her queries from the teacher. Learning in this situation is full-time and teacher-based.



Situation 2: This is a teaching-learning situation where the teacher and the learner have no face-to-face contact. They interact only through postal correspondence. Here, print is the only medium of instruction and printed lessons are the only source for the learner to learn.

Situation 3: This is another teaching-learning situation where non-print media such as radio, television, telephone, audio cassettes, video cassettes, computer and other electronic media are used along with print material to provide education to the learner at a distance, and for two-way interaction (both synchronous and asynchronous). Student support services and a variety of evaluation methods are an important part of this situation.

Activity 1.1

Name these three systems of education as you understand them.
Use this space for writing your answer.

1. .....

2. .....

3. .....

We hope, you have rightly identified the systems of education. The system of education mentioned in the first paragraph (situation 1) is **'conventional system'** of education, the system mentioned in the second paragraph

(situation 2) is **'correspondence education'** and the system mentioned in the third paragraph (situation 3) is **'distance education'**, sometimes referred to as 'open education'. The last two types of education ('correspondence' and 'distance') are better known as non-conventional modes of education. These two terms 'correspondence education' and 'distance education' are widely used in India. The non-conventional mode of education has been recognised as the best mode of furthering democratisation of the education system. In this handbook we have made an attempt to discuss the distance education system in the contexts of its meaning, genesis, developments and anticipated future trends.

While working with this handbook you will realise that it is not easy to define the term 'distance education'. After all, there is not just one meaning of this term. It is known by a variety of names viz. Correspondence Education, Home Study, External Study, Off-campus Study. Open Learning, Flexible Learning, Resource Based Learning, Distributed Learning, etc. (Reddy, 1987; Lockwood, 1998; Inglis, 2000; Lockwood & Gooley, 2000). Considering the scope of the present handbook, we will take up for discussion just two terms, which are often used interchangeably. These terms are Open Learning/Open Education and Distance Education.

First, we will clarify the meaning of the term open education/open learning, and then proceed to discuss distance education.

What Is Open Learning?

You may be surprised to know that 'open learning' was named in one of the issues of the **Pitmans Journal** in 1929 (Rowntree, 1992), long before the first open university in the world (UKOU), with which the terms 'open education' and 'open learning' are usually associated, was established i.e. (1969).

According to Perraton (2000) the term 'open learning', with its ambiguities about the meaning of the term 'open', has led some of its protagonists to shy away from defining it, labelling it as a philosophy rather than a method, as if such an usage is a pretext for its vagueness. Perraton (1997) defined 'open learning' as an "organised educational activity, based on the use of teaching materials, in which constraints on study are minimised either in terms of access, or of time and place, pace, methods of study or any combination of these".

A comprehensive document entitled *Open Learning* by Mackenzie, Postgate and Scupham (brought out by UNESCO in 1975) describes open learning as follows: "Such systems are designed to offer opportunities for part-time study, for learning at a distance and for innovations in the curriculum. They are intended to allow access to wider section of adult population, to enable students to compensate for lost opportunities in the past or to acquire new skills and qualifications for the future. Open learning systems aim to redress social or educational inequality and to offer opportunities not provided by conventional colleges or universities".

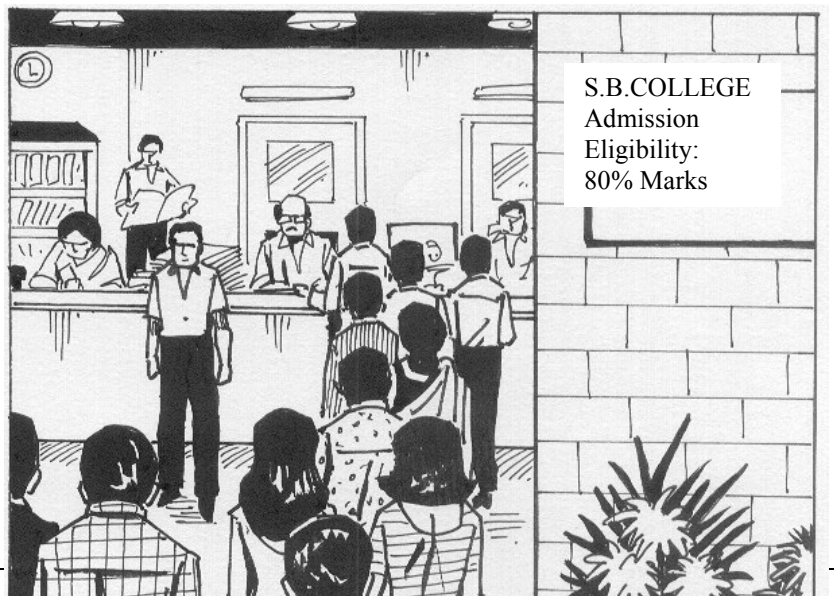
If you review literature on open and distance learning you will find several definitions of open learning. As the scope of this handbook is limited, here we can mention only the most widely accepted views about open learning. These include: removing the barriers and restrictions placed on students as evident in the conventional education system, opening up learning opportunities to a wider range of people, and enabling them to learn more congenially and productively (Coffey, 1977; Rowntree, 1992). For further clarification, you may read the **illustrations** presented in **Box** 1.1, 1.2 and 1.3.

Box 1.1 SOME ILLUSTRATIONS

Relaxation during admission

a) ***Age***: In the open learning system a minimum age may be required to take admission to a particular programme, but there is no maximum age limit. For example, Mr. Sen who passed higher secondary (10+2) in June, 2000 can take admission to a bachelor degree programme either in a conventional institute or in an open learning institute in the same year. But if Mr. Sen can't take admission in the bachelor degree programme in 2000 and wants to do the same after a gap of one year or more, he can't do it through the conventional system of education. But he can take admission to the bachelor's degree in any open learning institute subsequently as per his choice.

b) ***Qualification***: In the conventional system of education, the enrolment capacity is limited. So, there are restrictions in admissions with regard to the percentage of marks/grades obtained by the learners. For example, in some institutions only those learners who obtain an aggregate of 80% marks are allowed to apply for admission. In the open learning system, there is no such restriction for most of the programmes. Only a few professional programmes (e.g. Computer, Nursing, Engineering, etc.) may have some restrictions due to heavy hands-on work that students need to experience and for which prior knowledge is required.



Open and Distance Education

Box 1.2 SOME ILLUSTRATIONS

ii) **Relaxation with regard to place and time of study**

a) In an open learning system the learner can select his/her own place of study. For example, Ms. Reddy had taken admission in the MBA programme in an open university (IGNOU) in its Bangalore Regional Centre. Due to some reasons she had to leave Bangalore midway and settle in Bhopal. In this situation what did Ms. Reddy do? Did she give up her study? If she was a learner of a conventional university she would have given up her study as the system would not permit her to continue to study from outside of station. But, in an open learning system it is possible. In this case, Ms. Reddy transferred her documents from Bangalore region to Bhopal region of the open university and completed her programme in time.

In open learning, the learner can continue his/her education from any place of his/her choice under the jurisdiction of the open university/institute.

b) Mr. Singh had taken admission to the Bachelor's Degree Programme of the IGNOU. He could not clear all the courses for the term-end examination of the first year. He took admission to the second year (as the system permits to do so) and completed the left over courses along with the second year courses.

In this system, the learners can take either more than one year to complete a 'one year programme'. In other words, the learner can complete a programme at his/her own pace.

Box 1.3 ANOTHER ILLUSTRATION

Relaxation with regard to selection of courses

In the open learning system, the learner gets relaxation in selecting his/her courses. For example, in B.A. and B.Com. programmes of the IGNOU, the learner can select courses from a list of about 70 courses. Some open universities (e.g., IGNOU) allow a B.A. graduate to take admission to even the Master's of Computer Application (MCA) programme.

Can Open Learning Be Fully Open?

At this stage we will ask you to take up an activity. Can you think of a fully open system of learning?

Activity 1.2

Before you proceed further, write a brief note on what a fully open system might look like?

……

……

……

……

……

……

Here, we shall mention four characteristics of a fully open system as visualised by Rowntree (1992).

i. *"Whatever you wanted to learn about, you would be able to get a programme tailored to your wishes and at an acceptable price.*

ii. *You would get it when you wanted it, where you wanted it, and at your own pace.*

iii. *You would be able to set your own objectives, choose the content and sequence of your programme, and decide when and how your learning was to be assessed.*

iv. *You would also be able to decide how you wanted to learn — e.g., with others or on your own, from books or from videos, with the emphasis*

on theory or on practice — and who might help you in what kind of ways."

You may match your note with the characteristics of a fully open system as visualised by Rowntree (1992). You may discuss these with your colleagues or other participants/resource persons in a workshop.

Can an Institute or Open University be Fully Open?

What is your opinion about it? Are you familiar with any open university which can be described as fully open? You may take up another activity at this stage.

Activity 1.3

Select any one open university (OU) or institute of distance learning you are familiar with. Select any programme it offers e.g., Bachelor of Arts (BA) programme. Analyse how open the OU or the institute actually is while offering this programme?

Note: Your analysis may take the following questions into consideration:

i) Can a person easily become a learner of that open university? Is there any entry requirement in terms of age, qualifications, experience, etc.?
ii) Is the learner free to decide the content and objectives of the programme? Can he/she choose any course from a wide range of disciplines?
iii) Is the learner free to decide teaching and learning methods? Is he/she free to decide how he/she will call on other people for support?
iv) Is the learner free to decide how he/she will be assessed?

You may add more. Also see a brief note on our observation given in Box 1.4.

Box 1.4 ☺

A brief note on our observation

We have observed that most open universities have entry requirements for some specialised programmes. In some programmes, learners have free choice of courses from among a wide range of disciplines. However, within a course, the learners can't select any content or topic. They have little control over the objectives suggested by the course writer. Courses have both continuous assessment (through tutor-marked and computer-marked assignments) and the learners have to perform well in both, i.e. continuous assessment and term-end examination. Most of the open university learners are largely free to learn wherever they like. Attendance at academic

counselling or tutorials is optional. But the attendance in practicals, extended contact programmes, seminars etc. may be compulsory. In some cases, the learners may start the programme as and when they want. But in other cases, they are not be allowed to do so. There is a fixed timing for the beginning of the session and the end of it. In most of the cases, the learners are not free to select teaching and learning methods. They are provided with specially developed printed study materials, counselling and guidance on how to work with these materials, how to write assignments, when to submit the assignments, and so on. They are also allotted study (learning) centres by the university and a group of tutors/counsellors appointed by the university.

The first Vice-chancellor of Dr. B.R. Ambedkar Open University and also the Indira Gandhi National Open University, late Prof. G. Ram Reddy (1987) stated that "when we look at the open universities and open learning institutions, we find that all that is conveyed by 'openness' is not to be found in quite a few of these institutions. Open learning, therefore, is always synonymous with open university or distance education. Several open universities and open learning institutions prescribe certain entry qualifications and they debar those who do not fulfil the conditions laid down by them. Therefore, if the idea is to provide educational facilities to larger number of people scattered all over, i.e., providing greater access to education, the term 'distance education' would be more appropriate."

What Is Distance Education?

Distance education has been defined by several thinkers and writers, each emphasising certain aspects of the system. (You may see Box 1.5). The most popular analysis by Prof. Desmond Keegan (1986) projects the following important characteristics of distance education (see previous page).

Box 1.5

Some Definitions of Distance Education

"The family of instructional methods in which teaching behaviours are performed apart from learning behaviours, including those that in a contiguous situation would be performed in the learner's present, so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices" (Moore, 1973).

"...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 provide…learners with opportunity to continue learning in their own environments, and developing…the capacity to carry on self-directed learning…" (Wedemeyer, 1977).

"a method of imparting knowledge, skills and attitudes which is rationalized by the application of division of labour and organisational

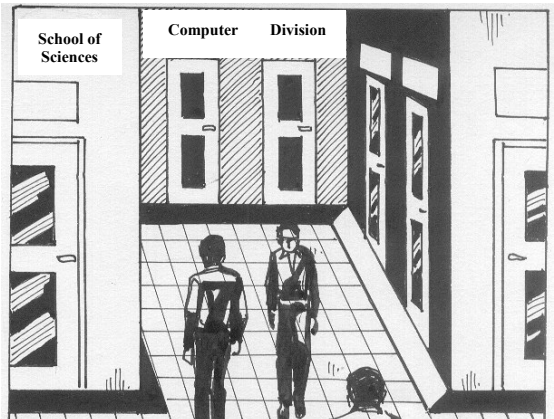
principles as well as by the extensive use of technical media, specially for the purpose of reproducing high quality teaching material which makes it possible to instruct great numbers of students at the same time wherever they live. It is an industrialised form of teaching and learning" (Peters, 1973).

"the various forms of study at all levels which are not under continuous, immediate supervision of tutors present with their students in lecture rooms on the same premises, but which nevertheless, benefit from the planning, guidance and tution of a tutorial organisation" (Holmberg, 1981).

"…educational process in which a significant proportion of teaching is conducted by someone removed in space and/or time from the learner (Perraton, 1982).

- Quasi-permanent separation of teacher and learner throughout the length of the learning process; this distinguishes it from conventional face-to-face education. *There is no full-time face-to-face class-room education. The teachers and learners interact at a distance. Occasionally, the learners meet the teachers in face-to-face counselling sessions. (For an elaborate discussion, see IGNOU Handbook on 'Academic Counselling').*

- Influence of an educational organization both in planning and preparation of learning materials and learner support services. *There is an educational organisation which takes care of designing, preparation and delivery of learning materials to the learners. It provides learner support as and when required. (For a brief discussion, see sections IV and V of this handbook).*

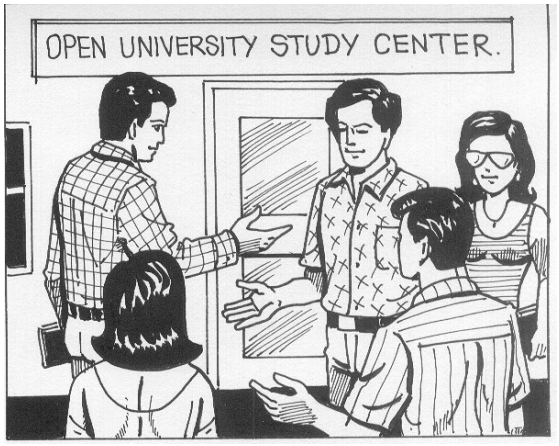


- Use of technical media to unite teachers and learners and carry the content of the course. *Various media like print, audio cassette, video-cassette, radio, television, telephone, computer etc. are used to carry out the content and bridge the distance between the teacher/educational organisation and the learners. (For a brief discussion, see section III of this handbook, and IGNOU Handbook on 'Media and Technology in Distance Education').*

- Provision of two-way communication to initiate and get engaged in dialogue. *Two-way communication (teacher/teaching institution to learner, and learner to teacher/teaching institution) can take place through print, writing (tutor comments on assignments), and teleconferencing using telephone, television and computer, and so on. This is the most important aspect of distance education. (For an elaborate discussion, see IGNOU Handbook on 'Assessment and Evaluation in Distance Education').*

- Quasi-permanent absence of learning groups throughout the length of the learning processes. *Learners are addressed and taught individually through self-instructional materials (printed text, programme guide,*

assignments, project/practical guides and so on). There is a provision for occasional meeting of learners at designated study centres, programme centres or work centres for attending counselling and/or practicals. Only there can they interact with fellow learners. (For a brief discussion, see sections IV and V of this handbook).



In addition, Keegan finds that there are two other socio-cultural determinants which are necessary pre-conditions and a consequence of distance education. These are:

- More industrialised form of education: *Distance education accepts a method of imparting knowledge which is rationalised by the application of division of labour and organisational principles, as well as by the extensive use of the electronic media for the purpose of reproducing a large quantity of teaching material for large number of learners to be used at the same time wherever they live. The massive organisational effort needed for these purposes are similar to an industrial organisation*.

- Privatisation of institutional learning: *Learners learn at home and at their own place. The individual learner becomes the focus of learning*.

The concept of distance education insists that the learning materials in print must be different from the texts used in the conventional education system; electronic media should find their legitimate place; distance learners must have opportunities to meet their teachers and peer groups in face-to-face situation during their course of study; library and laboratory facilities (as and when required) should be extended; and evaluation methods should be designed systematically to test the actual learning of the learners.

Box 1.6

Use of the Term 'Open and Distance Learning' (ODL)

Open and Distance Education

Presently, most distance educators prefer to use the double term 'open and distance learning'. The relationship between distance education and open learning has long been examined and anatomised by the distance educators. A pragmatic explanation for this relationship has been provided by John Daniel (1988: 127), Vice-Chancellor of the Open University, U.K. He described distance education as those forms of learning and teaching that make a much greater use of other forms of communication than face-to-face teaching. These forms may be called 'open learning' because they make learning accessible to more people (Peters, 1998).

Lord Crowther, the first Chancellor of the Open University, U.K. during its inauguration ceremony in 1989, stated that the open university should open in four ways, namely to *people*, *places*, *methods* and *ideas* (Tunstall, 1974). Open to *people* means an open university will make learning accessible to more people, which is the first criterion of openness as discussed above. Open to places suggests that the open university will have greater number of learning locations throughout the country, so that the distance from the university will not be a barrier for learning. Thus, the geographical independence of the institution's location is the second criterion of openness. In the open university, learning and teaching behaviour are fundamentally different as knowledge is transmitted by means of technological and communication media. So, the openness to *method* is a precondition for every open university. Openness to *ideas* is another important criterion. Success of an open university also depends upon the open mindedness of the distance educators. They should give due respect to the ideas brought to them by various groups like media persons, educational technologists, professionals, learners and so on.

If the above mentioned criteria are accepted for openness, then any distance teaching institution may be described as an 'open university' (Peters, 1998).

The Paradigm Shift in Distance Education

At present, changes are taking place in the field of distance education. A **paradigm shift** has been witnessed by distance educators. As distance educators and researchers are increasingly referring to it, it has become a **catchword** by now, even a **slogan** (Peters, 1999). According to Peters (1999), paradigm shift in education would mean that in education certain models or patterns do no longer exist as they have been substituted by new models and patterns which significantly differ from the old ones. Peter also opined that the traditional mode of distance education will probably become outdated. Distance education will have to reorient itself and develop new didactical structures. In this new situation independent learning, self-regulated learning and group learning will become very important. Pre-fabricated courses (as available now) for a very large number of students will lose their significance. We will take up this issue in detail again in section III of this handbook.

Who Are the Distance Learners?

There are various categories of people who need higher education. A large number of people in our country do not get opportunities to go for higher education in the conventional system due to the systemic constraints of that system. Individuals may succeed in overcoming their problems at personal level, but they may not be allowed to pursue their education at an oportune time because of the restrictions imposed by the conventional education system.

Activity 1.5

Considering the relaxations available in open and distance education, make a list of various categories of people who may become learners in this system.

……

……

……

……

……

Now, you may match your answer with the following categories of people.

- Those who could not go for higher education just after schooling, but want to take higher education at a later stage.

- Those who have had higher education for some years but would like to continue their education for improvement of their knowledge and advancement in career.
- Those who have discontinued their studies for one reason or the other and want to have a second chance.
- Those who want to make their education a life long affair.
- Those living in adverse situations (geographical, social, economic and the like) who are not free to attend regular schools/colleges/universities.

- Those who would like to pursue their studies without disturbing their normal and daily routine e.g., house wives.
- Those who can't attend regular schools/colleges/universities due to physical constraints (i.e., physically challenged people).

Distance education aims to facilitate further education and training for the above mentioned categories of people.

In reality, we have observed that many people, after completing their schooling (10+2), take admission in open universities for higher education. This is their first and only choice. These people do not belong to any of the above mentioned category. They may get admission to the conventional system of education if they so desire, but they apply in thousands for admission into various programmes of open universities. In many programmes, such candidates comprise the majority of the applicants.

Important Notes:

This section may leave you with some unresolved questions. Keep a note of them and ask these questions to the resource person in the workshop/orientation programme/induction programme and also discuss them with fellow participants.

……

……

……

……

……

……

……

……

……

……

……

SECTION II

Beginning and Expansion of Distance Education

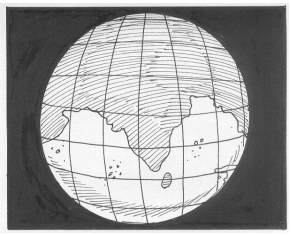
In this section we shall briefly discuss, the beginning and expansion of distance education in different parts of the world, including India. We have included a list of open universities in India and a separate list of important open universities of the world, with their years of establishment.

Objectives

After working on this section you would be able to

- trace and analyse the beginning and expansion of distance education in India and other parts of the world
- list the important institutes of distance education and open universities in the world
- list the open universities in India

International Scenario



Europe

Some researchers have traced the beginning of distance education to 1833 when a private tutor taught English composition to his students by post, providing two-way communication which is the main characteristic of distance education. However, the general belief is that correspondence education (which is the earlier form of distance education) took formal shape in England in 1840 through Issac Pitman who started using postal tution to teach shorthand to his many students spread all over England.

During the last two decades of the nineteenth century, correspondence education became more systematic in **UK** as many important colleges namely, Skerry's (1880), Foulks Wynch (1884), International Correspondence College (1894) introduced examination-oriented courses. In the twentieth century, the correspondence education system underwent significant changes. By 1969, the first open university (UKOU) in the world was established and nearly all correspondence institutions in the UK were conducting general courses, university subjects as well as technical and professional courses.

Open and Distance Education

The history of open learning and distance education in England has been largely the history of some well known institutions and individual initiatives (Rowntree, 1992). The important ones are: National Extension College (1963) set up by Michael Young, Open University (1969) - the world's first university to teach at a distance, Open College of the Arts (1986) - another creation of Michael Young, Open College (1987) - an initiative taken by the government, Open School (1989) yet another initiative of Michael Young.

A brief on the OUUK is given in Box 2.1.

U.K.

Box 2.1

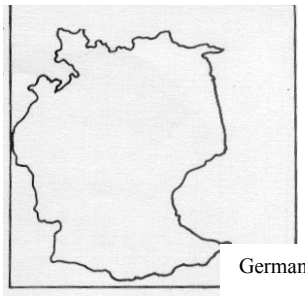
Open University of United Kingdom

The Open University of UK was established by a Royal Charter in 1969 as an independent and autonomous institution authorised to confer its own degrees and diplomas. The university is located on a 70 acre site in Milton Keynes, Buckinghamshire and has regional offices all over the UK.

The university admitted more than 24,000 students in its first year (1971). It has unusual features like admission without qualification (undergraduate courses), degrees built up from credits obtained by taking a number of modular courses, integration of electronic media with printed text, highly structured student support services, team approach to developing courses, introduction of summer schools and weekend or day schools, etc. As there was no model to follow, all these features were pioneered by this university. The university offers undergraduate programmes, post-graduate programmes, professional and updating programmes and continuing education programmes, and uses various media like print, audio cassettes, video cassettes, slides, home experiment kits, computer, internet/web based technologies, teleconferencing, field trips, summer schools, weekend or day schools. The continuing education programme of the university is expanding fast. Around two million people have studied with this open university and it now admits students in mainland Europe and overseas. There are over 7000 students on the continent alongwith 32000 U.K. students who access the internet for tutoring and other services (Mason, 1999). In 1988, this open university had introduced computer mediated conferencing for a single course. Today they have provision for 180 courses. Around 110,000 students use this facility. The open university has produced CD-ROMS for a number of courses. The open universities online library has gone up from 1000 to over 10,000 active users. The open university has provided students records registration and student guidance online (Daniel, 2000). A newspaper, ***Sesame***, is published regularly for the students of the university. The university also brings out a journal titled *Open Learning* since 1980. The journal has three issues in a year.

In **Germany**, pioneering work in correspondence education took place in 1890 with the establishment of **Fern Lehrinstitut** in Berlin. During the second part of the twentieth century, this system of education became very

popular. Considering the need of the society the German Institute of Distance Education (Deutsches Institute fur Fernstudien) was established at Tubingen, in 1965. This is an institute for research and development in the areas of continuing education.


Germany

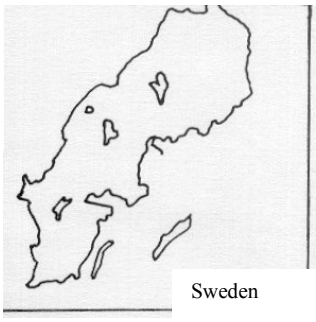
The state of North Rhine Westfalia took a step to establish the first distance teaching university in Germany and as a result the **Fern Universitat** was established at Hagen in November, 1979. This university offers courses to German speaking students only.

During the 1970s the Dutch Government took a policy decision to make higher education available to all categories of people in the **Netherlands**. As a result the **Netherland Open University** came into existence in 1983 and became functional in September 1984. This university has been providing different professional, technical and general courses through several study centres spread all over the country including remote areas where there was no facility for higher education earlier.


Netherland

In 1948, the Government of **Norway** passed a law to regulate correspondence education throughout the country. Various correspondence schools had already been established in different parts of the country and had become popular. The correspondence schools formed an Association in 1987 named 'Norwegian Association of Correspondence Schools'. Since then, this Association has been playing a very effective role in the development of distance education in Norway. In 1985, the nomenclature was changed to '**Norwagian Association for Distance Education'** (NADE). (See Table 2.3 on page 35).

In 1890, with the establishment of Hermodes in Malmo, Correspondence Education took its root in **Sweden**, and this institute became very popular. Seeing its success, a few more schools were established. In 1966, Norsk Korrespondanseshok (another institute of correspondence education) was merged with Hermodes. Thus, Hermodes became the largest distance education institution of the world with yearly enrolment of around 1,50,000 students. In 1968, some universities in Sweden started distance education programmes for university level courses. Distance education is now well established in Sweden; it is a highly decentralised system, with institutional structures, production of study materials, delivery systems and support services varying from university to university.

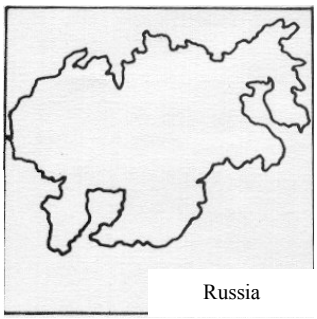

Sweden

Besides, many other countries in Europe, like France, Italy and Spain have advanced in the field of distance education. In France, distance education was originally designed for training teachers. Later, the scope was widened. By 1986, 18 conventional universities were named as Radio Universities. The '**Centre de tele-Enseignment a Distance (CNED)** is the most important distant education institution in France.

In **Italy**, the **Consorgio per I Universita a Distanza (CUD)** is an important institution which was established in 1984 to provide distance teaching to the learners.

In **Spain, Universidad Nacional de Education a Distancia (UNED)** was established in 1972 to widen access to higher education for the disadvantaged social groups in society. At present, distance education is well established in all these countries in Europe.

In erstwhile **USSR,** there was a necessity to train thousands of educated volunteers who offered to teach illiterate adults throughout the country. During the 1920s, these volunteers were trained through specially designed correspondence courses. That was the beginning of correspondence education in USSR. The first correspondence study institute for higher learning was established in 1926. After that, several correspondence institutes were set up at regular intervals. By 1961, correspondence education became an integral part of the whole educational system of the USSR. Correspondence institutes were conducting elementary high school, undergraduate and postgraduate courses. You may be surprised to note that during the 1970s, correspondence course institutes in the USSR attracted more students than the formal education institutes.



Russia

In 1990, an open university was established in Russia. The main objective of the **Russia Open University** was to provide access to higher education to (i) all those learners who are admitted to and excelled in the appropriate secondary schools, and (ii) people of all ages who may wish to learn.

Activity 2.1

Identify 5 distance learning institutions/open universities in Europe which have contributed significantly in promoting distance education in that region.

……

……

……

……

……

Africa

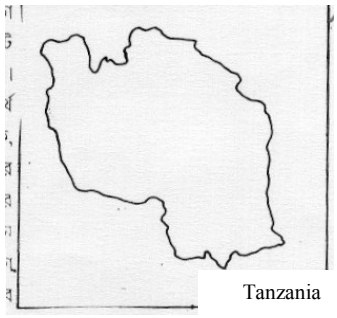
In the early 1960s, majority of school teachers in Africa were untrained. There was an urgent need for training the in-service and prospective teachers. A number of countries in Africa, like **Tanzania, Kenya, Botswana, Nigeria, Swaziland, Lesotho, Ethiopia** and **Ghana** organised distance education courses for the training of teachers in 1962, and the first correspondence college was set up at Brazzaville. During 1973-74, the

University of Lagos, Nigeria established a Correspondence and Open Studies Institute (COSI). COSI continues to play a vital role in promoting distance education in that region till today.

Sudan set up an Open Learning Unit in 1984 for the refugees from Ethiopia and other countries.

In one of its brief period of civilian rule, **Nigeria** decided to have an open university. A Vice-Chancellor was appointed and the necessary legislation was put before the Parliament. However, the legislation was rejected by the members of Parliament (Rumble and Harry, 1982). Later the proposal was reviewed, but was turned down by the military regime.

Tanzania faced initial difficulties in setting up an open university all though in 1992 it succeeded in establishing an open university **(Tanzania Open University)** by an act of Parliament. The university began to recruit students in 1994. Tanzania was one of the poorest countries in Africa (GNP per capita $ 210 in 1997), and the number of students in conventional universities numbered only a few thousands. By 1998, the open university could enrol around 600 students to degree courses (arts, social sciences, commerce and law), of which 10% were women. BA (Education) and B.Com. (Education) degrees were mainly for teachers. The first degree ceremony of the university (convocation) was held in 1999, five years after the first batch of students began their courses (Perraton, 2000).


Tanzania

In the south, the Southern Africa Development Coordination Committee asked the Commonwealth to explore the idea of establishing a regional open university. The proposal was endorsed by the Regional Training Council. Negotiations involved three international agencies, ten countries, and a number of universities. The region left distance education mainly to be taken care of by the **University of South Africa,** established in 1916 (Perraton, 2000). Since 1943, it has been a correspondence based university. In 1997 the University of South Africa had the highest enrolment (over 1,24,000 students) in Africa. Other new institutions have come into the picture e.g. **Technikon South Africa** with over 80,000 distance learners and **Vista University Distance Education Campus** with more than 10,000 learners (Dodds, Nonyongo and Glennie, 1999).

In Africa, with regard to the **dual-mode universities**, distance education activities are not so significant. These universities run a few specialised courses mostly in education. They also offer courses parallel to their regular courses. Nigeria, Ghana, and Kenya have set up university programmes of distance education, and Nambia, Swaziland and Uganda etc. have set up **Distance Educational Units**. But the number of learners is not significant and only a few courses are available. The **Correspondence and Open Studies Institutes** at Lagos faced a number of problems with regard to material development, finance, support services and so on. It has produced around 2000 students in the first 10 years of its operation (Dodds and Mayo, 1996).

The University of Zimbabwe was established in 1967. It is used as a route both into on-campus and off-campus study. Some students who complete two years of a degree can move into full-time on-campus study, while those who cannot complete their degree on-campus can sometimes do the same at a distance. In 1980, Zimbabwe established **Zimbabwe Distance (Correspondence) Education College**.

At present, Africa has three open universities—**University of South Africa, Open University of Tanzania** and **Open University of Zimbabwe** (previously the Centre for Distance Education at the University of Zimbabwe) and one virtual university (African Virtual University). African Virtual University has set up by the world bank in 1997. It mainly uses information and communication technology to give the countries of Sub-saharan Africa direct access to quality academic faculty and learning resources from all over the world (Bates, 2001).

Activity 2.2

Point out the needs which prompted several countries in Africa to establish distance learning institutions.

……

……

……

……

……

North America

North America has a very large network of distance education institutions. In the **USA,** the beginnings of correspondence education was marked by the establishment of a 'Society for Home Studies' in 1873. Within twenty years, some correspondence institutes namely, Illinois Western University (1874), Correspondence University at New York (1883), Institute of Correspondence Schools (1890) were established. In 1926, an educational association, namely, 'National Home Study Council' was established for setting standards for correspondence schools. Within fifty years, about a hundred institutions had become members of this association.

USA

The largest user of distance education in USA is the US Federal Government, especially the armed forces. **The United States Armed Forces Institute** is a unique distance teaching institute offering a variety of courses to the armed forces. Several universities have well-known correspondence institutions/directorates/departments e.g., Pennsylvania State University, Brigham Young University, Indiana University, University

of California, University of Wisconsin, University of Minnesota, Louisiana State University, University of Massachusetts and so on.

Recently, Distance Education Directorates and Divisions of Continuing Education have launched **on-line courses** in some universities e.g. Distance Education at Louisiana State University, Division of Continuing Education, Massachusetts and so on. Some virtual universities like **California Virtual University** have also come into picture. This is one of the biggest virtual universities offering a whole range of courses from certificate programmes to Ph.D. A survey of 1028 accredited institutions of the USA reveals that 72% offered online courses in 1999 (Grimes, 2000).

For e-mail addresses and other information, you may see Table 3.4 in section III of this handbook.

Canada has a very interesting history and has been playing an important role in promoting distance education all over the world. British Columbia, the birth place of the International Council for Correspondence Education (see Box. 2.2) has established the Open University Consortium to facilitate the offering of degrees, diplomas etc. Distance education programmes have received wide publicity in Canada through the creation of this consortium.

Box: 2.2

The International Forum:

International Council for Distance Education (ICDE)

In the first half of the twentieth century correspondence education gained popularity all over the world. Some educationists took initiatives and established the International Council for Correspondence Education (ICCE) in 1938. The main credit goes to Mr. J.W.Gibson who was the Director of High School Correspondence Instruction at Victoria, British Columbia, Canada. The first world conference of this council was held in Victoria B.C. in August 1938; 87 delegates from 5 countries attended the conference. Till date, 19 world conferences have been held in different countries of the world. The last conference was held in Viena, Austria; more than 1000 delegates from 85 countries attended the conference. This council is officially affiliated to UNESCO under category 'A' of international organisations. This council strives to promote knowledge of and improvement in open and distance education throughout the world. In the second half of the twentieth century, when various non-print and/or electronic media and student support services were introduced as major components of correspondence education, the educationists observed that the term 'correspondence' cannot adequately express these features of the system. Then ICCE appointed some committees to review the matter. The issue was finally resolved at the 12th world conference of the ICCE held in Vancouver, Canada in 1982 (see Table 2.4). The term 'correspondence' was replaced by the term 'distance' and the ICDE was renamed as

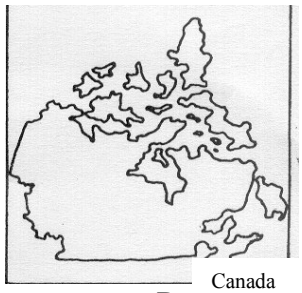
Open and Distance Education

International Council for Distance Education (ICDE). ICDE provides consultancies and advice to its member institutions at reduced costs. It has established various 'interest groups' and has close working relations with various Associations of open and distance education (see Table2.2).

Box 2.3

The Commonwealth of Learning (COL)

The Commonwealth of Learning is an international organisation, established by Commonwealth governments in September 1988. Its headquarters is in Vancouver, Canada. The objective of the COL is to create and widen access to education and to improve its quality, utilising distance education techniques and communication technology. It (i) assists to create and develop institutions in distance education in member countries, (ii) facilitates the channeling of resources to projects in distance education, (iii) undertakes and supports staff development in distance education, (iv) provides information and consultancy services in distance education, (v) assists in acquisition and delivery of teaching materials, (vi) assists in the development of local support services to the learners, and so on.



Canada

The development of distance education in Canada should be discussed with reference to **Athabasca University** and **University of Alberta**. In 1987, Athabasca University was formally established under the Universities Act to provide higher education to adults who were deprived of education at conventional universities. This university has various kinds of distance education programmes namely, degree programmes, transfer programmes, visiting student programmes and so on. Recently, this university has started on-line courses. At present, **seven on-line courses** are available including Sociology and Psychology. Distance education courses at the University of Alberta cover a wide spectrum of undergraduate and postgraduate courses. These courses are delivered either by video-conferencing, correspondence or the Web. (see Table 3.3 in section III).

In 1983, the **Canadian Association for Distance Education (CADE)** was formed. Since 1986, it brings out a biannual journal named *Journal of Distance Education.*

Two countries in Latin America are worth mentioning here - Costa Rica and Venezuela.

In **Costa Rica** the first open university (**Universidad Estatal a Distancia**) was established in 1977. At that time there were three universities in Costa Rica which could accommodate around 10,000 students out of about 25,000 qualified applicants. There was a need to expand educational facilities for the rest and also to meet the needs of people unable to attend regular classes. The open university registered 1284 students in 1987. The number rose to 10,000 in 1996 and has remained almost the same since then. All degree students are required to complete four common basic courses and then move on to more specialised courses. Print is the main medium. There is a limited amount of support by radio and television. The university has study centres all over the country.

In 1975, the **Government of Venezuela** decided to establish a distance teaching university, and appointed a Planning Committee for the proposed **Universidad Nacional Abierta (UNA)** which was established in 1977 to offer educational opportunities to those who were unable to attend formal higher educational institutions. It had another objective, i.e. to train professionals for rapid national development. Presently it is known as the **Venezuela Open University**.

Table 2.1: ICDE - International Conferences (up to 1999)

	Year	No. of countries participated	Place/state
1.	1938	5	Victoria, Canada
2.	1948	6	Nebruska, America
3.	1950	5	Cristchurch, Newzeland
4.	1953	8	Pennsylvania, USA
5.	1957	5	Alberta, Canada
6.	1962	5	Origon, USA
7.	1965	27	Stockholm, Sweden
8.	1969	34	Paris, France
9.	1972	28	Virginia, USA
10.	1975	32	Brighton, UK
11.	1978	39	New Delhi, India
12*.	1982	55	Vancouver, Canada
13.	1985	50	Melbourne, Australia
14.	1988	60	Oslo, Norway
15.	1990	62	Caracas, Venezuala
16.	1992	52	Bangkok, Thailand
17.	1995	75	Birmingham, UK
18.	1997	85	Pennsylvania, USA
19.	1999	78	Vienna, Austria

***In this conference ICCE was renamed as ICDE**

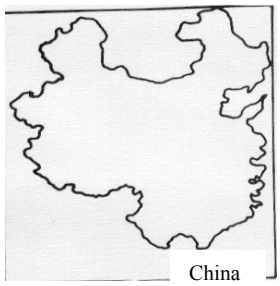
Source: Es-311, PGDDE, IGNOU, New Delhi

Australia

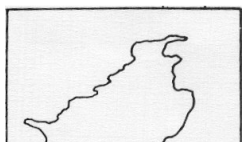
In **Australia**, Correspondence Courses had been initiated at all levels during the first decade of the twentieth century. Since then distance education has developed into an integral part of all systems of government funded education. Each state in Australia has correspondence school and technical training programmes through correspondence. Over the past few decades, there has been tremendous development in distance education. Some of the institutes with commendable growth and widening scope of distance education include: Mibchell College of Advanced Education (1974); Gippsland Institute of Advance Education (1972); Victoria College (1976); Deakin University (1974); Western Australian College of Advanced Education (1980), etc. In 1990, the Victoria College and the Warnambool Institute of Advanced Education were merged with the Deakin University. This has significantly extended the scope of Deakin University distance education programmes. Australia has accepted the changes in communication technology as one of the first countries in the world and has been depending totally on satellite technology which may have significant effects on open and distance education. A fully integrated Cyber City has been developed in Sydney. Several correspondence schools (e.g. **The Australian Correspondence School**) and a university (e.g. **University of Sydney**) have been offering **on-line courses**. The Australian Correspondence School offers over 260 distance education courses outside Australia. A number of Australian Universites have established new campuses overseas and also within Australia which tended to adopt information and communication technologies e.g. Monash Overseas Campuses , Central Queensland Universities and University of Southern Queensland.

Asia

In Asia, there has been a tremendous development of distance education during the last quarter of the twentieth century. Some Asian Open Universities have established themselves as mega open universities in the world.


China

China's higher education collapsed during the cultural revolution (1966-69) and its aftermath. The conventional universities were able to enrol only 5 per cent of secondary school graduates (Perraton, 2000). Facilitated by a television network, the Chinese Government decided to develop distance education in the country. In February 1978, the State Council approved a report on the founding of **Central Radio and TV University (CRTU)** with 28 Provincial Autonomous Regional and Municipal Universities (PRTVUs). After one year, the TVUs began to enrol students (NIME 1993). In Shanghai, there is a television university named the **Shanghai Television University**. It was established in 1960. Between 1990 and 1995 this university drew up plans for over thirty projects in various areas such as business management, computer studies, real estate management, English etc. which have registered over 600,000 students (Weixiang and Hawkridge, 1995). In 1986, **The National**

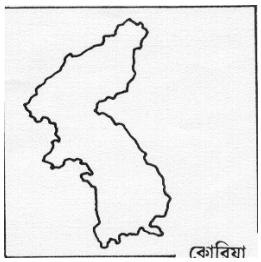


Open University of China was established. Television and broadcasts are the main media. These are supplemented by printed text, audio-visual materials and face-to-face sessions.

In **Pakistan**, Zulfikar Ali Bhutto established a people's open university in 1974. Though it survived the coup against his government, the name was changed. It was renamed as **Allama Iqbal Open University** after the national poet of Pakistan. The academic programmes of this university cover general education, teacher education, functional education, research and development. This university has the declared aim of providing educational upliftment of the masses (ICDL, 1997).

Pakistan

In **South Korea**, correspondence education began in 1930. In 1972, the Seoul National University established a Department of Correspondence Courses offering junior college level courses. In 1982, it was elevated to the status of a university - the Korea Air and Correspondence University. In 1994 it was renamed as the **Korea National Open University**. It serves around 350,000 students. This university offers more than 500 courses in various disciplines. Public and business administration are the most popular degree subjects in this university (NIME, 1993). It has adopted an information and communication technology driven distance education system consisting of video conferencing, CMC, Cable TV, and video on demand. It has developed CD-ROM titles and internet courseware for some degree subjects. This open university uses an interactive video conferencing network for reaching out to its geographically scattered regional and local study centers and conducting interactive tutorial sessions.



An ever increasing demand for education prompted other countries in Asia like Thailand, Sri Lanka, Japan, Malaysia, Indonesia, Hong Kong and Philippines to adopt the distance education system. Due to the limitations of this handbook, we have presented a very brief sketch of some open universities situated in some of these countries in Box. 2.4. The development of distance education in India immediately follows this box.

Box 2.4

The Open University of Hong Kong (OUHK)

The Open University of Hong Kong (OUHK), formerly the Open Learning Institute of Hong Kong (OLIHK) was established in 1989. This new name (OUHK) was given in May 1997. The university has a permanent campus in Ho Man Tin. The campus has various facilities like library, computers laboratory, audio-visual centre, lecture theatre, language laboratory, science project laboratories, tutorial rooms and disabled students' centre. The university has launched an electronic library in November 1998. All the students of OUHK (around 23,500) now have easy access to data equivalent to over 500,000 volumes of publications from anywhere in the country. Currently, the university offers more than 90 postgraduate, degree, diploma

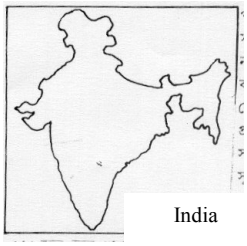
and certificate programmes. The university uses a flexible credit system, offers flexibility to students with regard to place and time of study, and provides carefully developed materials. It has provision for tutorial sessions, assignments and counselling.

Sukhothai Thammathirat Open University (STOU)

STOU was formally established as a single mode distance education university by the Royal Charter on 5 September 1978 in Thailand. This is situated on a 54 acre site in Nonthaburi, 18 kilometers north of Bangkok.

This university offers around sixty Certificate, Bachelors and Masters Degree Programmes. Besides these, it has more than 600 other courses on Agriculture, Cooperative Health Sciences and so on. It has various kinds of educational service centres like Resource Centres, Local Study Centres, Special Study Centres, Area Resource Centres and so on. The estimated annual intake of students is around 100,000 and the total student enrolment is around 300,000.

National Scenario



India

In **India**, at the time of independence, there were only 19 conventional universities and 420 affiliated colleges. Higher education was available only to the upper classes of society. By 1960, the number of universities had increased up to 45 and the number of affiliated colleges rose up to 1,222. Enrolment in colleges and universities increased from around 0.18 million during 1947 up to 0.89 million during 1960 (Sahoo, 1993). The increasing rate of enrolment posed a serious threat to the employment market. It was also apprehended that the expansion of conventional universities and colleges would affect the maintenance of the standards of higher education in a negative way. Keeping these in view, the Planning Commission of India (1960) had pointed out, "in addition to provision in the plan for expansion of facilities for higher education, proposals for evening colleges, correspondence courses and the award of external degrees are at present under consideration". On the basis of this observation the matter was referred to the Central Advisory Board of Education (CABE). The CABE in its 28th meeting (January 16-17, 1961) accepted the following resolution, "for the correspondence courses, the Board suggested further detailed studies by a small committee before a firm decision could be taken". Consequently, the Ministry of Education constituted an Expert Committee in March 1961 under the chairmanship of Dr. D.S.Kothari, the then chairman of UGC to look into the proposal in detail and make recommendations. The ten-member committee recommended the introduction of correspondence courses at the university level leading to a degree or equivalent qualifications. The committee had observed that large number of aspirants could be educated through correspondence courses as competently as those at the universities and affiliated colleges. The committee suggested that correspondence courses should be run in the first instance by one university i.e. the University of Delhi.

The University of Delhi agreed to the proposal and appointed a sub-committee to prepare a programme of action for correspondence courses. The sub-committee recommended the introduction of different courses like

English, Modern Indian Languages, Economics, Mathematics, History, Political Science and Commerce. Accordingly, the University of Delhi established the School of Correspondence Courses and Continuing Education in 1962 as a pilot project. The pilot project elicited good response from the students. Pubjabi University, Patiala set up a full-fledged Directorate of Correspondence Courses in 1968. A number of other universities like, Madurai Kamraj, Himachal Pradesh, Bombay, Punjab, Jamia Milia Islamia, Rajasthan, Mysore, Meerut, Cochin etc. established institutes of correspondence courses within a few years. All the institutes had received a good response from the prospective learners. This had encouraged the UGC to take further steps for strengthening correspondence education at the university level. At this stage, the establishment of open university in UK (1969) drew attention of the UGC policy makers. They started to think in terms of strengthening correspondence education through the open university system in the country. In 1970 (The International Education Year), the Ministry of Education and Social Welfare in collaboration with the Ministry of Information and Broadcasting, the UGC, and the Indian National Commission for Cooperation with UNESCO, organised a seminar on: 'Open University'. The seminar recommended the establishment of an open university in India on an experimental basis. The Government of India appointed an eight-member working group on the proposed open university in 1974. The leading role was given to G. Parthsarathi, the then Vice-Chancellor of the Jawaharlal Nehru University. The working group had recommended the establishment of an open university by an act of Parliament as early as possible (Working Group Report, 1974). On the basis of the recommendation of the working group a draft bill was prepared by the Union Government for the establishment of a National Open University, but due to some reasons, the progress was delayed.

By this time several other universities in the country established their Directorate of Correspondence Courses. Some of them included Andhra (1972), Central Institute of English and Foreign Languages (1973), Tamil Nadu Agriculture (1974), Utkal (1975), Jammu (1976), Calicut (1977), Osmania (1979), Annamalai (1979), Bangalore (1979), SNDT Women's (1979) and Madras (1980).

The Andhra Pradesh state established the first open university (Andhra Pradesh Open University) in India in 1982, i.e. the same year when ICCE was renamed as ICDE, accepting 'distance education' as a broader and a more appropriate term for this innovative and non-conventional teaching-learning system (see Table 1.1). This university was renamed as **Dr. B. R. Amdedkar Open University in 1992**. For a brief sketch of this university you may see Box 2.5.

Box 2.5

Dr. B.R. Ambedkar Open University

Dr. B.R. Ambedkar Open University (BRAOU), earlier Andhra Pradesh Open University (APOU), is the first open university in India. This was established by the Act of State Legislature on August 26, 1982. The headquarters of the university is situated at Jubliee Hills, Hyderabad in an area of about 53-63 acres of land. It has around 100 study centres spread all over the state. The main objective of this university is to provide educational opportunities to adult learners who couldn't get opportunities of higher learning in conventional universities. The authorities of the university include: Executive Council, Academic Senate, Planning and Monitoring Board, Finance Committee, Board of Studies and Faculties. The university offers both short-term and long-term academic programmes. The areas include general graduate programmes (B.A., B.Com, B.Sc. and so on); master degree programmes M.Sc. (Maths), M.A. in Economics, History, Political Science, Public Administration; professional programmes (B.LISc, M.B.A.; extension education (Food and Nutrition) and so on. There is facility for research (M. Phil, Ph.D. in Development Studies) also.

Starting with 6,321 students in 1983, the university has given admission to a total of more than 800,000 students into various programmes launched so far. Of these students, nearly 90% are admitted into undergraduate programmes. Approximately 80% students of undergraduate programmes are studying in the Telegu medium.

The academic package consists of various media-print, audio/visual materials and contact sessions. The university uses radio broadcast and arranges practicals for science courses at selected study centres. It broadcasts radio lessons through All India Radio, Hyderabad-B, and arranges for interactive teleconferencing through *Doordarshan Kendra*, Hyderabad. This university has already awarded various degrees and certificates to more than 40,000 students of Andhra Pradesh.

The university has established 137 study centres. Seven study centres are for women, and two are for prisoners.

Recently this university has set up a new centre called 'Centre for Staff Training and Development'. The main task of this centre is to provide training to the full time teaching and non-teaching staff and the part-time counsellors of the university. The university has a system of continuous evaluation, but no weightage of marks is given to this. The students need to appear and clear the term-end examination held once in a year.

Then, the most important step was taken by the Government of India in 1985. The Union Government made a policy statement for establishment of a national open university. A committee was constituted by the ministry of education to chalk out the plan of action of the open university. On the

basis of the report of the committee, the Union Government introduced a Bill in the Parliament. In August 1985, both the Houses of the Parliament passed the Bill. The National Open University came into existence on September 20, 1985. It was named after late Prime Minister Mrs. Indira Gandhi. (For a brief discussion about IGNOU see section V.)

After that, a few states have established their state open universities. At present there are 9 state open universities in our country (see Table 2.2). We have presented a brief sketch of Kota Open University and Yashwantrao Chawan Maharashtra Open University in Box 2.6.

Box: 2.6

Yashwantrao Chavan Maharashtra Open University

The YCMOU was established in July 1989 by the Act of the Maharashtra State Legislature. This is located in Nashik, about 200 kilometers to the North-east of Mumbai. The objectives of the university are almost the same as other open universities, i.e. to make vocational, technical, continuing adult and extension education available to large sections of the population. The main authorities of the university are: Board of Management, Planning Board, Academic Council, Finance Committee. The university has various divisions like, Academic Service Division, Student Services Division, Communication Division, Planning and Co-ordination Division and so on. The divisions as also various schools and centres are managed by a Director each. The academic programmes of the university consist of degree programmes (B.A./B.Com.); programmes in Science and Technology (Applied Electronics, General Electronics, etc.); programmes in Agriculture (Crop wise Courses — mangos, grapes, groundnut, onion, sugarcane etc.); vocational programmes, post-graduate and research programmes (M. Phil, Ph.D., M.Ed. etc.), programmes in education (B.Ed., in-service Teachers Training Programme); professional programmes (School Management, Computer Operation, M.B.A.), and so on.

The instructional package of the university consists of print, audio, video, contact sessions, special study kits and so on. For the 42 programmes launched so far, the university has developed around 225 audio and 75 video programmes. The university has a network of regional centres (7) and study centres (280). Besides these, it has established around 65 sub-study centres and more than 250 work centres all over the state. The university has staff development programmes for the academic, technical/professional and service staff. These activities are organised by the Training Centre under the Academic Services Division.

Kota Open University

The Kota Open University was established by the Act of State Legislature on July 23, 1987. It is situated in Kota, Rajasthan. The objective of the university is to provide access to all those people who had no opportunity to receive higher education early and also to those who went to upgrade their knowledge in various fields of study. The main authorities of the university include: Board of Management, Academic Council, Planning Board and Finance Committee. The university offers ten programmes at present. These include B.A., B.Com., B.Ed., Diploma in Library and Information Science, Bachelor in Journalism and Mass Communication, Diploma in Tourism and Hotel Management, Advance Diploma in Management, Certificate in Computer Application etc. The academic package mainly consists of print, counselling and tutoring sessions. Some B.A. and B.Com. courses (which are borrowed from IGNOU) have video components. B.Ed. and Diploma in Library Science have contact camps for 3 to 4 weeks every year. These are organised in various study centres.

Present Status

At present there are two types of distance learning institutes in India: a) Open Universities and b) Institutes or Directorates of Correspondence Course/Distance Education. Altogether, 10 Open Universities and 64 Correspondence Course Institutes are functional at this stage. Out of 10 Open Universities (see Table 2.2), one (IGNOU) is National Open University established by the Central Government and the other nine open universities are State Open Universities established by the respective State Governments. All these open universities are autonomous institutions. A collection of data reveal that in 1997-98, six functional open universities (IGNOU, BRAOU, YCMOU, KOU, MPBOU and KSOU) enrolled 3,39,780 students and their cumulative enrolment stood at about 988,000 which is nearly one-and-a-half times the total number of students in university correspondence courses institutes (Panda, 1999). More recent data reveal that 298,987 learners have taken admission to IGNOU in 2002. Total students on the rolls are 804271 (IGNOU Profile, 2002).

Table 2.2: Open Universities in India

S.No	Name of the Open University	Year of establish-ment	Place
1.	Dr. B.R.Ambedkar Open University (formerly Andhra Pradhesh Open University)	1982	Hyderabad, AP
2.	Indira Gandhi National Open University	1985	New Delhi
3.	Kota Open University	1987	Kota, Rajasthan
4.	Nalanda Open University	1987	Patna, Bihar
5.	Yashwantrao Chawan Maharashtra Open University	1989	Nasik, Maharashtra
6.	Madhya Pradesh Bhoj Open University	1992	Bhopal, MP
7.	Dr. Baba Saheb Ambedkar Open University	1994	Ahmedabad, Gujarat
8.	Karnataka State Open University	1996	Mysore, Karnataka
9.	Netaji Subhas Open University	1997	Calcutta, West Bengal
10.	Uttar Pradhesh Rajarshi Tandon Open University	1999	Allahabad, UP

At the time of publication of this handbook nine State Open Universities are established. You may add the name(s) of the open universities in the list established after the publication of this handbook.

……
……

Open and Distance Education

The Correspondence Course Institutes (CCIs) are generally part of the conventional universities set up by the Central or State Governments. Almost all the CCIs follow the courses and syllabus of the respective parent institutions. The learners study the same course (sometimes presented through printed material in modular form) and are awarded the same degree as those of the regular students. Most of the courses are general and a few are professional courses.

Open universities in India have taken bold steps to launch several technical and professional programmes/courses. These include: Computer Programme (Certificate, Diploma and Master's in Computer Application); Management Programme (Certificate, Diploma and Master's in Business Administration); Medical Programme (Diploma in Maternal Health and Child Care; Nursing); Engineering Programme (Certificate, Diploma), Master's in Tourism; Programme on Distance Education (Diploma and Master's in Distance Education); Library Science Programme (Bachelors and Master's in Library Science), Programme in General and Applied Electronics, Horticulture, and so on.

All the open universities use self-learning material (SLM), and a few have radio and audio-video programmes and regular counselling facilities for the learners at the study centres. Almost all the open universities use assignments, and a few have strong student support services.

IGNOU has been using communications technology in diverse ways. The use of media and technology includes audio and video, radio and television, teleconferencing, radio phone-in interactive counselling*, Gyan Darshan, Gyan Vani*, and virtual campus initiative. While some of the media uses are of its own, the national initiatives of teleconferencing, *Gyan Darshan* and *Gyan Vani* cover the distance education system and get operated through a networking of uplinking sending ends and various nodes/receiving ends. The FM radio stations under *Gyan Vani* are to be decentralised in so far as use of regional language and regional programming are concerned.

For a detailed discussion you may see the IGNOU handbooks on '*Media in Distance Education*' and '*Digital Media and Distance Education'*.

Table 2.3: Important Associations of Open and Distance Education

1. International Council for Open and Distance Education (ICDE) - www.icde.org
2. European Distance Education Network (EDEN) - www.eadl.org
3. Asian Association of Open Universities (AAOU)
4. Open and Distance Learning Association of Australia (ODLAA) - www.odlaa.org
5. Distance Education Association in Southern Africa (DEASA) - communicationculture.freeserers.com/association.htm
6. Canadian Association for Distance Education (CADE) - www.cade-aced.ca

7. United States Distance Learning Council (USDLC) - conportium.www.usdlc.org
8. Norwegian Association for Distance Education (NADE) - www.nade-nff.no
9. Distance Education Association of New Zealand (DEANZ) - www.deanz.org.nz
10. Swedish Association for Distance Education (SADE)
11. Indian Distance Education Association (IDEA)
12. National Council on Open and Distance Education (NCODE) - Australia
13. National Distance Education Council (NDEC) - Ireland
14. Pacific Islands Regional Association for Distance Education (PIRADE) - www.col.org/pirade
15. Papua New Guinea Association for Distance Education (PNGAPE) - paraka.m.pena@upng.ac.pg
16. The West African Distance Education Association (WADEA) - iac.ad@ug.gn.apc.org
17. Ghanaian Distance Education Association (GHADEA) - ucew@ug.gn.apc.org
18. National Association of Distance Education Organisation of South Africa (NADEOSA) - www.saide.org.za/nadeosa
19. European Association of Distance Teaching Universities (EADTU) - www.eadtu.ouh.nl
20. Zambia Association for Distance Education (ZADE) - RS:aciwena@dde.unza.zm

You may add more.

Activity 2.3

Identify the differences between India and China in terms of delivery of distance education programmes.

……

……

……

……

……

……

……

How Has Distance Education Expanded So Fast?

You have seen in the previous paragraphs that expansion of distance education took place in almost every part of the world. What were the

reasons behind that? Why has it attracted several institutions, governments and such large number of people all over the world? According to the data provided by the International Centre for Distance Learning (ICDL), the Open University, U.K. (1999), over 2000 institutions are conducting 31,000 distance programmes/courses all over the world. Currently 11 mega-universities enrol about 3 million undergraduates with hundreds of thousands following the other, non-degree courses (Daniel, 2000).

Technology, as well as ideology and economics, has spurred the development of open and distance learning (Perraton, 2000). An ideological imperative to expand higher education and to widen opportunities for adults were the main reasons for the establishment of the British Open University. There was a strong belief that open and distance education could extend educational opportunities at a lower cost than conventional education. Earlier electronic media, and the present computer and satellite technologies, are providing new opportunities to open and distance learning.

Table 2.4: Important Journals

British Journal of Education, Technology
Blackwell Publishers Journals. P.O.Box - 805, 108 Cowley Road, Oxford OX41FH, U.K.

Distance Education
Distance Education Centre, University of Southern Queensland, PO Darling Heights, Toowoomba, Queensland 4350, Australia

Distance Education and Technology Newsletter
Distance Education Publications, RFD No. 2, Box 7290, No. 3, Winthrop, ME 04364, U.S.A.

Indian Journal of Open Learning
Indira Gandhi National Open University, Maidan Garhi, New Delhi, 110068, India.

Journal of Distance Education
CADE Secretariat, Suite 204, 260 Dalhousie, Ottawa, ON, Carada KIN 7E4.

Kakatiya Journal of Distance Education
School of Distance Learning and Continuing Education, Kakatiya University, Warangal, 506 009, India.

Media and Technology for Human Resource Development
Media and Technology for Human Resource Development, NIEPA, New Delhi 110 016, India.

Open Learning
Carfax Publishing, Taylor and Francis Ltd. P.O.Box 25, Abingdon, Oxfordshire, OX 143 UE, UK.

Open Praxis
ICDE, Gjerdrums Vei 12, N-0486 Oslo 4, Norway.

Staff and Educational Development International
Aravali Books International Pvt. Ltd., W-30, Okhla Industrial Area, Phase-II, New Delhi - 110 020, India.

Table 2.5: Some Important Open Universities in the World

Year of establishment	Name of the university	State
1969	U.K.Open University	England
1973	Universidad Nacional de Education a Distancia	Spain
1974	Allama Iqbal Open University	Pakistan
1974	Fern Universitat	Germany
1977	Universidad Estatala Distancia	Costa Rica
1978	Athabasca University	Canada
1978	Sukhothai Thammathirat Open University	Thailand
1979	Central Radio and Television University	China
1980	Open University of Sri Lanka	Sri Lanka
1982	Dr. B.R.Ambedkar Open University	India
1983	The University of Air	Japan
1983	Chulalongkarn University	Thailand
1983	The Netherlands Open University	Netherlands
1984	Universitas Terbuka	Indonesia
1985	Indira Gandhi National Open University	India
1985	All-Quds Open University	Jordan
1986	The National Open University of China	China
1987	Payame Noor University	Iran
1987	Kota Open University	India
1989	Yashwantrao Chavan Maharashtra Open University	India
1990	Russia Open University	Russia
1993	Tanzania Open University	Tanzania
1994	Korea National Open University	Korea
1995	Bangladesh Open University	Bangladesh
1997	Hong Kong Open University	Hong Kong

Do you like to add names of some more open universities in this list? Use this space.

……

……

……

SECTION III

Models of Distance Education and Related Delivery Technologies

In Section I, we have very briefly mentioned about 'paradigm shift' in distance education. Some models or patterns which were operating in distance education have been substituted by new models or patterns. In this section we will briefly discuss the models of distance education, related delivery technologies and their main characteristics.

Objectives

After working with this section you would be able to

- identify different models of distance education and related delivery technologies, including your own; and
- point out the main characteristics of the technologies and/or devices used in distance education.

Different Models of Distance Education

Since the beginning, correspondence education has passed through many phases. Professor James Taylor of Australia has mentioned four generations of distance education (Taylor, 1995). Each generation is based on a different model (Table 3.1).

First Generation - The Correspondence Model

The Correspondence Model is regarded as the first generation of distance education. As you know, print is the only medium used in this system of education. In several cases, typed and/or xeroxed materials have been used. In this system, teachers and learners have no face-to-face contact. There is very little scope for interaction between the teacher and the learner; it occasionally takes place through correspondence only. There is little flexibility with respect to time, place and pace of study. In several cases, print materials are not highly designed and developed. Even today, several institutions in various parts of the world are depending upon this model of distance education.

Table 3.1:Models of distance education and related delivery technologies

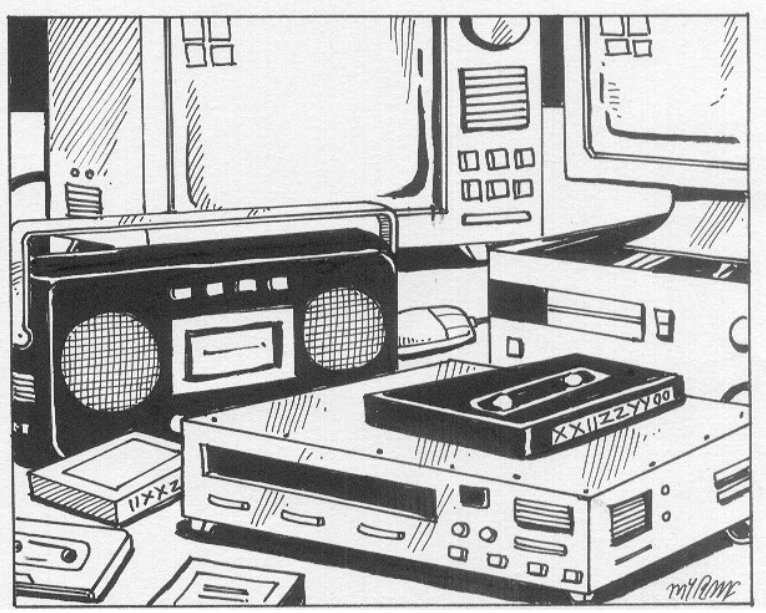
Generation/Model	Delivery Technologies
First generation - The Correspondence Model	✶ Print
Second generation - The Multi-Media Model	✶ Print ✶ Audio tape ✶ Video tape ✶ Computer-based learning (eg CML/ CAL) ✶ Interactive video disk (disk and tape)
Third generation - The Tele-learning Model	✶ Audio teleconferencing ✶ Video conferencing ✶ Audiographic communication ✶ Broadcast TV/Radio and Audio-tele-conferencing
Fourth generation - The Flexible Learning Model	✶ Interactive Multi Media (IMM) ✶ Internet based access to WWW resources ✶ Computer Mediated Communication (CMM)

Source: J.C.Taylor (1995) Distance education technologies: The fourth generation. Australian Journal of Educational Technology, 11, 2, 1-7

Second Generation - The Multi-media Model

The Multi-media Model is regarded as the second generation of distance education. This model suggests the use of highly refined print material (see Box 3.1), audio cassettes, video cassettes, computer based courseware including computer managed learning, computer assisted learning and interactive video (see box 3.2). The learning materials are highly designed and developed. There is lot of flexibility with regard to time, place and pace of study. Only computer-based courseware and interactive video provide

flexibility in interacting with the media based content. Several institutions in the world operate at this stage of distance education.



Box 3.1

Print Material

Print materials used for distance education take many forms, eg. self-learning text, specially written handbook, programme guide, study guide and so on. These materials are specially prepared keeping in mind the characteristics of the distance learners.

Since inception, IGNOU has been developing printed texts known as self-learning print materials. This material is prepared in booklet form, and is *modular* in nature. There is a well organised system. A particular programme of IGNOU is divided into few courses. A course is divided into a few blocks. A block is divided into a few units. A unit is divided into a few sections and a section is divided into a few sub-sections. A particular 'unit' is presented in such a way that it includes the activities and functions of a conventional classroom teacher. This is done by making the text easily accessible to the learners with the help of certain devices. These devices are called "Access Devices". Some of the important access devices may be mentioned here:

- ❖ title of the unit
- ❖ structure of the content
- ❖ clear statement of the objectives
- ❖ clear introduction
- ❖ study guide
- ❖ division of the unit into sections and sub-sections
- ❖ appropriate section, sub-section headings
- ❖ summary
- ❖ glossary

- ❖ model answers etc.

Third Generation - The Tele-learning Model

This form of distance education is based on the use of information technologies which includes audio-teleconferencing, audio graphic communication systems, video conferencing and broadcast television radio with audio teleconferencing (see box 3.3). Though interaction is possible through such media, there is no flexibility with respect to time, place and pace. Many distance education institutions have accepted this third generation tele-learning model.

Box 3.2

Audio Cassettes

Audio cassettes have been used for educational purposes in many developed and developing countries including India. Audio cassettes present considerable freedom to the learners. They can choose their own time and place to listen to these. They can use these time and again until they master the course content.

Keeping the advantages of audiocassettes in mind IGNOU has produced till date 1051 audio programmes on various disciplines/subject matters (IGNOU Profile,2001).

Video Cassettes

Video can supplement broadcast television in distance education. Several open universities in the world including IGNOU have been using this technology quite effectively. IGNOU has developed 1102 video programmes on different areas/disciplines/courses (IGNOU Profile-2001). The main advantage of the video cassette is that you can watch it according to your schedule, you can stop it, replay it and even record some programmes.

Interactive Video

It includes video cassettes and video discs (digitally recorded video and sound) controlled by a special player or a computer. The learner can interact with the video images and sound. It is a one-way communication. Through this the learner can't interact with the teacher. In India there has not been any use of interactive video for distance education.

Computer-Assisted Learning

In computer assisted learning, computers work interactively with the learners, provide instant feedback. Computer works as a tutor, provides information and tests the learner. Computer controls the route the learner takes.

Fourth Generation - The Flexible Learning Model

The Flexible Learning Model suggests the enhancing of interactivity through multi-media, computer mediated communication offered by connection to the internet, and web based instructions (see box 3.4). It provides greater flexibility with respect to time, place and pace of study. These technologies can support contiguous two-way communication between teachers and learners. Highly refined materials can be used through these technologies.

Box 3.3

Interactive Radio

Interactive-radio phone-in programme is an important innovation in distance education. Live counselling is provided by invited experts/resource persons on radio. The learners can ask questions to the experts/resource persons during the session from their homes, study centres or any other places on telephone. The experts/resource persons give answers to their questions immediately from the studio at the radio station. IGNOU has been organising 'live' radio counselling sessions from a good number AIR stations in the country.

Audio-and-Video Conferencing/Tele-Conferencing

Several open universities in the world including IGNOU (see section VI) have been using teleconferencing on a regular basis. It may be of various types:

a. *Two-way audio*: teachers and learners interact over the telephone.
b. *Two-way audiographic*: while the telephone conversations between the teachers and learners are on, graphic and pictorial representations are transmitted via another (parallel) telephone line.
c. *One way video and two-way audio*: presentation of the teacher is transmitted from studio to different locations via satellite television. Learners interact through telephone. The teacher can't see the learner.
d. *Two-way audio and two-way video*: this is a modified form of type 'C' described above. In this situation teachers can also watch learners while interacting. A complete reciprocal audio and video connection is established.

Activity 3.1

Listen to two radio counselling organised by IGNOU in two different subjects, if you can. Write your comments on their content, presentation, and time management.

Use separate sheets for writing your responses.

You may take up this either as a pre-workshop or post-workshop activity.

The Emerging Fifth Generation- The Intelligent Flexible Learning Model

According to Taylor (1999) although the Flexible Learning Model based on on-line delivery via the internet is still gaining momentum, there is already emerging the fifth generation of distance education based on the further exploitation of new technologies (see table 3.2). This new generation aims to capitalize on the features of the internet and the web. The Intelligent Flexible Learning Model of distance education incorporates the use of automated response systems and intelligent object databases in the context of internet-based delivery. Taylor (1999) opines that this model of distance education has the potential to provide students with a valuable, personalized pedagogical experience at much lower cost than traditional approaches to distance education (previous generations of distance education). This model is capable of increasing access to education and training activities on a global scale.

Table 3.2: The Emerging Fifth Generation

Generation	Delivery Technologies
Fifth generation-The Intelligent Flexible Learning Model	✷ Interactive multimedia ✷ Internet-based access to www resources ✷ Computer mediated communication, using automated response system

Source: Taylor, J.C. (1999) *Distance education: The fifth generation*. Paper presented at the 19th ICDE world conference on open learning and distance education, Vienna.

Flexible Learning

Flexible learning is an approach (without explicit mention of openness) which has come up recently in a big way. According to Swannell (1997) flexible learning systems are based on a 'philosophy of giving learner what they want, where they want it, when they want it'. In a flexible learning situation the learner :

a) can choose the content, media and method of learning as per his/her own requirements or requirements of a group where he/she belongs;
b) gets considerable scope for interaction with the tutors/counsellors and fellow learners;
c) can go for global exchanges of views in a learning situation - as the system permits;
d) gets increasing responsibility for his/her own learning within a framework of support.

Box 3.4

Computer

During the last twenty years, distance educators have been using computers for various purposes. A computer has four major functions: computation, information storage, communication and control. Only a few open universities and distance learning institutions use computer-assisted learning (CAL). Others gave importance to computer-mediated communication which includes computer conferencing, electronic mail, access to databases and so on.

Computer-mediated Communication

This usually includes computer conferencing, electronic mail (e-mail) and access to data bases and electronic bulletin boards.

Web-based Instruction

Now-a-days beginning with school children right upto high officials in academic and business organisations, everyone is familiar with the **World Wide Web (WWW)** medium. What they may not know probably is who the person is behind this innovation. The idea of the WWW is the brain child of Tim Berners Lee of European Laboratory for Particle Physics (Inglis et al., 1999). He conceived of the Web as a convenient way of sharing documents over the **internet** (the physical network that supports the World Wide Web).

Assignment

Assignment is an important device through which the two-way communication takes place in a distance education system. Every distance education institution/open university sends its learners a set of assignments alongwith the course materials. Assignments enable the learners to ensure that they have learnt what they are expected to learn from the course materials and their assignment-responses give the opportunity to the teacher to help them by commenting on their performance. Through various comments written on the assignment response sheet, the distance teacher guides the learners to comprehend the contents. For an elaborate discussion on it you may see IGNOU handbook on '*Assessment and Evaluation in Distance Education'*.

Future Trends in Distance Education

According to Otto Peters (1999), in future, dramatic paradigm shifts will occur in the digitalised learning environment. The traditional pattern of teaching and learning in distance education will become a totally different one. The learners will have to develop their abilities of becoming autonomous learners. They have to exhibit new activities unknown before,

e.g. quick retrieving of data, management of data, browsing, navigating or following a guided tour in hypertexts, meeting other students on-line, in order to engage themselves in virtual classes or to chat with other students in a virtual cafe. The teachers will no longer be the experts in conveying knowledge. They will have to function as tutors, counsellors and facilitators. They may design hypertexts and hypermedia programmes in their own field.

The major shift now underway in the delivery of open and distance learning programmes via interactive multimedia and the World Wide Web is posing challenges for educational managers responsible and teachers who are being asked to teach such programmes (Inglis, 2000).

Once the programmes are delivered online, the delivery systems require a different infrastructure. Any web server package is capable of delivering course ware over the internet, but to provide all kinds of support services to the learners, more specialized software is required. There is no generally accepted term for this type of software at present (Inglis, 2000).

According to James W. Hall (1996), in this situation, the learners' productivity will become more important than faculty productivity. Similarly, learners' learning styles will be the focus of interest and faculty teaching styles will be neglected.

Social interaction, the vehicles of communication in teaching and learning will take new forms (Peters, 1999). They will be no longer real, but virtual.

Morton F. Paulsen (1997) has described four types of interaction which may take place as mentioned below:

i) **The one-alone method**: The learners work according to the World Wide Web (WWW) paradigm. Here, a single learner in a digital learning environment studies a given subject with the help of appropriate software teaching programmes, data bases, electronic books, hypertexts, hypermedia and so on.

ii) **The one-to-one method**: The learners work according to the e-mail paradigm. This method lends itself easy to all forms of tutoring and academic counselling. The study centres may be substituted by such digital interactions between two persons.

iii) **The one-to-many method**: The teacher or learner addresses a great number of learners according to the bulletin board paradigm. This is the natural format for lectures, presentations, symposiums etc.

iv) **The many-to-many method**: A large group of persons teach and learn at the same time according to the *computer-conferencing paradigm* for discussion groups, case studies, debates and so on.

Thus, four distinct new paradigms of teaching and learning in virtual situations have been identified. Peters (1999) opined that these paradigms, which offer special opportunities to the distance learners, should be tested and further developed.

We have provided some sample of such documents through Table 3.2 and 3.3 for your experience.

The Web involves 'hypertext' (text only) and hyper media (text, sound and pictures). These are called ‘interactive’ because learners can determine their own path through them, although there is no necessary line with the teacher (Khan, 1997). Mc Greal (1998) used the term ‘integrated distributed learning environment’ (IDLES), Maurer (1997) used the term ‘integrated network based learning environment’ while Inglis, Ling and Joosten (1999) have used the term ‘integrated electronic learning environment’. For an elaborate discussion on it see handbook on *'Digital Media and Distance Education*'.

Activity 3.2

We have mentioned four topics below. Which medium would you choose if you are to produce self-learning materials on these topics? Give reasons.

i. Life under the sea.
ii. Eruption of volcano
iii. Pop music
iv. The childhood of Rabindra Nath Tagore.

……

……

……

……

……

……

……

……

……

……

……

……

Discuss these with other participants and resource persons at the workshop. Think about alternative media also.

Table 3.3:Some Sites for Open Universities and Institutes of Distance Education

- **Allama Iqbal Open University**
  http://www.geocities.com/Tokyo/Garden/440/uni-aiu.htm
- **Korea National Open University**
  http://www.knou.ac.kr/
- **Open University of Hong Kong - Nursing Programme**
  http://www.oli.hk
- **IGNOU**
  http://www.ignou.edu
- **The Open University**
  http://www.open.ac.uk/ou.html
- **Sukhothai Thammathirut Open University, Thailand**
  www.stou.ac.th
- **Open University of Ieret**
  www.openau.ac.il
- **University of South Africa**
  www.unisa.ac.cn
- **Open University of Sri Lanka**
  www.ou.ac.lk
- **Bangladesh Open University**
  www.citechco.net.sou
- **China Central Radio & TV University PR Chinna**
  www.crtuv.edu.cn
- **National Open School**
  www.nos.org
- **United State Open University**
  www.open.edu
- **Open University of Netherland**
  www.ouh.nl
- **Philippines Open University**
  www.upou.edu.ph

Table 3.4: Some Online Courses

- **The Australian Correspondence School**
  http://www.acs.edu.au/
  The Australian Correspondence School offers over 260 distance education courses outside Australia, including many accredited programmes. There is comprehensive information for students of India, Pakistan, Philippines and Japan. A free 80-page handbook can be ordered and sent to any part of the world.
- **Athabasca University**
  http://www.athabascau.ca/html/courses/online.htm
  Seven courses are available online at present, including sociology and psychology.
- **California Virtual University**
  http://www.california.edu/catalogs.html
  One of the biggest virtual universities, offering a whole range of courses from certificate to PhDs. You can search the site for the subject of your choice.
- **University of Alberta**
  http://www.atl.ualberta.ca/atl/distuofa.html
  Distance Education Courses at the University of Alberta cover a wide spectrum. Offered for graduates and undergraduates, they are delivered either by videoconferencing, correspondence, or the web.

SECTION IV

Student Support Services in Distance Education

You have read in Section I of this handbook that one of the most important characteristics of distance education, as suggested by Keegan (1986), is student support services. Over the years, the Annual Survey of Courses of the Open University of U.K. revealed that various forms of tutorial support are the most strongly and frequently requested items by the students (Burt, 1997). Research studies in India have shown that learners in various programmes have shown interest in various forms of student support services (Biswas, 1999) and have been benefited by the same (Basu, 1996).

Most of the open and distance learning institutes in the world have established student support service centres and/or regional/study centres to cater to a large number of students on various matters like, admission, courses, examination schedules, materials despatch, counselling and so on. It is a fact that the success of distance education depends largely on student support services provided to distance learners. As distance educators, we should know why the learners need support, what kind of support a distance learning institute may provide, who can provide support and how and so on.

Keeping the importance of student support services in mind, we have decided to devote one section in this handbook to this component.

Objectives

After working with this section you would be able to

- discuss the need for student support services
- list kinds of support the learners might be given
- identify different categories of staff who might provide support to the learners
- describe the role of the study centre in providing support to the learners.

Need for Student Support Services

Consider some of the remarks and queries of the distance learners received by us from time to time:

- "Some parts of the units are not clear. I need more clarifications."

- "It is difficult to answer all the assignments from the study materials sent by the university".
- "I am totally in dark with regard to my project work. Who can help me?"
- Is it necessary to consult reference books to answer the assignment questions and to prepare for the term-end examinations?"
- "The schedule for practicals as displayed in the study centre notice board does not suit me at all. How can I complete my practicals?"
- "I am not satisfied with my grades in assignment. Whom can I approach?"
- "I have taken admission in PGDDE Programme in January this year. Can I sit for two courses in June Term-end Examination, and the rest in December?"

There are unlimited number of queries and remarks of this sort. If you are attached to any distance learning institute, you must have also come across similar queries and problems faced by distance learners. These are natural. Distance learners are dispersed and physically separated from the institution as well as their peer groups. They may not get immediate clarifications for their doubts that come up during their studies.

It is a fact that the learning packages (print materials, audio cassettes, video cassettes etc.) used by open and distance learning institutes are not enough for the distance learners. We have met thousands of distance learners who have expressed their helplessness and inability to continue their studies without human support. This reminds us of the saying of David Sewart (1987) "… the standard teaching package cannot provide a wholly satisfactory individualised learning system for students and also that such package suffers from a tendency towards tight curriculum control. It is only the introduction of the human element, capable of adapting to the great variety of student needs, which can counteract this sort of bias".

Kinds of Support the Learners May Need

The distance learners may need help *before*, *during* and *after* the learning programme.

Pre-entry stage: At this stage the learners need information, advice and counselling. The learners need ***information*** about programmes, courses, entry requirements, application procedures, structure, functions, rules and regulations of the institute, recognition of the institute, market value of the programme and so on. They may need ***advice*** for selecting a particular programme or course for their career advancement . They may need ***counselling*** for deciding what kind of individual support they might need and the best way of achieving their goals and objectives without disturbing their daily routine activities.

During the learning programme: At the beginning of the programme, when the learners have already received their packages (study materials,

programme guides, assignments, experimental kits, etc.), they may need some ***guidance***. Many learners might have returned to their studies after a long gap, so they may need constructive help at this stage. As the learners are unfamiliar with the self-learning materials, assignments etc. they may ask for some guidance on study skills, the process of dealing with the assignments, and so on.

During the middle stage of the programme, the learners may want to ***discuss*** about their progress, assignments grades, study visits, projects, seminars, practicals, improving study skills, learning from media, overcoming personal and technical problems and so on.

At the final stage, the learners may need some ***guidance*** for incomplete tasks/assignments, difficult units, revision work, preparation for term-end examinations, and so on.

Besides all these, from time to time, they need help and guidance to perform some formalities according to rules and regulations of the institute e.g., payment of fees, submission of application form for term-end examination etc. This further necessitates tuning up the efficiency of the administrative support system at the institution's end.

After the learning programme: After completion of a particular programme the learners may want to do some advanced programmes on which they would like ***advice***. They may also require ***information*** on new programmes.

Thus summing up, the distance learners need ***academic***, ***administrative***, and ***informative*** support before, during and after their learning programme.

Now you make take up this activity.

Activity 4.1

At the beginning of this section we have quoted seven remarks and queries of the distance learners. Please read those again and list what kind of support (academic, administrative or informative) you may provide to each of those.

1……

2……

3……

4……

5……

6……

7……

Who Can Provide Support?

Now, the question is: who are those persons who may provide support to the learners?

Activity 4.2

You may make a list of the persons taking your own system/situation and experience into consideration. You may use the space below:

Different persons/staffs who may provide academic, administrative and informative support to the distance learners.

1)	……	5)	……
2)	……	6)	……
3)	……	7)	……
4)	……	8)	……

Probably you have thought of the following persons/staff:

i) The coordinator of the study centre.
ii) The tutor/academic counsellor at your study centre
iii) Supervisor for practicals, projects etc.
iv) Technical staff for audio-video, teleconferencing etc.
v) Librarian at study centre/regional centre
vi) Administrative and other staff of study centre

vii) Academic and administrative staff of regional centre
viii) Staff involved in registration and evaluation
ix) Staff involved in material distribution
x) Others: (add a few more).

Study Centre

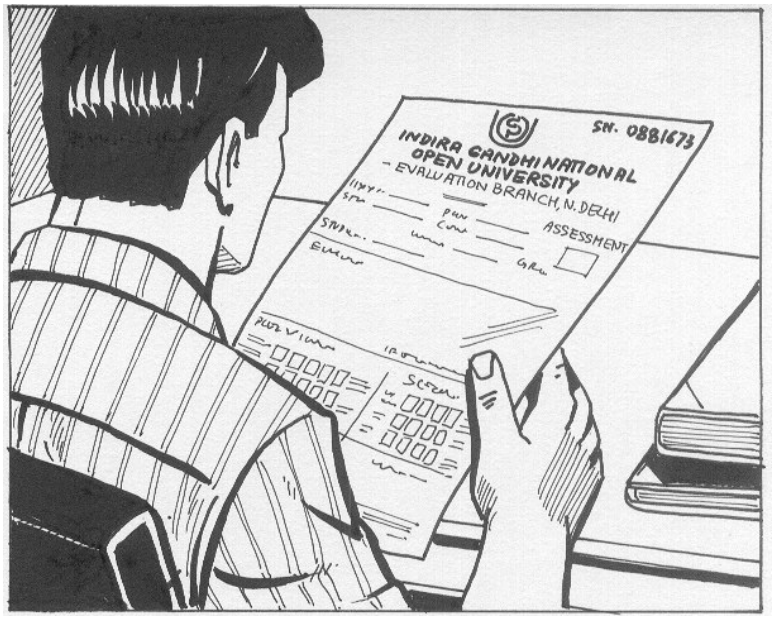
A network of study centres is very important to a distance learning institute. A study centre is generally located within an academic institution. It may have a few rooms which are used for office work, counselling, audio-video programmes, teleconferencing, library, examinations and so on. The facilities of study centres differ depending upon the needs and resources of the institution. Generally it remains open at fixed hours in a week.

Usually, a study centre will have a coordinator, a few assistant coordinators, administrative assistants, technical assistants, and attendants. The number of staff in a study centre may vary according to the number of learners attached to that study centre. The coordinator is the key person in running a study centre. He has administrative and supervisory responsibilities. Other staff members assist him to run the study centre smoothly. All the staff at a study centre are part-time staff and generally drawn from the existing staff of the host institution.

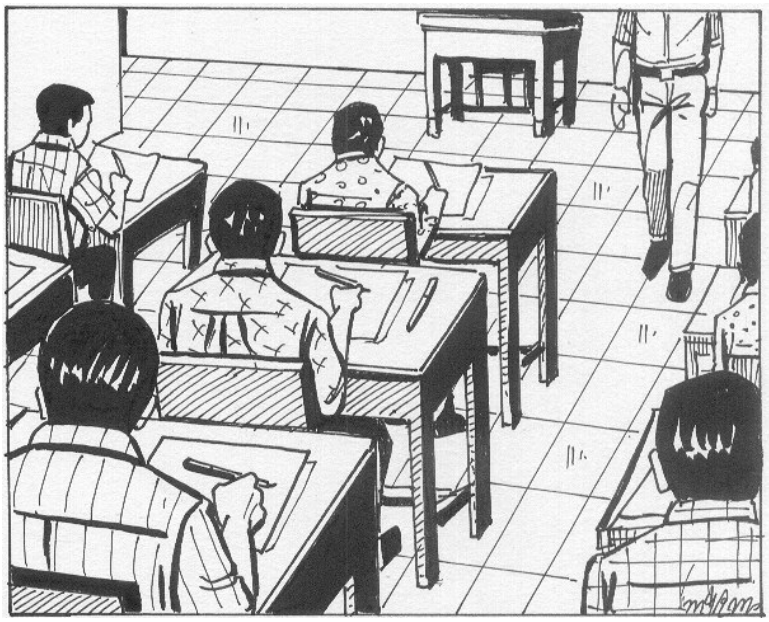
The functions of a study centre are manifold. Generally, the study centres have the following major activities to perform:

i) **Academic-counselling**: The main activity of the study centre is to provide opportunity to the distance learners for face-to-face interaction with the part-time counsellors by means of organising counselling sessions as per a pre-determined schedule.
ii) **Library services**: The study centre has a library (either a separate one or attached to the library of the parent institute) which may provide reference books and audio-visual aids as supplement to the self-learning materials. The learners may use these on specific days and time decided by the study centre.

iii) **Assignments handling**: Assignments are an important part of distance learning materials. The study centres receive the assignments from the learners at regular intervals, arrange these course-wise and then despatch them to the respective evaluators. The evaluated assignments are received back from the evaluators and sent back to the learners immediately for reference, guidance, feedback and study guidance. Thus, the handling of assignments becomes a very important academic and time-bound task for the study centre.



iv) **Conducting term-end examinations**: Generally the term-end examinations of the distance learning institutes are held at the designated study centres.



v) **Information services**: The study centres can also provide information regarding admission, various programmes/courses launched by the institution, rules and regulations of the institution, examination, counselling services and so on.

vi) **Other activities** (you may like to add some more activities).

In short, the study centre plays a very significant role in effecting two-way communication between distance learners and the institution.

SECTION V

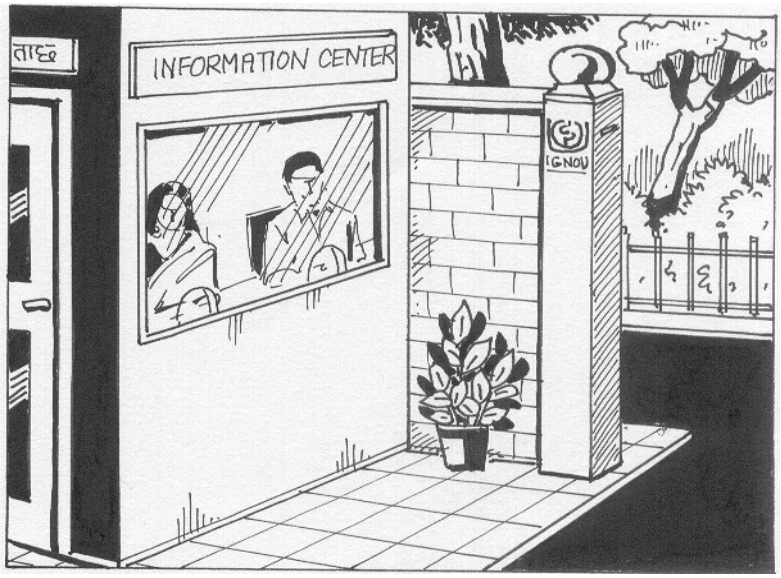
Indira Gandhi National Open University (IGNOU)

This is the last section of this handbook. Here, we have presented a brief sketch of IGNOU, the largest open university within the Commonwealth. We shall briefly focus on the structure and functions of IGNOU.

Objectives

After carefully reading this section, you would be able to

- discuss the objectives of the IGNOU
- list its prominent features
- describe its organisational structure; and
- discuss how IGNOU provides student support and other services.



Objectives of IGNOU

The Indira Gandhi National Open University (IGNOU) was established by an Act of Parliament in 1985 to achieve the following objectives:

Open and Distance Education

1. The University shall endeavour through education, research, training and extension to play a positive role in the development of the country, and based on the rich heritage of the country, to promote and advance the culture of the people of India and its human resources. Towards this end, it shall:

   a) Strengthen and diversify the degree, certificate and diploma courses related to the needs of employment and necessary for building the economy of the country on the basis of its natural and human resources.
   b) Provide access to higher education for large segments of the population, and in particular, the disadvantaged groups such as those living in remote and rural areas including working people, housewives and other adults who wish to upgrade or acquire knowledge through studies in various fields;
   c) Promote acquisition of knowledge in a rapidly developing and changing society and to continually offer opportunities for upgrading knowledge, training and skills in the context of innovations, research and discovery in all fields of human endeavours;
   d) Provide an innovative system of university level education, flexible and open, in regard to method and pace of learning, combination of course, eligibility for enrolment, age of entry, conduct of examination and operation of the programmes with a view to promote learning and encourage excellence in new fields of knowledge;
   e) Contribute to the improvement of the educational system in India by providing a non-formal channel complementary to the formal system and encouraging transfer of credits and exchange of teaching staff/by making wise use of texts and other software developed by the University;
   f) Provide education and training in the various arts, crafts and skills of the country, raising their quality and improving their availability to the people;
   g) Provide or arrange training of teachers required for such activities or institutions;
   h) Provide suitable post-graduate courses of study and promote research;
   i) Provide the counselling and guidance to its students; and
   j) Promote national integration and the integrated development of the human personality through its policies and programmes.

2. The University shall strive to fulfil the above objects by a diversity of means of distance and continuing education, and shall function in cooperation with the existing Universities and Institutions of Higher Learning and make full use of the latest scientific knowledge and new educational technology to offer a high quality of education which matches contemporary needs.

Functions

IGNOU serves two main functions:

i) As a ***university***, it offers various academic programmes that lead to Certificates, Diplomas and Degrees. It develops and produces programmes/courses in various disciplines for delivery through open learning and distance education. The university is actively involved in training (staff development), extension education and research activities.

ii) As an ***apex body***, it coordinates and monitors the distance education system throughout the country. It has constituted the Distance Education Council and provides expertise and assistance to other open universities and distance learning institutions in the country.

Prominent Features

IGNOU has the following prominent features:

- National jurisdiction
- Relaxed admission rules
- Flexibility in terms of place, pace and duration of study
- Flexibility in choosing the combination of courses
- Student support services
- Use of specially prepared course materials
- Use of latest communication technologies
- Cost effective programmes
- Modular programmes
- Reformed mode of evaluation
- Two term-end examinations in a year
- Resource sharing, collaboration and networking with other open universities/distance learning institutions
- Training and research in distance education.

Organisational Structure

As per the IGNOU Act, 1985, the President of India shall be the 'visitor' of the university. It also states the following as authorities of the university:

- The Board of Management
- The Academic Council
- The Planning Board
- The Distance Education Council
- The Schools of Studies
- The Finance Committee
- Such other authorities as may be declared by the statutes to be authorities of the university.

The officers of the university are:

- Vice-Chancellor
- Pro-Vice-Chancellors
- Registrar
- Directors
- Finance Officer, and
- Such other officers as may be declared by the statutes to be officers of the university.

Unlike the conventional universities, whose academic activities are initiated and organised by Departments, the IGNOU has Schools and Divisions. All academic programmes and courses are developed by the nine Schools of Studies (Figure 5.1). Each of the schools is headed by a Director. Since, the heads of schools will have both academic and administrative functions, the nomenclature has been changed from Dean to Director. The heads of technical units like SRED, Computer Division, STRIDE, EMPC are also designated as Directors.

Instructional System

IGNOU has adopted a multi-media approach to instruction (Figure 5.2)

Credit System

IGNOU follows a credit system. This is based on the time factor involved in completing all learning activities. One credit is equivalent to 30 hours of study. Different programmes of the IGNOU have different credit requirements.

Programmes Launched by IGNOU

Till January 2002, IGNOU has launched 72 academic, professional and awareness generating programmes, (leading to certificates, diplomas and degrees), comprising 854 courses.

Activity 5.1

You can update the information (no. of programmes launched by IGNOU) from the IGNOU Profile (current year). Please ask for a copy of the IGNOU Profile from the organiser/coordinator of the training programme.

Evaluation System

IGNOU has a two-tier system of evaluation:

i) continuous evaluation through tutor-marked and computer marked assignments; and
ii) term-end examination.

Proportionate weightage is given to both the assessment components for evaluation purposes. For an elaborate discussion, see IGNOU handbook on '*Assessment and Evaluation in Distance Education'*.

Student Support Services of IGNOU

IGNOU provides academic, administrative and informative support to the learners. The division dealing with student support services is known as the "*Regional Services Division*". This division is responsible for the management and administration of the Regional Centres and Study Centres all over the country. This division is situated at the IGNOU Headquarters, Maidan Garhi, New Delhi. It is headed by a Director and assisted by a group of joint, deputy and assistant directors, assistant registrar and other staff members.

To provide student support services and for delivery of programmes, a Diversified Delivery System has been designed. The university has adopted a collaborative approach in this regard.

Open and Distance Education

Institution-Based Support

As of now, the IGNOU has developed a national network of 46 regional centres (5 of which are IGNOU-Army Recognised Regional Centres, 8 are IGNOU Air Force Recognised Regional Centres and 4 are IGNOU-Navy Recognised Regional Centres), and 765 study centres (which include regular study centres, programme study centres, recognised study centers, sub-study centres, special study centres, multimedia learning centres etc.).

Regional Centre

The Regional Centre has been defined under section 2(J) of the IGNOU act as follows:

"Regional Centre" means a centre established or maintained by the university for the purpose of coordinating and supervising the work of the study centres in any region and for performing such other functions as may be conferred on such a centre by the Board of Management.

IGNOU Regional Centres are established with the cooperation and support of the respective State Governments. It is headed by a Director and assisted by a group of assistant directors and other staff members.

The major activities of a Regional Centre include the following :

i) ***academic activities*** (admission, pre-entry counselling, selection and orientation of academic counsellors, launching of new programmes, research, organisation of seminars, workshops, monitoring of counselling at Study Centres, monitoring of assignments, maintenance of library, and so on);
ii) ***administrative activities*** (appointment of part-time staff at Regional Centre and Study Centres, maintenance of service records, purchase and maintenance of furniture and equipment, financial management of Regional and Study Centres, preparation of budgetary estimates, and so on); and
iii) ***promotional activities*** (adequate publicity of the university and the system as a whole, developing publicity material, organising public seminars, participation in book fairs, radio, television and press interviews, liason with the State Government, etc.).

Regular Study Centre

Regular Study Centres of the IGNOU are generally located in the existing educational institutions. They remain open at fixed hours in a week, generally in the evenings, weekends and holidays. The host institution provides rent-free accommodation and IGNOU bears all the recurring and non-recurring expenditure. Study Centres of the IGNOU perform all functions as discussed in Section IV of this handbook.

Recognised Study Centre

Regognised Study Centres are established with the support and involvement of government undertakings, voluntary and other organisations/institutions interested in promoting open learning system. The capital support is provided by the host institution while academic support is provided by the IGNOU.

Sub-Study Centre

A sub-study centre is sometimes established within the area covered by a regular study centre. It provides academic support to those learners who can not conveniently avail themselves of such facilities at regular study centres. It remains attached to the regular study centre and functions as a part of it.

Programme Study Centre

IGNOU has established some study centres for providing necessary student support services for a particular programme (e.g., Library and Information Science, Engineering, Computers, Health Sciences, etc.) which have intensive practical components. These are called programme study centres.

Work Centre

IGNOU has established work centres in institutions/organisations for programmes with practical components. Practicals/field sessions are held in these work centres.

Special Study Centre

Special Study Centres are located in institutions/organisations dedicated to the cause of a given disadvantaged group.

Single Window Operation

IGNOU in collaboration with the Indian Army has launched an educational project to cater to the service personnel in different parts of the country on a single window basis. In future, all programmes of the IGNOU would be made available to army personnel through the channels of the armed forces.

So far we have briefly discussed about the institution-based support provided by the IGNOU.

Now, we shall touch upon the technology-based support provided by the IGNOU.

Technology-Based Support

Teleconferencing

Teleconferencing in the IGNOU started on an experimental basis in October, 1993. Since 1995, IGNOU has been conducting interactive teleconferencing (one-way video and two-way audio) through the training

and development communication channel (TDCC) in collaboration with the Indian Space Research Organisation (ISRO) on a regular basis. The purpose is to provide academic support to the learners spread all over the country. This support is made available on extended C-band transponder of INSAT-2C. Subject experts make presentations at the EMPC studio at IGNOU HQs following a predetermined schedule while the learners remain present at the specified locations (Regional Centres, Study Centres etc.). The learners can see the experts on a TV screen and interact with them through telephone (or fax). This facility is also used for Extended Contact Programme (ECP) which is a compulsory component for the Post Graduate Diploma in Higher Education (PGDHE).

Activity 5.2

You may visit any Regional Centre of the IGNOU and observe teleconferencing from the receiving end. Write a brief note on it. You may take up this activity after the face-to-face workshop.

Interactive Radio Counselling

Interactive phone-in-counselling through All India Radio (AIR) started on an experimental basis in May 1998 at the Bhopal Regional Centre. At present this facility is available through most of the stations of AIR. The subject experts remain present in the AIR studio at fixed hours, the learners ask questions by dialing telephone numbers of the studio from their home, and the experts are available online to answer them. Thus, the live interaction between the subject experts (teachers) and learners take place. Information regarding phone-in radio counselling sessions and other information like IGNOU teleconferencing, broadcasts, etc. are published by EMPC in the form of a monthly newsletter.

Educational Channel '*Gyan Darshan*'

An educational TV channel of *Doordarshan* called 'Gyan Darshan' launched on January 26, 2000, has commenced regular transmission from the studios at EMPC as a free-to-air satellite TV channel. IGNOU is the nodal agency for Gyan Darshan — the only Educational Channel of India — which in effect is a cooperative venture involving host institutions and other organisations. This channel brings into learners' homes interactive lessons in various subject matters like Maths, Computers, Agriculture, Accountancy, Language, Health and Environment, Distance Education and so on. It includes programmes for elders as well as for school children.

Gyan Vani

Gyan Vani is an educational FM Radio network operating through several FM stations from different places in the country (Sreedher, 2001). The network started with 5 FM stations at Bhopal, Allahabad, Lucknow, Bangalore, Coimbatore and Vishakhapatnam will be extended upto a total of 40 stations. Each station will have a range of about 60 kms radius. It will operate as media cooperatives, with the day-to-day programmes contributed by different educational institutions.

Electronic Media Production Centre (EMPC)

The EMPC located at the Sanchar Kendra on the Maidan Garhi campus is primarily involved in the production of audio/video courseware for IGNOU programmes. It is equipped with two video studios (216 sq. m. and 196 sq.m.) two digital audio studios, Betacam SP edit suits, audio editing suites, a cassette duplication plant, computer animation system, preview rooms and so on. Other educational institutions and state open universities can also avail these facilities. The EMPC has produced 1109 audios and 1246 videos upto January 2002 (IGNOU Profile-2002).

International Cell

The International Cell at IGNOU was operatinalised in the middle of 1996. The cell was assigned the task of promoting the academic programmes of IGNOU outside the country by establishing bi-lateral and multilateral cooperations and all other activities at the international level.

Academic programmes of IGNOU are offered in many countries like Kuwait, Abu Dhabi, Dubai, Sharjah, Muscat, Doha, Seychelles, Ethiopia, Liberia and so on. The International Cell coordinates training programmes for personnel from open universities outside India.

Staff Development

Most members of the staff who work in the field of distance education are initially from other fields. So, there is always a need for staff development in distance education. Since its inception, the IGNOU has been according priority to staff development through its erstwhile division of distance education. This division was upgraded to the Staff Training and Research Institute of Distance Education (STRIDE) in July 1993 (Ramanujam, 1996). STRIDE has been providing training to the staff of the IGNOU, state open universities and directorates of distance education/correspondence course institutes in India as well as in other South Asian Countries.

The STRIDE offers two academic programmes (PGDDE and MADE) to develop human resources in distance education. Through these programmes, the STRIDE has produced around 1500 professionals in distance education in India and other Commonwealth Countries in Asia, Africa, South Pacific and West Indies. Besides, the STRIDE has also imparted training (through workshops, orientation programmes, induction

Open and Distance Education	programmes, attachment programmes, etc.) to more than 10,500 staff (academic and non-academic) involved in open and distance learning system.

Table 5.1: The Mega Universities

1.	The China TV University (CYVU), China
2.	The Centre National d' Enseignement à Distance (CNED), France
3.	The Indira Gandhi National Open University (IGNOU), India
4.	Universitas Terbuka (UT), Indonesia
5.	Payama Noor University (PNU), Iran
6.	The Korea National Open University (KNOU), Korea
7.	University of South Africa (UNISA)
8.	Universidad Nacional de Educacioń on a Distancia (UNED), Spain
9.	Sukhothai Thammathirat Open University (STOU), Thiland
10.	Anadolu University (AU), Turkey
11.	The Open University (UKOU), United Kindom

Source: J.S.Daniel (1998) Mega Universities and Knowledge Media, London: Kogan Page.

SOME MORE ACTIVITIES

Activity 1

Benoy, 30 years old, Probation Officer in a Bank, watches the IGNOU Programme regularly telecast in *Doordharshan/Gyan Darshan*. Is he a distance learner?

Give reasons for your answer

……

……

……

……

……

……

……

……

……

……

……

Activity 2

A five-year old open university uses print, audio and video programmes and extends facilities for student support (structurally) to about one lakh enrolled students. Functionally it uses only print material, there is no usage of audio/video, no counselling sessions are held. Would you call it an open university or a correspondence institute?

Write your answer below.

……

……

……

……

 **If you are a trainee, discuss this with other participants in a workshop.**

If you are a student discuss with other fellow students/academic counsellors.

Activity 3

You may meet five distance learners of different programmes of the IGNOU or any other open university. Ask them whether they use any media other than print during their course of study. Try to know their response to such alternative media. Ask them whether they have got any benefit from the latter. If yes, what types of benefit? If not, why?

You may take up this activity after the workshop.

Activity 4

You may contact some distance learners. Interview them for about 15 minutes. Ask them about their experiences as distance learners. Try to know what kind of support they expected from their institutions, what kind of support they actually availed and what more did they want.

You may take up this activity after the workshop.

Sources

Bates, T. (1995) *Technology, Open learning and distance education*, London, Routledge.

Bates, T. (2001) The Continuing Evolution of ICT Capacity: The implications for education, in Glen M. Farrell, (ed.), *The Changing Faces of Virtual Education*, The Commonwealth of Learning, Vancouver.

Biswas, P.K. (1999) Freshers in IGNOU: A study of their awareness, interest and motivation, *Indian Journal of Open Learning*, Vol. 8(3), 273-282.

Coffey, J. (1977) *Open Learning for Mature Students*, Council for Educational Technology, London.

Daniel, J.S. (2000) *Mega-Universities and Knowledge Media*, Kogan Page, London.

Dodds, T. and Mayo, J. (1996) *Distance Education for Development: Promise and Performance*, Cambridge: International Extension College.

Dodds, T., Nonyongo, E. and Glennie, J. (1999) Cooperation Competition or Dominance: A challenge in Southern Africa, in *Harry, K. (1999) (ed.) Higher Education Through Open and Distance Learning*, London, Routledge.

Grimes, A. (2000) A Matter of Degree, Wall Street Journal, July 17.

Hall, J.W. (1996) *Report of the Task Force of the International Council on Distance Education*, Standing Committee of Presidents, Lillehammer, Norway ("The ICDE Paradigm Shift Report").

Homberg, B. (1981) *Status and Trends of Distance Education*, London, Kogan Page.

IGNOU (1995) *Communication Technology for Distance Education, Course ES-318*, MADE, IGNOU, New Delhi.

IGNOU (1995) Growth and Philosophy of Distance Education,*Course Es-311*, New Delhi, IGNOU.

IGNOU (1995) *Support Services, Course ES-313*, PGDDE, IGNOU, New Delhi.

IGNOU Profile-2001 IGNOU, New Delhi, 110068.

Inglis A., Ling, P. and Joosten, V. (1999) *Delivering Digitally: Managing the transition to the knowledge media*, London, Kogan Page.

Khan, B. (1997) *Web based instruction*. Educational Technology Publications. Englewood. Cliffs, NJ. 1997.

Lockwood, F (1998) The design and production of self-instructional material, Kogan Page, London.

Lockwood, F. and Gooley, A. (ed.) (2000) *Innovation in Open and Distance Learning*, Kogan Page, London.

Mason, R. (1994) *Using Communication Media in Open and Flexible Learning*, London, Kogan Page.

Mason, R. (1999) European trends in the virtual delivery of education, in Glen M. Farrell (ed.), *The Development of Virtual Education: A Global Perspective*, COL, Vancouver.

Maurer, H. (1997) *Necessary Ingredients of Integrated Network Based Learning Environments*, Proceedings of Ed Media'97, Charlottesville, VA, AACE.

McGreal, R (1998) Integrated distributed learning environments learning environments (IDLES) on the internet: A survey, *Educational Technology Review*, 9, pp. 25-31.

McKenzie, N., Postgate, R. and Scupham, J. (1975) *Open Learning*, Paris: UNESCO.

Moore, M.G. (1973) Toward a theory of independent learning and teaching, *Journal of Higher Education*, 44, 661-679.

Panda, S.K. (1999) Development, networking and convergence in India. *In Keith Harry (Ed.) Higher Education through Open and Distance Learning (World Review)*. Volume 1, London and New York: Routledge & Co.

Paulsen, M.F. (1997) 'Teaching methods and techniques for computer mediated communication' *Paper in The 18th ICDE-World Conference: The New Learning Environment, A Global Perspective*, International Council for Distance Education, The Pennsylvania State University.

Perraton, H. (1997) *International research in open and distance learning: report of a feasibility study*, Cambridge: International Research Foundation for Open Learning.

Perraton, H. (2000) *Open and Distance Learning in the Developing World*. London, Routledge.

Peters, O. (1973) *Die didaktische 'Strukture des Fernunterrichts. Unterschungen zu einer industrialisierten Form des Lehrens and Lerners*. Weinheim: Beltz.

Peters, O. (1998) Learning and teaching in distance education, London: Kogan Page.

Peters, O. (1999) The paradigm shift in distance education and its meaning for teacher training, *Indian Journal of Open Learning*, Vol. 8 (1).

Ramanujam, P.R. (1996) The role and contribution of STRIDE in the development of human resources for distance/open learning, *Indian Journal of Open Learning*, Vol. 5(2), 70-84.

Rowntree, D (1992) *Exploring open and Distance Learning*, London: Kogan Page.

Sahoo, P.K. (1993) *Higher Education at a Distance*. Sanchar Publishing House, New Delhi.

Swannell, P. (1997) From Outback of Internet: Crackling radio to virtual campus. *The ITU TELECOM Newsletter*, 3.

Taylor, J.C. (1995) Distance educational technologies: The fourth generation. *Australian Journal of Educational Technology*, 11, 2, 1-7.

Taylor, J.C. (1998) Flexible delivery: The globalisation of life long learning. *Indian Journal of Open Learning*, Vol. 7(1).

Taylor, J.C. (1999) *Distance education: The fifth generation*. Paper presented at the 19th ICDE world conference on open learning and distance education, Vienna.

Tunstall, J. (1974) Introduction in J. Tunstall (ed) *The open university opens*. London: Routledge & Kegan Paul.

Wedemeyer, C.A. (1977) Independent study. A.S. Knowles (ed.), *The International Encyclopaedia of Higher Education*. 5, 2114-2132.