

## **It application higher education in the field of distance learning education in Kolkata: a study**

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### **ABSTRACT**

Information Technology has a wide social application in almost all domains and activities of modern society. Information Technology, spreading throughout the world in a lightning speed has revolutionized each and every sphere of human activity. Information Technology is meant for storing, processing, and manipulating data, knowledge and information. Ultimately all these are meant for the benefit of society. The fundamental characteristic of such a society is its dynamism and unending progress. Lifelong learning is essential for the unending progress of society. Traditional classroom learning is not possible and not at all desirable for the lifelong learning. Moreover traditional methods of teaching and learning fail to provide efficient and effective learning. So there must be sufficient distance learning centers and Open Universities as an alternative system of education. Application of Information Technology application is the only possible way to improve the quality of higher education through distance mode, for its modernization. Due to the explosive growth of knowledge and its interdisciplinary nature, the information handling has become extremely difficult. The advent of digital computers, advances in telecommunication technology, wide spread use of networking, explosive growth of internet, mass storage media, virtual reality and databases have opened up new possibilities in dealing with the collection, organization, and dissemination of information. Now information can not only be stored, retrieved, communicated, and broadcasted electronically, in enormous quantities at greater speed, but can also be re arranged, selected and transformed. The present problem under investigation is entitled "APPLICATION OF INFORMATION TECHNOLOGY (IT) IN HIGHER EDUCATION IN THE FIELD OF DISTANCE LEARNING EDUCATION IN KOLKATA: A STUDY"

**Key Words:** Application, Information Technology, Higher education, Distance Learning.

### **1. Definition:**

#### **Application:**

The word "application", according to Oxford English dictionary, is 'putting of anything to use or purpose; specific use' (Oxford English Dictionary, VII, 1970). According to Chamber's 20th century dictionary application means 'the act of applying, administrating or using; a thing applied' (Chambers 20th century thesaurus, new edition, 1983). In the present study the term application is used for the way in which something can be used for a particular purpose.

#### **Information Technology:**

UNESCO (1973) defines, Information Technology as "Scientific, technological and engineering disciplines and management techniques used in information handling and processing, their applications, computers and their interaction with men and machines and associated social, economic and cultural matters".

Information Technology can be defined as the acquisition, processing, storage and dissemination of vocal, pictorial, numerical or textual information by a microelectronics based combination of computing and

telecommunication. In short we can say that Information Technology means Application of computer and communication technologies in the handling of information.

#### **Higher education:**

According to Encyclopedic Dictionary of Education higher education is "Education beyond secondary school that is viewed as intellectually more rigorous and sophisticated than that of the secondary level, and that either leads to academic degrees or is on a comprehensive intellectual level" In the present study higher education is used for any of various types of education given in post-secondary institutions of learning and usually affording, at the end of a course study, a named degree, diploma, or certificate of higher studies. Higher educational institutions include not only Universities and colleges but also various professional schools that provide preparation in such fields as law, theology, medicine, business, etc. The basic entrance requirement for higher educational institutions is the completion of secondary education, and the usual entrance age is about 18 years.

#### **Distance Learning:**

Distance Learning is a system of teaching and learning in which students study in their own homes or at local centers using materials mailed or broadcast from a central unit. Tutorial work may handle by correspondence or by electronic media with the central unit or a regional basis. The objective is to open up opportunities by overcoming all types of barriers in learning process like economic, geographic, work commitments, and conventional course structures, which have often limited access to educational and training facilities (Sewart, 1993). The last decade has seen a phenomenal growth in distance education and the integration of this method of education with the standard Information Technology applications in a large number of countries to such an extent that it is now no longer possible to think solely about the traditional education using traditional methods.

In the present study distance learning is used as a method in which students study from their places of convenience after registering for a formal course in any Universities.

Word "reference" means the act of referring or the state of being referred; that to which something refers (Reader's Digest Universal Dictionary, London, 1993).

## **2.. Need And Significance Of The Study**

The present study is mainly concerned with society application of IT rather than its engineering or technological or even scientific aspects. IT has great potentialities for speeding up the process of development and it has multiplier effect or impact. Because of its application the whole society is going to realize its wide range impact within a short span of time. The society and its activities are very complex. Some of the well-known social activities can be identified as economic, political, social, cultural, educational and scientific activities. Information Technology must be given top most priority in the sustained development of any country. Then only modern society can be rightly called as 'Cyber society'.

Modern computer and communication infrastructure must be built up, extending even the remotest places for the development of a country like India. Especially in a situation where traditional Universities and higher education centers fail to fulfill their objectives and Virtual Universities and Tele-teaching methods are going to handle the

control of higher education systems. In such a situation there is an urgent need for conducting a study about the application of IT in distance learning in the country, where there are many Open Universities and number of distance learners increasing day by day. The present study is an attempt to study about the present level of application of Information Technology and to explore the possibilities of application of IT in distance learning in higher education in India.

## **3. Objectives Of The Study**

The major objectives of the present study are stated below:

- 1) To assess the background characteristics of distance learners in the field of higher education in India.
- 2) To assess the attitude of distance learners and faculty members towards the distance education and conventional education and to examine the relevance of distance education as an alternate system of education.
- 3) To assess the present status and quality of distance education conducted by Open Universities in the country, and to suggest certain methods for improvement.
- 4) To assess the Information Technology awareness of distance learners and faculty members of the Open Universities in the country.
- 5) To review the availability and use of Information Technology tools at different Open Universities in the country.
- 6) To study about the present status of IT application in the field of distance education in the country and to examine the changes occurred in the curriculum of Open Universities due to the application of Information Technology.
- 7) To explore the possibility of modernization of distance learning through the application of Information Technology and to formulate certain policies and plans for the same.
- 8) To understand whether there exist any significant difference between large/ medium and small open Universities in the application of Information Technology in distance learning.

## **4. Hypotheses**

The main hypotheses of the present study are given below:

1. The learners in the field of distance education in India come from different academic and social background.

2. Distance learning is a highly relevant alternate system of education in the modern times.

3. The academic community in the field of distance education is not satisfied with present methods and practices adopted in the field of distance education in India.

4. The learners and faculty members in the field of distance education in India is well aware and equipped with Information Technology tools.

5. The Distance learning and teaching methods practiced in the country is under the verge of extinction due to the recent developments in the field of Information and Communication Technology.

6. Various distance learning institutions and Open Universities are in different levels in the case of application of Information and Communication Technology.

7. Application of Information Technology is the effective way to improve the quality of distance education and for the very survival of the system in the emerging socio-technological context.

8. There exists significant difference among different groups of faculty members in the use of Information Technology in their practice.

## **5. Methodology**

Research is simply the process of arriving dependable solutions to problems through planned and systematic collection analysis and interpretation of data. The data will be collected through various methods like observation, literature search, interview with schedule and questionnaires. Methodology refers to the sum total of the procedures followed by the investigator to make the study scientific and valid. The quality of any research depends on the methods adopted and the tools and techniques used for data collection and analysis. The nature of the problem and kind of data needed for its solution determine the method of the study. Data collection is an essential part of every research study.

The present study though conducted in the field of information science it is an attempt to study about the application of information technology in the field of higher education that is conducted through the distance mode of education in Kolkata. The basic research method applied to carry out the study is survey method. The methodology followed for

the study is described under the following headings.

1. Variables
2. Tools used for data collection.
3. Samples used for the study.
4. Sampling techniques used.
5. Data collection procedure.
6. Analysis of data.

### **5.1. Variables**

The variables of the study are discussed below:

#### **5.1.1 Variables for the distance learners:**

The major variable under study is the application of Information Technology in distance learning process in various Open Universities in Kolkata. Investigator has conducted a detailed survey among the distance learners and faculties of the three sample open Universities, viz. Indira Gandhi National Open University (IGNOU), Mahatma Gandhi Open University (MGOU) and Karnataka State Open University (KSOU).

The following are the classificatory variables used in the case of distance learners.

- 1) University
- 2) Gender
- 3) Level of study
- 4) Subject of study

#### **5.1.2 Variables of faculty members in Open Universities:**

The major variable under study is the application of Information Technology in teaching by distance in the open universities in Kolkata. The size of the open universities is taken also as classificatory variable. The investigator has selected one university each from three categories such as large, medium and small. The selected Open Universities or University in Distance Learning is Indira Gandhi National Open University, example for large, Mahatma Gandhi Open University, for medium size and Karnataka State Open University, for small size Open Universities in Kolkata.

### **5.2. Tools Used For Data Collection**

The required data were collected using the following tools constructed by the investigator, with the help of the supervising teacher.

#### **5.2.1 Questionnaire:**

A questionnaire consists of a number of questions, printed or typed in a definite order on a form. It is either mailed or given to the respondents. The signal advantage of

questionnaire method is that it affords great facilities in collecting data from large, diverse and widely scattered groups of people. Here this tool is used to collect data from distance learners and faculty members of various Open Universities in Kolkata.

#### **5.2.1.1 Questionnaire for distance learners**

Investigator has collected the data by directly visiting and distributing questionnaires among the students from the regional head quarters of sample open universities and from different study centers situated nearby the regional head quarters. The questionnaire for distance learners is drafted for different Open Universities considering the methods of learning in different open universities and the extent of Information Technology application in them. The questionnaire is prepared by the investigator with the help of the experts in the field of Information science, to study the existing trend and application of Information Technology in the field of distance education. The questionnaire for the distance learners include the following variables

1. Background characteristics of distance learners
2. Attitude of learners towards distance learning
3. Methods used in learning
4. IT awareness among distance learners
5. Availability of IT tools
6. Current use of IT in learning
7. Distance learning as a global science.
8. Future plan for using Information Technology in practice.
9. Virtual Universities
10. Libraries in distance education

#### **5.2.1.2 Questionnaire for faculty members**

The questionnaire for the full time/part time teaching faculty members at the headquarters of the three sample open universities is drafted considering the level and use of application of Information Technology in the process of teaching in distance mode. Investigator has collected data from the teaching faculty members of sample open universities by directly visiting them and distributing questionnaires by hand. The questionnaire for the faculty members of the open universities was used to obtain information related to use of Information Technology tools in the open universities in their course curriculum. Items

gathering data on the personal and professional background of the respondents were also included. The impacts of media on various activities were obtained on five point scale i.e. very good, good, neutral, poor and very poor.

In addition the investigator has employed literature search in the beginning of the study. This is very much useful to get a thorough understanding about the field. Literature includes journal articles collected from Internet, various printed journals, reports and books in the field of Information Technology and distance learning were examined to get a thorough idea about the field of study and its developments.

#### **5.3. Sample Used For The Study**

The present study is based primarily on primary data collected from the direct beneficiaries of the system, i.e., the students and teachers. Secondary data are also used wherever necessary. For collecting primary data, students and faculty members of three major providers of distance education in India have been selected:

1. Indira Gandhi National Open University, (Regional H.O. Kolkata).
2. Mahatma Gandhi Open University, (Regional H.O. Kolkata).
3. Karnataka State Open University, (Regional H.O. Kolkata).

Students who underwent courses of study in the above institutions during the period of data collection have been included in the survey. Students of both graduate and postgraduate levels were selected. It is not practical to study the whole population to arrive at generalization through the results of the research for universal application. The process of sampling makes it possible to draw valid inferences or generalization on the basis of careful observation of variables within a relatively small proportion of population. A sample is small proportion of a population selected for the study. In the present study the population is the distance learners and faculty members in the field of distance education in Kolkata. According to the annual report distance learners in the country is more than 15 lakh in the year 2006. In addition there are a number of distance education institutes under regular universities offering courses under distance stream. Similarly a large number of faculty members are serving the distance education system either directly or indirectly. This

population is too large in size to collect data from the entire population. Hence the investigator selected a representative sample of this population to conduct the present study.

#### **5.4. Sampling Techniques Used**

The population consists of distance learners and faculty members in the field of distance education in Kolkata. The investigator identified the distance learners and faculty as the first step. They are the learners who came for various purposes to the different open universities taken for the study.

Other sub samples of distance learning were determined as large, medium and small open universities according to their size. The size of the Open University is determined by the number of students registered for different courses at graduate and postgraduate level. The large-scale open universities are those, which have an enrolment of more than one lakh in a year. Medium have an enrolment of more than fifty thousand and small have ten thousand in a year. In order to get representative to all these, the investigator has adopted the stratified random sampling techniques.

#### **5.5. Data Collection Procedure**

The investigator first sought permission from different open universities to visit the university by person and as per the permission the investigator visited the institution and distributed questionnaires among students and faculties. After making necessary copies of the tools, the investigator met the students and faculties of sample open universities and distributed questionnaires among them.

Necessary instructions were given for filling the facing sheet of questionnaire. The majority of the students and faculties responded positively by filling up and returned the questionnaires. The responses were encouraging.

#### **6. Analysis Of Data**

The data collected have been analyzed using mathematical techniques. Percentages, ratios, and averages are the most common tools applied. The data collected through the questionnaires were divided under major headings such as:

Distance education – Background Information.

Profile of distance learners.

IT awareness of distance learners.

IT application in distance education.

Faculty and IT application.

Virtual Universities and web based learning. Student support services including the role of libraries.

The data collected through the questionnaires were consolidated separately. Appropriate variables have used for the analysis of data.

#### **7. Scope And Limitations Of The Study**

One of the prominent limitations of the study is its reach itself.

IGNOU, MGOU and KSOU are institutions having their presence even in the international education level. The vastness of the land and its diverse population may make degree by which the findings may vary, but the findings are not likely to be different from what has been observed here, if much wider sample had been studied.

Though this study has attempted to cover the entire spectrum of distance education, it needs to be noted that this study does not include all the courses and programs of offered by Distance Education Institutes (DEI) in the country. It is not feasible to conduct a study by covering all the Open Universities in the country, thus the investigator has selected three sample Open Universities such as Indira Gandhi National Open University, Mahatma Gandhi Open University, and Karnataka State Open University for conducting the study. Though the investigator has distributed questionnaires among the entire fulltime faculty members from the sample Open Universities in the country, a large number of counselors from the regular streams teaching in the field of distance education are avoided.

The findings of the study may be useful to administrators and higher education planners at national level and state level for formulating correct policies and strategies with regard to the modernization and application of Information Technology to meet the rising educational needs through the alternative system of education. This will be useful for library and information systems, network experts and managers in designing and implementing highly efficient library and information systems in the field. The study provides a theoretical and practical explanation for the complex process of modernization and application of Information Technology in the field of distance education. The importance of such a

study is very relevant, especially in a country like India where most of the people live in poverty and backwardness. The present study indicates that through lot of efforts are being taken in the field of distance education for the application of Information Technology; the students still follow the conventional techniques of by hearing study materials and attending occasional counseling/ contact classes. Majority of the students are not utilizing the multimedia instruction system introduced in the field of distance education. There are lots of problems relating to the use of Information Technology tools. In order to solve them the entire dependence on the study materials should be minimized and the potential of Information Technology should be utilized to the fullest extent. Moreover the attitude of learners about distance education as a liberal and flexible way of education should be changed. Student support services in the field of distance education should be strengthened. The possibilities in the field of network and satellite technologies should be exploited to the fullest extent. In such a situation only distance education can be developed as an alternative method in the field of higher education in India. The present situation of teaching and learning should be changed so that it can be accessible even to the laymen of the country.

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