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# Distance education and media use in higher education

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## Abstract

In a distance education system (DES), teachers and learners are physically separate and the instructional materials are delivered via telecommunication systems. The global application of the DES has proven to be an approach that is both successful and useful in education.

Based on technological, structural, and financial capabilities, a number of varieties of technologies are applied in higher education distance learning systems. Print media (textbooks, study guides, study aids, and newspapers), audio media (Audio-books, audio-cards, records, audio-cassettes, reel-to-reel audiotapes, audio Compact-discs (CDs), telephones, cell phones, audio-texts, radios), and video media (Televisions, satellites, direct broadcast satellites, cable televisions, closed-circuit televisions, asynchronous and synchronous Podcasts and vodcasts, teleconferences, microwaves, interactive videos, teletexts, videotexts, computer internets, weblogs (blogs), electronic mails, chatrooms, and multimedia) are used to convey messages in terms of specific educational objectives to deliver and disseminate instructional materials to learners.

While using distance education in both advanced and developing countries, the limitations, strengths, and variables affecting it should be considered in advance.

Keywords: higher education, distance education, distance learning, higher distance education, technologies.

## Introduction

In this fast growing world, it is very difficult to assume that anyone would be able to live without communication technologies (radios, televisions, telephones, and the latest forms of communication such as computers and cell phones). Educational systems are changing at great speed and the technology is changing rapidly. Older technology is replaced by new technological phenomena and the new ones are being adopted and these are affecting the educational systems.

In many countries, many university systems have adopted distance education to solve their educational dilemmas. What higher education systems can do for their societies are to improve and to reinforce the present educational systems, to utilize distance education in the most proper ways, to apply advanced communication technologies, and to use the experiences of the countries that have been successful in using distance education.

The purposes of this paper are to list successful countries using various systems of distance education in their higher education, to explain the nature of distance education, to describe the variables in distance education, to classify and to describe the media usage in distance education, to show constraints and

highlights of distance education, to describe the utilization of media in different countries, to suggest some solutions to be utilized in higher education, and to present a summary and a conclusion.

Successful Countries.Current developments in communication and computer technologies, the contribution of behavioral scientists, educators, and psychologists doing research on teaching-learning process have changed the appearance of educational systems rapidly (Eisele & Eisele; 1990; Arafeh, 2004; & Conrad, 2009).

In 1840, Isaac Pitman began teaching via correspondence in England. At Wesleyan University, Illinois, bachelor and graduate degrees could be obtained in absentia in 1874. In 1900, the quality of correspondence teaching became popular (California Distance Learning Project (CDLP), 2005) and by 1969 the United Kingdom took the advantage of new technologies seriously in their higher education systems and established the British Open University as a degree granting institution. Two years later it became one of the largest UK Universities. The university served local and distant working adults who could not attend regular classes. They participated in distant classes (Gray, 1988).

Similar systems across the world were applied successfully. Open University in Japan, The External Degree in Australia, Correspondence Education at Post Secondary Level in the Soviet Union, University Courses to Degree Level for Part-time Adult Students in France, The UNRWA/UNESCO Institute of Education in Beirut, The Radio College (Run'dfunkin) in Federal Republic of Germany, The Correspondence Course Unit in the University Remote Nairobi in Kenya, External Courses, External Courses for Teachers in the Remote Rural Areas of Newfoundland in Canada, The Open University in Netherlands, The Empire State College in New York, The Minnesota Metropolitan State College, The Community College of Vermont, Indiana University, and many other colleges and universities, in the USA, all are the institutions using the system of distance education (McKenzie, , Postgate, & Scuupham, 1975; Chung, 1991; & Hummel, 1993).

Also, Open University in Indonesia, National Institute of Education, Institute of Distance Education in Srilanka, Correspondence and Open Studies Institute, University of Lagos in Nigeria, Deakin University BED Programme in Australia, The Free University of Iran, and many other open/distance educational systems are taking the advantage of the system of distance education at the university level successfully (McKenzie, et al., 1975 & Peeraton, 1993). Allama Iqbal Open University in Pakistan (Haque Batool, 1999), Indira Gandhi National Open University in India (Romiszowski, 2008), Open University in Bangladesh (Anwarul Nasirul, 2008), and many other Asian colleges and universities (Reddi, Mishra, 2005) have higher distance education systems which are more or less successful.

## Definition of Distance Education System

Distance education is a relatively new terminology which one of the new formats of education along with new teaching/instructional media.

The open learning system, telecourse or televised teaching system, and distance education are similar terminologies which are used interchangeably. McKenzie, et al., (1975) explain that "open" as contrasted with "closed" carries suggestions of the lessening or removal of restrictions and of privileges, demolishing or lowering established barriers between subject areas, enlarging and enriching the areas of activities and experiences graded as educational. It symbolizes a shift in the relationship between teacher and pupil toward that of student and advisor".

Zigrell defines "telecourse" as "a learning system for the student that is compared to video programs, textbooks, study guides, learning experiences, and a variety of other study aids that may include telephone, mail, and face-to-face contacts with instructors" (Chung, 1991).

Evans describes distance education as "the delivery of credit and non-credit instruction where the majority of content expertise and management is at one location and the majority of student learning activities at another". Feasley, (1982; as cited in Gray, 1988) defines it as "a learning system which takes place at a site remote from the instructor".

Knebel (2001) also introduces different terms for distance education: Computer-based training (CBT), Computer-mediated instruction (CMI), Interactive radio instruction (IRI), Interactive television (ITV),

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Quality assurance (QA), and Web-based training (WBT) which is used in teaching many subjects, including healthcare and medical education.

Association for Educational Communications and Technology AECT) (Schlosser, Ashland, & Simonson 2002) define distance education as "institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors." In this definition there are four components: the first one is the concept that distance education is institutionally based which means it is different from self-study; the second concept is the separation of the teacher and student; the third concept is synchronous or asynchronous interactive telecommunications which imply interactivity through electronic media (television, telephone, and the Internet) and not limited to only electronic media; the forth concept is connecting learners, resources, and instructors that interact and while resources are available, they in turn help the learning process to occur. AECT mentions that the main goal of this form of education is to provide mass-produced courseware to a mass market, but notes, in recent emerging trends, that the goal of distance education is to focus on local and individual needs and requirements.

Western Cooperative for Educational Telecommunications (2003; as cited in Arafeh, 2004) defines distance education as, "instruction that occurs when the instructor and the student are separated by distance or time, or both." The California Distance Learning Project (CDLP) (2005) defines it as, "an instructional delivery system that connects learners with educational resources."

Distributed learning is another form of distance education which is different from the traditional ones. It is a combination of face-to-face teaching with synchronous and asynchronous mediated settings. This instructional strategy involves learning across a variety of geographic settings, across time, and across various interactive media (Dede, 2002; as cited in Arafeh, 2004).

On-line learning is one of the newest terms used frequently and is defined as a "delivery of learning through the use of information communication technology via the internet where learners and instructors are physically separated" (Chongwony, 2008).

It is realized that most of the definitions refer to a situation in which the teacher and the learner are separated and instructional materials are conveyed through telecommunication systems. It can also be elicited that the learner has the flexibility of adjusting herself/himself to the schedule and physical location of classes. In this article, "distance education" is the terminology chosen to be used.

Characteristics of the Distance Education System. Distance education has six characteristics which distinguish it from traditional, regular classroom situations (Unwin & Mc Aleese, 1988; Liu & Ginther, 1999; Schlosser, el al., 2002 & 2009; as cited in Arafeh, 2004; & Chongwony, 2008):
1- Separation of teacher and learner
2- Teacher's relationship with the learner
3- Utilization of media
4- Anticipation of the two-way communication
5- Occasional money and time for the institution and learner
6- Saving money and time for the institution and learner

# Limitations of Distance Education

Limitations of distance education system in terms of teacher, learner, and media can be listed as below (Purdy, 1986; as cited in Chung, 1991):
1- Teacher and learner are separated.
2- Teacher's control over curriculum and instructional process is minimized.

The issues of interaction, coordination, time management, and attitudes can be listed as below (Dalton, 1987; as cited in Chung, 1991):
3- Teacher-learner interaction is diminished.
4- More complex logistical coordination of the instructional activities is required.
5- Additional time for management is demanded.
6- Some negative attitudes on the part of learner are elicited.

One of the weaknesses which is usually overlooked in distance education is learner's procrastination (Wilkinson & Sherman, 1989):

7- Learner procrastination or putting off the responsibilities is common.

8- Learner expectations about the nature of distance education are not realized.

9- Learner is required to be more structured.

1- Ashby (2002; as cited in Arafeh, 2004) and Woodley (2004; as cited in Edvardsson & Oskarsson, 2008) mention that distance learners are usually married or with children, living far or in unsafe urban areas, mostly women, and have jobs. So as the tenth limitation:

10-
Usually atypical learners are persons with responsibilities other than being a student.

11-
Education is not designed for everyone and is not beneficent to all learners.

Age of learners is the main issue in distance education. Usually older learners are distance learners. Ashby (2002; as cited in Arafeh, 2004) and Woodley (2004; as cited in Edvardsson & Oskarsson, 2008) note that distance students tend to be older than typical college and university students. Sikora and Carroll (2002), in a survey done for the U.S. Department of Education, Office of Education, report that distance learners are around 24 or older. So this may be a limitation:

12- Distance students tend to be older than campus students.

The U.S. Department of Education, Office of Education (Sikora & Carroll 2002) findings of the 1999-2000 survey on undergraduates showed that native English speakers are more willing to take distance courses than non-native speakers (8 versus 6 percent). So, as another limitation:

12-
Language barriers do not allow non-native speakers to take the advantage of distance education.

Milheim (1991), in his suggestions for potential developers, explains additional limitations:

13-
Significant initial expenses are required to start the large-scale use of electronic media systems, to revise the content of instructional materials, and to hire teachers and personnel.

14-
Audience analysis is expected and it is hard to perform due to the nature of distance education systems.

15-
Television and video media are viewed as two-dimensional and non-realistic means of portraying the facts.

16-
Usually, when a new technology arrives, people show resistance because it requires a new challenge and getting acquainted to it (House, 1987). Therefore, as one of the final limitations:

17-
Learner gets startled and becomes frightened.

Tallent-Runnels, Thomas, Lan, and Cooper (2006) did a meta analysis and found that most online students are nontraditional and Anglo Americans. They also found that few universities have written policies, guidelines, or technical support for faculty members or students. Learning outcomes appeared to be the same as in traditional courses, and students with prior training in computers were more satisfied with online courses. So,

18-
Students are mostly minorities

19-
There is not much control on distance education systems.

20-
There is no advantage in distance education over the traditional approach

21-
Students with no computer experience would feel uncomfortable.

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Strengths of Distance Education Systems.In any system, as well as distance education systems, there are some advantages over weaknesses and disadvantages.

Strengths are described as follow (Dalton, 1987 as cited in Chung, 1991; Jevons, 1984 as cited in Chung, 1991; Purdy, 1986; as cited in Chung, 1991; and Tang, 2009):

1- Class sessions are smoother.
2- Texts and graphics are presented more effectively.
3- More courses are offered.
4- An opportunity to deliver instructional materials and teaching strategies through different media is provided.
5- More diverse groups of learners are gathered.
6- Easier chance of accessibility is given to the learner.
7- Independent learning is granted to the learner.
8- More control over instructional materials is produced.
9- An opportunity to improve pedagogic qualities is given.
10-
   Staff development results.
11-                                                                                                                In
the long term, more money is saved.
12-
   More enjoyment is elicited in learning by learner.

Edwards (1988) expresses that:
13-
   Overcoming the difficulties and helping disadvantaged and disabled learners resulted.

Many forms of prejudice and oppressive attitudes may play out in schools; distance education systems tend to decrease them (Kumashiro, 2000; Larreamendy-Joerns & Leinhardt, 2006). So,
14-
   More democracy is practiced.

Findings indicate that self-efficacy beliefs have positive effects on student motivation and achievement (Pintrich & De Groot, 1990, as cited in Ergul, 2004; Zimmerman, Bandura & Martinez-Pons, 1992, as cited in Ergul, 2004; & Pajares & Miller, 1994; as cited in Ergul, 2004). Ergul (2004), in his research done on 124 freshman students who enrolled in Anadolu University's distance learning programs of the 2001-2002-education year, found that self-efficacy of distance education was found to be significantly correlated to student's academic achievement. Consequently:
15-
   Distance education is correlated with learner's self-efficacy and academic achievement.

The newest form of distance education system is an integration of telecommunication networks with computers and an interaction of learner. Use of computers and computer networks not only carried the content but also bring together the teachers and the learners and in two-way communication via computer, the learners may benefit from having dialogues (Bernard, Abrami, Lou, Borokhovski, Wade, Wozney, Wallet, Fiset, & Huang, 2004).

Bernard, Abrami, Borokhovski, Wade, Tamim, Surkes, and Bethel (2009) did a meta-analysis on comparison of different types of interaction treatments with other instructional treatments in distance education: interaction among individual students or among students working in small groups, Student-instructor interaction traditionally focused on classroom-based dialogues, and students interaction with the subject matter to construct meaning. Overall, findings indicate the importance of the three types of interaction treatments and they are associated with the students' achievement enhancement and increase of cognitive engagement. The findings also show that there is a strong association between strength and achievement for asynchronous distance education courses than mediated synchronous courses or face-to-face interaction.

So, using computer to communicate has the following strengths

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16-

Teacher and learners become united.

17-

Teacher and learners may have interactions.

18-

The administrator is given the courage to learn how to use applied software systems, such as word-processing database management and spreadsheet (Kearsley, 2005).

19-

Access to the network information is allowed (Virkus, 1997).

20-

Money is saved in writing memos, telephone calls, and tracking of maintenance records (Gubbins, n.d.).

21-

Processing work orders and general personal services are saved (Akpan, 2008).

22-                                                                                                                  A chance of low cost access to communication facilities is given to both teachers and learners (Adam, 1999-2000).

23-

Classroom walls are expanded (Shayo, Olfman, Iriberri & Igbaria, 2007).

24-

Teaching strategies are allowed to go beyond traditional regular classroom presentations (Howell, Saba, Lindsay, & Williams, 2004).

In distance education learner is encouraged to use and share new technologies (Adam, 1999-2000). How individuals adopt innovations is a matter of research. Accepting a new technology is a complex, inherently social, developmental process and individuals construct their own unique perceptions of technology that would influence the adaptation process. This process is related to the cognitive, emotional, and contextual concerns (Straub, 2009). So,

25-

Learner would use new technologies

26-

There would be access to a shared system.

Liu and Ginther (1999) mention that in conveying the teaching materials, learner/teaching style should be considered in distance education. So,

27-

Distance education is the proper way for adaptation of learner's learning style.

Not all the statistics confirm that distance students are older. The age trend has changed. A comparison was made by Worcester Polytechnic Institute (WPI) (2007)) on campus-based graduate programs in the years 2004 and 2007 on the demographics of potential graduate school students. The 2004 survey of their learners showed that 73% of the students were under the age of 35 which changed to 58% by 2007, an increase. So, as the last advantage:

28-

The distance learners' average age is decreasing and getting closer to campus students.

Scientists, researchers, and educators take advantage of new technologies and do not give up because of limitations, and they will continue working on the technical and humane barriers to overcome the difficulties. What is important is that because of the mentioned reasons, the ministries of different countries are attracted to distance education systems (Perraton, 1993).

Research findings show that students with prior training in computers are more satisfied with online courses than traditional ones (Tallent-Runnels, et al., 2006). So,

29-

Students with prior computer experience would feel more comfortable.

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Objectives of Distance Education.The purpose of presenting the objectives is to provide and anticipate clear guidance to the system itself and to the learner in knowing what must be done and what content knowledge should be learned. McKenzie, et al. (1975) lists the objectives as:

1- The learner must be guided to elicit, interpret, and analyze goals at the beginning of the learning system and through her/his education.
2- The learner should be helped to make clear decisions in instructional design and evaluation systems.

The learner should be convinced to participate in the educational process.

Individual needs of the learner should be satisfied.

Different media such as sound, television, film, filmstrip…, etc must be applied.

6- The system itself should be well structured to be able to diagnose and analyze the learning objectives of the learners.
7- Accommodations between instructional staff resources and the learner must be provided.
8- The learner's concept of distance education, as a positive element to develop an independent way of learning, should be expanded.

One of the main goals is to overcome and remove the concept of time and space (Elbeck, 2009). Hence:

9- The learner's concept of time and space in distance education should be changed.

In distance education one of the theory bases is the constructivist theory that views learning as socially constructed and situated in a specific context and the learner himself/herself constructs the meaning (California Distance Learning Project (CDLP), 2005 & Mandernach, 2009). So:

10- The learner's concept of distance education should be based on the constructivist approach and should construct the meaning on her/his own effort.

Affective Variables in Distance Education system.There are many factors affecting a distance education system and they must be anticipated before starting the system. Let's review what Wagner (1993) states:

1- Technological reliability.
2- Institutional support.
3- Organizational design and developmental issues.

By technological reliability Wagner (1993) means that intuitional materials should be transmitted to the learner in a consistent and reliable manner; the institutional support should be addressed to the needs of learners, teachers, staffs, administrators, and personnel; and, finally, the organizational designs and developmental issues are dealt with job designs, developmental structures, and accommodation of technology with all its implications.

Reiser and Gagne (1982) put the emphasis on Characteristics of learners, setting, and task as key factors in media selection. Tallent-Runnels, et al., (2006) also confirm in designing the distance education systems the environment, learners' outcomes, learners' characteristics, and institutional and administrative are the key factors related to delivery system variables.

In more detailed description, Wagner (1993) continues to mention, "needs assessment, audience analysis, course selection and class configuration, lesson planning, interactive instructional strategies, instructional strategies, instructional delivery, delivery systems, adapting media and materials for distant delivery presentation skills, developing effective television graphics, using facilitators at distance education sites, student and faculty support services, program evaluation and student assessment, organizational readiness, accreditation, inter-institutional partnership, and the regulatory environment" are all the issues which affect distance education system and should be considered in advance before employing and running the system.

If a certain instruction needs teacher's presentation, the way of delivery is important. Delivery presentation skills affect the success of distance education in higher education and they should be considered seriously. Berg (2009) lists the characteristics of a successful instructor who (she/he) should understand the complexity of the distance education environment; be able to tolerate the paradox and the discomfort of this environment; learn to develop the passion for the content and have awareness of the environment; take risks of having new approaches; experiment with various media/tools to find

which one accomplishes the course objectives the best; spend time with team members and plan the details; should feel comfortable working with team members; be flexible in difficult settings; be able to think on many levels simultaneously; reach the audience and create the sense of presence; be willing to spend time on practicing and refining her/his presentation skills; be able to refine and reshape the curriculum continuously; be intuitive; be able to develop contingency plans; be eager to search for quality; and develop a sense of humor.

Social presence is an important issue in distance education. Chongwony (2008) considers it as an essential ingredient in both face-to-face and online learning environments and defines it as "how participants- in online learning environments- relate, connect, share ideas and information, speak with one another, establish relationships (through an agreed-upon means),(despite the physical separation) create a feeling of togetherness or intimacy. Chongwony did an investigation on a sample of 218 students enrolled in an online-Lifelong-Learning program in the spring and summer quarter of the 2005/2006 academic year in a Midwestern university to see whether facilitation, affective responses, involvement, course design, community size, age, and gender would significantly predict perceived social presence of post-secondary learners enrolled in online learning environments. The findings showed that there was a strong positive relationship between perceived social presence, the dependent variable, and the predictor variables involvement, facilitation, affective responses, community size, course design, gender, and age when combined.

Conrad (2009) also did a qualitative study in which findings showed that learners understood and accommodated the relationship and importance of the affective domain to their cognitive success in learning. The analysis of the findings reflected the key roles of learners' sense of cognition and their devotion to maintaining their cognitive presence when absent from their learning group. So, as another factor affecting distance education system, one can consider the following:

4- Social presence

Interested people in designing distance education systems can refer to standards in these organizations: the Institute of Electrical and Electronics Engineers Inc. (IEEE), the International Organization of Standardization (ISO), the IMS Global Learning Consortium Inc. (IMS), The World Wide Web Consortium (W3C), and the International Electro technical Commission (IEC). The Open Knowledge Initiative (OKI) is a software-development project and other softwares can aid professors to build their own web pages for their courses, for grading, and fortesting (California Distance Learning Project (CDLP), 2005).

There are differences in different countries in terms of cultural and educational expectations, educational policies and legislations, and tertiary education competitions which affect distance education systems (Romiszowski, 2008). So:

5- Challenges in terms of cultural and educational differences are worth considering.

## Distance Education Teaching Media

There is a conceptual confusion about instructional media, instructional methods, information and communication technologies (ICT), and distribution methods. Instructional methods are grouped as group discussions, lectures, and demonstrations. Presentation methods are grouped as face-to-face, audio, video-based teleconferencing and Groupware for online interactions. Distribution methods are grouped as CD-ROM, e-mail, Internet, and videotapes. These might bring up the argument that these distinctions may conflate instructional media (e.g., the medium of e-mail) with methods of instruction or distribution (e.g., the instructional use of e-mail), but here, in this paper, all these terminologies are considered as different forms of media utilization in distance education.

Earlier forms of distance education systems relied on the technology of mail correspondence and, later, on radio and television (Reid and Day, 1942; Nasseh, 1997; & Distance Education Clearinghouse, 2003; as cited in Arafeh, 2004). Recent distance education efforts are relying more and more on Internet and other ICTs. The International Information and Communication Technologies Literacy Panel (2002; as cited in Arafeh, 2004) says, "ICTs reflect the convergence between computer and communications

technologies and can be viewed as a set of activities and technologies that fall into the union of IT and telecommunications.

There are some findings that indicate on having no difference in teaching through instructional media. For example Clark (1983) did a meta-analysis on many studies to determine whether different media are effective. He found that there are no learning benefits in applying any media in learning. Fabos, and Young (1999) also claim in the field of telecommunication and teaching there are contradictory, inconclusive, and possible misleading researches. In spite of all these findings in distance teaching, the selection and application of teaching media is one of the most important decisions that distance education instructional designers should make to convey the instructional materials in the most proper and the most effective modes. Gagne (1982) also focuses on characteristics of learners, setting, and task as factors to be given primary consideration in media selection. Shaeffer and Farr (1993) focus on the objectives and the methodology, and present a table of needed media (Table 1.).

Table 1
Appropriate Media in Distance Teaching

Information
Producers
Principles
&                                                                                        Concepts
Attitudes
& Values
Audio                                                                                      -
readiness
-audio/videotape
-lecture
-student presentation
- guest speaker                                                                            -
demonstrations
-lecture
-readiness
    -class discussions
-peer teaching
-case studies
-panel discussions
-group projects                                                                            -
reaction panel
-panel discussions
-class discussions
-case studies
-role playing
Audio graphics                                                                             -
readiness
-audio/videotape
-lecture
-student presentation
- guest speaker                                                                            -
demonstrations
-lecture
-readiness
    -class discussions
-peer teaching

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-case studies
-panel discussions
-group projects                                                          -
reaction panel
-panel discussions
-class discussions
-case studies
-role playing
Two-way audio/one way audio                                              -
readiness
-audio/videotape
-lecture
-student presentation
-guest speaker                                                           -
demonstrations
-lecture
-readiness
    -class discussions
-peer teaching
-case studies
-panel discussions
-group projects                                                          -
reaction panel
-panel discussions
-class discussions
-case studies
-role playing
Two-way audio/two-way video                                              -
readiness
-audio/videotape
-lecture
-student presentation
- guest speaker                                                          -
demonstrations
-lecture
-readiness                                                               -
class discussions
-peer teaching
-case studies
-panel discussions
-group projects                                                          -
reaction panel
-panel discussions
-class discussions
-case studies
-role playing
Computer conferences                                                     -
readiness
- guest speaker                                                          -
readiness
-tutorials                                                               -
class discussions

-panel discussions
-group projects                                                                                            -
reaction panel
-class discussions
-debates
-role playing

Distance Education Technologies and Media Utilization.Distance education usually has two forms: 1- the learner operates independently and 2- classroom instruction is accompanied by distance learning (California Distance Learning Project (CDLP), 2005). Either way, there is an overlap in terms of both technologies and media. The important elements are technological transmissions and the media applications.

The importance of transmitting instructional materials to distant learner through print, audio and video media, and to deliver messages have always been stressed (Chung, 1991). These technologies and media can be applied in both traditional and modern forms of distance educational systems in higher education in any country. One may define them as follows:

Distant Teacher.Gagne and Reiser (2001) consider any physical matter including teacher that is capable of conveying instruction is considered as an instructional medium and there is no limit on that. Clark and Mayer (2003) confirm this concept and mention any presenter including the teacher or the specialist could be considered as instructional media.

The reason is teacher like any other medium uses audios/sounds (speeches) and videos/pictures (to show processes) (Kim and Means, 2005).

In distance era, the concept of teacher is changing. In virtual courses many of teaching strategies (six modes of instruction: tutoring, lecture, recitation, discussion, laboratory, homework) are employed, so the methods that both concepts of teacher and students controls, must be expanded (Gagne, 1965; as cited in Mollenda, 1999).

In online teaching the speech or verbal communication is largely replaced by text and the new climate can be a scary place for students and instructors who are not familiar with the environment. So, an online successful teacher has these characteristics: being visible (students need to feel that the instructor is attending to them even though there is no face-to-face classroom), being organized (being well prepared and having well-defined assessment strategies, and assessment activities), being compassionate (letting students to communicate directly), being analytical (engaging in the ongoing discussions of content and concepts of the course), and being a leader-by-example (being a best practice model in teaching).

Print Media.Textbooks, study guides, study aids, and newspapers are easy to use, inexpensive, portable, and very familiar to the learner. They can easily be distributed to the learner by mail or package-delivery services. Print media is used in correspondence study, programmed instructions, and in modularized instruction (Feasley, 1982; as cited in Gray, 1988).Print is still in use in distance education (Gujjar & Malik, 2007) specifically in developing countries in which the needed technologies in distance education do not exist or their costs are so high they cause the trend of distance education to still be toward usage of print media (Mitchell, Smith, Louw, Tshesane, Petersen-Waughtal, & du Preez, 2007).

Textbooks, Study Guides, and Study Aids.In a more traditional form of distance education, textbooks, study guides, or study aids are usually used, along with radio and television. For example, in Pakistan, television is the dominant distance education medium and uses printed textbooks as the complementary source (Siraj, 2008). Bangladesh Open University (BOU) also uses textbooks and study guides, audiocassettes, occasional face to face tutorial as tertiary media, along with radio and television (Islam, Rahman, & Rahman, 2006).

Paxton (1999) based on a research on history textbooks focusing found that role of the authorship in historical texts are underscored and the students are largely influenced by the anonymous, authoritative style of writing. Fox (2009) also did an investigation (45 studies) on the role of reader characteristics in

processing and learning from informational text. Findings indicate that low level of ability; experience, knowledge, and interest were associated with local-level processing and effortful construction of a text base. In contrast high levels of ability; experience, knowledge, and interest were associated with more globally directed, more effective, more flexible engagement, and leading to better quality mental representations and greater learning.

Adams (2003) researched the effectiveness of the Physics distance education in Kentucky Community and Technical College System's Kentucky University (KYVU). The students were not very highly computer literate and the applied media were websites, emails, chatrooms (synchronous), discussion (asynchronous), and printed textbooks with a CD. The findings showed that 78% of the students rated the class excellent and successful completion of the class was 63%.

Slavin, Cheung, Groff, and Lake (2009) did an examination on the effectiveness of reading curricula; mixed-method models; computer-assisted instruction; and instructional process programs. Findings indicate that the programs designed to change daily teaching practices have substantially greater research support than those focused on curriculum or technology alone. Also positive achievement effects were found for instructional-process programs, especially for those involving cooperative learning, and for mixed-method programs.

Newspaper.Newspaper is a traditional form of print. Adult Literacy and Basic Skills Unit in London (1992) introduced newspaper as one of the resource materials for its advertisings and informing capabilities. Using the expression 'open-learning' meant flexible and distance learning in Britain. Newspaper is a very useful resource for adult education students and for creating an individualized instructional program (Aiex, 1988).

Audio Technology and Media.Audio-books, audio-cards, records, audio-cassettes reel-to-reel audiotapes, audio Compact-discs (CDs), telephones, cell phones, audio-texts, and radios are classified under audio media which are described below:

Audio Book.Anadolu University in Turkey, in a project for 300 blind students, is using audio-books in music and drama classes as infrastructure. This has enabled them to study on their own. The courses are provided with the books that are vocalized radio-phonically. The subjects are distinguished from one another by music and the narration is enriched via emphasizing on the important sentences in the topic (Ozgur, & Kiray, 2007).

Audio-Card.Audio-card is a traditional medium which was used a lot and may still be used in some distance education systems. It is a magnetic medium which helps the learner listen to words and repeat them at the same time as she/he sees the words in print. The learner can record her/his own voice and play it back for comparisons and corrections. This medium is a very appropriate medium in teaching foreign languages, mathematics, and especially, if accompanied by pictorial materials, it can add to the quality of the instructional messages(Lewis, Harcleroad, & Brown, 1977; & Bezard, & Bourguignon, 1994).

Record.The record is another traditional medium that is primarily used for sound effects (Burrows & Wood, 1982) and music (Holmberg, 1995 & Wikipedia, Foundation, I., 2010). It is a medium used in teaching, too (Parker, 1986). Reid and Day (1942) mention that radio and records were popular classroom media in 1940s.

Audio-Cassette and Reel-to-Reel Audiotape.Cassette is also a traditional medium which became much more dominant than reel-to-reel (Jamison, Suppes, & Wells, 1974; & Kemp & Smellie, 1989). Recording tapes requires no special skills or equipment, and a teacher can easily record her/his instructions or lectures on tape. Combinations of sound and sight lead to greater learning (Davies, 1971) and, along with print and radio media, audio cassettes are used widely (Perraton, 1993).

In Allama Iqbal Open University in Pakistan (Haque & Batool, 1999) and Bangladesh Open University (Karim, Kama,& Islam, 2001), due to the high costs of modern technologies, radio and television programs, along with audiocassettes, are the dominant media. Research findings of Blok, Oostdam, Otter, & Overmatt (2002) and Baker (1971) show the use of computer and audio CDs had little effectiveness. But the literature show that computer and audio disks were initially used for reading materials to minimize the role of the teacher (Atkinson, 1966; as cited in Blok et al., 2002) and the theme was around the individualization of instruction and individual differences (Baker, 1971).

Audio Compact-Disc (CD).The newer form of audio media is the audio compact disc which is used as an independent source (Barron, Orwig, Ivers, & Lilavois, 2002) or in conjunction with web or online learning (Notar, Restauri, Wilson, Friery, 2002; & Skylar, 2009). In compact-disc, the audio materials are recorded in a digital format and in play-back mode; sound is heard in a crisp and high-fidelity form (Liu & Chang, 2001).

Compact Disc - Read-Only Memory (CD-ROM).Compact disc read-only memory (CD-ROM) is a 43/4 inch disc which allows storage of vast amounts of audio and video information and reduces the cost of production, distribution, and storage of printed materials (Bateman, 1986). Hitachi Company has developed on an erasable laser disc with a high capacity and a rapid accessibility (Wedemeyer, 1986). Nowadays many students in the language fields use encyclopedias on CD-ROMs (Tochon, 2009).

Telephone.An answer to the criticism that education via television and computer carries no human communication touches is the application of telephone. It brings learner and teacher together and to some extent fills the gap between them. Telephone is specifically a useful tool for disabled home-bound isolated hearing impaired blind and culturally or socially deprived learner (Stephens & Lazarus, 1989). Because of the mobility of the cell-phone or mobile, it has the flexibility in terms of space and its function is similar to telephone except that the telephone is cheaper.
Poling (1994) explains that at Clemenson University through a modem, any learner at home is able to dial her/his telephone to the computer system on campus. Using this system reduces telephone calls. All learners are given an account on university's main computer and they can be in contact with their professors whenever they wish.
With an electronic blackboard, the sender would send the drawn images or the text and these are converted to audible telephone tones. On the other end of the line, the receiver decoder would convert the signals into presentable screen formats (Schamber, 1988).

Cell-Phone.Telephone is replaced by cell phone as a newer form of overcoming the lack of direct contact between the teachers and learners but it may not have been adapted universally (Baggaley, 2008). In Asia cell phone is being used widely and educators have suggested the design and logistical principles for its use in educational systems (Librero, Ramos, Ranga, Trinona, & Lambert, 2007).

Audio-Text.Audio-text is a kind of technology in which the dissemination of text, particularly electronic word-processing and hypertext with sound and pictures are possible via the computer and telecommunication networks (Levinson, 1989).
Greenberger & Puffer (1989) describe a project using integrated telephone with computerized audio-text responses in which telemedicine is utilized.

Radio.Radio is an appropriate medium to present music performances, speeches, and discussions and the learners can record via radio and can develop their skills in their own location. Radio is specifically useful to teach philosophy, literature, history, language, and linguistics (Feasley, 1982; as cited in Gray, 1988). The classic literature show the film, television, taped lectures, and radio were common in instruction (Jamison, Suppes, & Wells, 1974), especially in 1940sstudents listened to presidential speeches or openings of the congress, symphony concerts, radio courses, social studies, and or news broadcasts (Reid & Day, 1942). The British Open University has used radio to distribute lectures, drama,

poetry, reading, and guest presentations (Gray, 1988). The University of Nairobi has used radio with its correspondence program successfully (Perraton, 1993).

In developing countries, radio is still one of the main media in distance education (Karim et al., 2001; & Reddi & Mishra, 2005).

Video Technology and Media.Television, satellite, direct broadcast satellite, cable television, closed-circuit television, asynchronous and synchronous, Podcast and vodcast, teleconferencing, microwave, interactive Video, teletext, videotext, computer internet, weblogs (blogs), electronic mail, chatroom, and multimedia are all different applied technologies and media in distance education. In a report from the Task Force on Distance Education and Training in Professional Psychology, The American Psychological Association (2002) mentions the application of varieties of media in distance education are: television and computer in their newest forms (satellite, microwave, cable-television, interactive TV, television, direct broadcast satellite, and computer). In addition to television, film was the common medium in instruction (Jamison, Suppes, & Wells, 1974). Video was also mainly used in therapy teacher education, and in teacher training as self-confrontations in which individuals recorded them and played it back for further studying (Fuller & Manning, 1973).

## Television and Satellite

Television is a complementary learning medium which interacts with learners and influences the structure of mental representations and cognitive processes of the learners (Kozma, 1991). Television courses can be presented in two basic forms: long range transmission (satellite) and short-range transmission (cable) (Eisele & Eisele, 1990). Television transmission is usually a one-way video or a two-way audio interaction by phone. Film, filmstrip, and video are usually applied as the helping-aids in distant teaching, but because of the easier use of video distribution, video itself can record filmstrips and slide images/still pictures as well as moving pictures (Kemp & Smellie, 1989). In the classic literature of application of video in classroom Fuller and Manning (1973) show that teachers almost at every level and every discipline have been using videotapes of themselves.

In the United States, millions of students enroll in television courses produced by colleges and universities, and satellite television networks are utilized to deliver vocational training to employees throughout the world (California Distance Learning Project (CDLP), 2005).

Satellite is an easy, flexible, relatively inexpensive method of transmitting information from one long distance to another (Gross, 1983 & Board of Governors, State University System of Florida, 2008). It can be used to transmit any information, including voice, data, and video, and can meet rapid expansion of telephone, television, teleconferencing, electronic mail, data communication, and others (Wedemeyer, 1986). In satellite transmission a space station is used to relay signals. A large station dish is placed on the ground to send and receive signals to and from satellites (Oakey, 1983).

Because of the satellite usage in eleven campuses of Tiffin University, its student population has risen by more than 50 percent between the years 2003 and 2008 (Blumenstyk, 2008).

Direct Broadcast Satellite.Direct broadcast satellite is intended to disseminate information directly from the satellite to home receivers, but, at present time, people can receive signals by placing a satellite dish in their backyard or on their specifically designed computers which are utilized as mass storage devices (Meadow, Singleton, & Gordon, 1983).

Pemberton, Fallahkhair, and Masthoff (2005) developed a project in which they showed interactive television(ITV) and direct broadcast have great potentials in teaching second language. They also pointed out that the conjunction of the ITV with cell phone can facilitate the informal language learning.

## Cable Television

Cable television is a form of transmitting information in short distances through coaxial cables which disseminate messages in higher fidelity than regular telephone wires. Local television stations, local radio stations, pay cable services, and basic cable services use wire to transmit their signals. The signals are received from broadcast antenna and from satellite by cable facilities and then these signals are

placed on buried cables under the ground or strung on telephone poles and passed through houses or a particular neighborhood and then attached to any individual television. People who pay a fee can receive the signals (Gross, 1983).

Cable television has wide application in education. Japan uses it to disseminate instructional materials (Wedemeyer, 1986). One-way video/two-way audio is a system in which television pictures are transmitted to particular sites where people can reply to the broadcasters with a telephone call-in system. Television pictures can also be transmitted in two directions simultaneously through telephone lines so that teachers and students in one place can see and hear teachers and students in other places. This video-conferencing technology increasingly uses the internet and is being used by businesses and university level learners in the California Distance Learning Project (CDLP), (2005).

## Closed-Circuit TeleVision

Closed-circuit television (CCTV) is a kind of cable television in which two short distances are connected by cable. It can be a simple two-room hook up or a multi channel statewide interconnection (Burrows & Wood, 1982).

In closed-circuit-television, a limited number of users have access, and it can specifically be appropriate for educational applications, fires, floods, and security systems (Meadow et al., 1983).

Homes have become classrooms for children and adults and new delivery systems have stimulated the development and use of technological applications for teaching and learning. Foremost among them are wireless devices, such as laptop and handheld computers. Video materials are increasingly being delivered by a variety of distribution systems, such as video streaming on the Web, video conferencing, synchronous teaching and learning by closed circuit broadcasting, and satellite television systems (Ely, 2002).

## Asynchronous and Synchronous

In asynchronous courses, students have a flexible environment in which self-paced learning is provided by using a variety of tools, such as CD-ROMs, streamed prerecorded audio/video web recordings, and audio podcasts. In synchronous courses, students have online learning environments in which self paced learning is very interactive when using web conferencing products, such as live presentations and live classrooms, Adobe Acrobat Connect Professional, and other features which help the interactivity. A study compared these two ways of distance educations. The results of this analysis suggest that both types of lectures are effective in delivering online instruction, but they also emphasize on the importance of interactivity and increased level of technology skills (Skylar, 2009).

Another study was done on 180 teacher education students (151 females and 29 males) in asynchronous and synchronous ways. Findings showed, regardless of gender, that two-thirds of the participants preferred asynchronous modes over synchronous ones (Lin & Overbaugh, 2009).

## Podcast and Vodcast

Podcast is a form of technology in which audio, video, text, and other media files can be played on a computer or downloaded to MP3 players (Sprague & Pixley, 2008), and it is a popular medium specifically for accessing and assimilating audio information (Copely, 2007).

In a study, the opinions of Aston University students were asked on the (audio) podcasts and the (video) vodcasts and how well they met the requirements and aided learning processes. Overall, students indicated that podcasts and vodcasts were two beneficial resources for learning, particularly when used in conjunction with lecturers' slides and as tools for revisions or assessments (Parson, Reddy, Wood, & Senior, 2009).

## Teleconferencing

Teleconferencing is an integration of computer with telecommunication systems in which private companies, corporations, or organizations take the advantages of meeting together through electronic

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equipments. Teleconferencing is used in its two forms: video conferencing and computer conferencing. In video conferencing, meetings, discussions, and distant classes are held across the country or around the world by using a microphone, television camera, and television equipment. Satellite dishes and time are rented, too (Meadow et al., 1983). Teleconferencing is a form of group-based distance education in which some argue it creates the essence of traditional classroom (Bernard, et al., 2006).

After correspondence courses and audio-conferencing computer based training for individualized instruction, computer conference (Kear, 2001) or electronic forum is the newest form of delivering instructional materials in distance education (Patriarcheas & Xenos, 2009). There is a kind of e-mail which provides electronic mail, search (organizing factors/branching), file transfer, and editorial services. The interchange of messages among scattered users/learners on a particular topic takes place via computer networks (Romiszewski & Haas, 1989).

Videoconferencing enhances collaboration among online learners in an open learning context and encourages collaborative group work (Tomadaki, Quick, & Scott, 2008).

Microwave.Microwave transmission is a wireless form of transmission which is very similar to satellite distribution, but it has some limitations in which signals are sent from one microwave dish to another via line-of-sight. And an earth dish is placed on a high tower to avoid obstructions against received and sent signals (Gross, 1983).

A study was done in Boise State University in Idaho, the U.S.A. to explore the delivery methods. Data showed that the distance courses, enrollments, and credits were more than doubled between the years 1995 and 2000. The delivery methods included telecourses (public television with a limited number of live class meetings), the Knowledge Network (live broadcast to limited distribution sites and homes through wireless or wired cables by microwave), the Higher Education Network (broadcasts through the statewide analog microwave system), the Internet, radio, videoconferencing, and videotape (Belcheir & Atkinson, 2000).

Interactive Video.The optical video disc is an ideal instrument for instructional and reference purposes (Meadow et al., 1983) and combinations of microcomputer and/or cable television provide an interactive visual teaching system in which user/learner has an interaction from home to the broadcasting station. What makes the video displays interactive is the possibility for the learner to address the locations within a computer program, to find needed information to respond to the learner's questions (Eisele & Eisele, 1990).

Interactive videoconferencing (IVC) consists of live, synchronous audio and video communication through a computer or digital phone network among sites in different physical locations. It provides increased learning opportunities, enhanced student motivation, and a two-way instructor-student communication (Dal Bello, Knowlton, & Chaffin, 2007).

Computer.The computer as it is known today was developed in the 1940s. As a result of technological developments over the past years, computers have entered people's lives including film and television (Towhidi, 1986). Computer was introduced to the field of education in 1970s and its first applications were programming and later became the tutor or an aid to teachers (Fouts, 2000).

Computer technology is a suitable tool to present repetitive, drill-type exercises in mathematics or language learning, to create simulations in chemistry and biology laboratories, a source of advice on career decisions, to find relationship between learner's achievement, aptitude, interests, and success in the various fields; and to use the computer itself (to learn applies soft wares (Leffrancois, 1999). Teletex, videotext, e-mail, audiotex, teleconferencing, videodiscs, optical technologies, and interactive video are all applications of computer technology and are considered as an integrated importable of telecommunication technologies. Now, most of the educational systems have great tendencies to use multi-media systems with a mixture of audio and video (Malhotra & Erickson, 1994).

Teletex and Videotex.Teletex and videotex are two systems of transmitting electronic messages of text and graphic materials. There are two types of transmissions: one-way and two-way delivery systems (Wedemayer, 1986).

One-way delivery is known as teletex which is also called broadcast videotext. In this kind of delivery text and graphics are transmitted over the unused portion of television signals. It is a useful service as an encyclopedia, bibliographic search tool, and bulletin board (Gayeskie, 1989). Two-way delivery of text and graphics is known as videotext/videotext, view data, and interactive videotext (Wedemeyer, 1986) in which the message is sent over telephone lines (Gayeski, 1989).

Electronic Book and Electronic Library.Electronic book or open textbook is an open educational resource (OER) in which printed form is digitized and is available to all distant learners. It is usually supplied by the publisher, along with the printed text (Lo & Dale, 2009; & Matkin, 2009).

An important aspect of a distance education system is having computer networks, multimedia, search engines, electronic libraries, specifically in medical universities (Rokni, 2005 and Tang, 2009).

Internet.Adult basic education in distance learning is changing significantly from a low tech video based instructional system to the interactive internet. Distance education utilizes computer conferencing on the World Wide Web or internet in which teachers and students are able to present text, pictures, audio, and video. File sharing and communications tools like e-mail, chats, and audio and video conferencing are integral to the Internet model. At this time, the British Open University offers a master's degree in the field of "Distance Education" to anyone in the world who has access to the internet. The American Distance Education Consortium (ADEC), the Distance Education Clearinghouse Web sites, and many other sites which can be found on routine internet searches, introduce colleges and universities that offer distant degrees (California Distance Learning Project (CDLP), 2005).

Weblog.World-Wide-Web is complemented by e-mail, instant messaging, chat rooms, internet phones, video-conferencing, net meeting, weblogs (blogs), and many other systems of communication(Perrin, 2006). Students usually use the webs mainly as an information resource and learning support (Kuiper, Volman, & Terwel, 2005). Blogs are designed for directed and orchestrated activities. Learner focused tools and their companions (such as multimedia podcast and videocast) allow low cost or free personalized publishing and retrieval of content created by anyone. It is easy to use, customized in terms of look and feel, content, target audience, and hyperlinked to other contents on the internet (Cameron & Anderson, 2006).

Web-based multimedia involves more than one modality, or delivery media presentation, and/ or presentation mode (Mandernach, 2009). Many universities provide the video content of some lectures to extend their classes beyond the campus (Marchionini, 2008).

In computer conferences, the conference space or blog space can be used to present all kinds of writings, such as reports, reviews, debates, stories for instructor, or peer comments. Distance education systems utilize weblogs which empower and motivate teachers and make learners reflective and connected practitioners in new knowledge environments (Farmer & Bartlett-Bragg, 2005; as cited Cameron & Anderson, 2006). Blogs are designed for directed and orchestrated activities. Learner focused tools and their companions (such as multimedia podcast and videocast) allow low cost or free personalized publishing and retrieval of content created by anyone. It is easy to use, customized in terms of look and feel, content, target audience, and hyperlinked to other contents on the internet (Cameron & Anderson, 2006).

Electronic Mail.Electronic mail is a form of teletex and is a general name for electronic transmission of message in which the message is digitally transmitted (Meadow et al., 1983).

Poling (1994) explains that e-mail can be effective as a teaching tool for the following issues: "answering directed questions of students, counseling, giving class assignments, making general class announcements, giving occasional quizzes, establishing direct communication with a particular student;

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posting grades, giving helpful hints about homework or upcoming quizzes, introducing texts, and out ruling excuses for missing class".

Students' advising, registration questions, scheduling, questions on instructional materials, and personal matters can be done through e-mails (El Mansour, 2006). The National Center for Education Statistics (Parsad & Lewis, 2008), in their statistics for the 2006-2007 years, showed that distance education postsecondary degree granting institutions used e-mail as a technology or medium for instructional deliveries. E-mail is a medium by which students can send messages and questions to their instructors or their fellow classmates (Edvardsson & Oskarsson, 2008). Vooice mail is also an effective tool in learner/instructor conferences and parent/teacher communications (Yoakam, 2001).

Chatroom.Both Web and Chatrooms can function as supporting technologies to compensate for the relative lack of physical space where the teacher and the class members usually come together to discuss courses of distance learning (Knebel, 2001). Twomey (2002) suggests an open chatroom to be used as one of the virtual teacher training center elements, along with other components within the instructional site (components like: extensive list of resources, tools for students' self-evaluation, teacher's evaluation of students, online grade books, and places for announcements). Chatrooms could be used for foreign language learning (Fabos & Young, 1999).

## Multimedia

There are different yet similar definitions for multimedia. Doolittle (2002; as cited in Mandernach, 2009) defines it as presentation of instruction that involves more than one delivery media, presentation mode, and/or sensory modality. Schwartz & Beichner (1999), as cited in Mandernach (2009), mention that multimedia is multiple forms of media presentation. Mayer (2001) refers to multimedia as combination of sound, picture, text, and etc together; teacher, board, film, and etc together; and any computerized software that would combine of audio, video stuff. Maddux, Johnson, & Willis (2001), as cited in Mandernach (2009), say multimedia is a text along with at least one of the followings: audio or sophisticated sound, music, video, photographs, 3-D graphics, animation, or high-resolution graphics. The common thing among these definitions is this issue that all multimedia definitions include, but are not limited to, a text in combination with graphics, audio, music, video, and/or animation.

Although some Asian countries may use traditional media in their distance education systems but there are many Asian countries that are using multimedia successfully (Reddi & Mishra, 2005). Ellis (2004) developed a model to test the effectiveness of multimedia in learning on private college students attending one of three classes. The results show that multimedia is an effective tool in learning. Neo and Neo (2009) also did a research on Malaysian students' perceptions designing a multimedia constructivist-based project. The findings show the multimedia is an effective tool in teaching, learning, critical thinking, and acquiring communication skills.

Arroyo, Beck, Beal, Wing, & Woolf, 2001; Arroyo, Beck, Woolf, Beal, & Schultz, 2000; as cited in Aleven,Stahl, Schworm, Fischer, and Wallace (2003) did a study on the effect of level of interactivity of hints on a multimedia interactive learning environment (ILE). The findings show gender has a role in learning in multimedia social context. The boys benefited more from the shorter and less interactive hints and their self-confidence declined when they worked with the more highly interactive version but the level of interactivity did not affect girls' self-confidence and they did better when supported by more interactive help.

## Problems in Developing Countries

Distance education system has been used in both advanced and developing countries but in regard to the degree of advancement, countries benefit the system and the technology associated with it. The statistics show the more advanced the country is, the better chances it has for improvement (Sharma, 2003).

Developing countries have severe educational problems which postpone their improvement and keep them behind. These problems are: high population growth, disparities between urban and rural areas,

lack of enough teachers (specially the skilled ones), school graduated unemployment, high illiteracy rates, high school dropout rates, and heavy reliance on foreign aid and personnel (Wells, 1976; de Moura Castro, 2004; & Gueye, 2007). Lack of resources, tight budget and high costs of developing distance education structures are many of the other problems which developing countries are facing (Tsang, 1988). So, any country which decides to imply the system of distance education should consider its strengths and facilities to utilize the needed media and methods.

## Summary and Conclusion

Distance education is a kind of education in which teacher and learner are separated and instructional materials are carried through telecommunication systems. Many universities across the world have used this system of learning and have had successful experiences with it. While using distance education, there are limitations, strengths, and affecting variables that should be considered in advance.

In distance education teaching and dissemination of instructional material to the learner, appropriate media should be chosen. Print media (textbooks, study guides, study aids, and newspapers), audio media (Audio-books, audio-cards, records, audio-cassettes and reel-to-reel audiotapes, audio compact-discs (CDs), telephones, cell phones, audio-texts, radios), and video media (Televisions, satellites, direct broadcast satellites, cable televisions, closed-circuit televisions, asynchronous and synchronous Podcasts and vodcasts, teleconferencing, microwaves, interactive Videos, teletx, videotext, computer internets, weblogs (blogs), electronic mails, chatrooms, and multimedia) are used to convey messages to achieve specific educational objectives.

Advanced countries have more opportunities for improvement than developing countries. Underdeveloped countries have some problems in utilizing a distance education system because they are handicapped with over population growth, remote and separated rural areas, lack of enough unskilled teachers, excessive school dropouts, high illiteracy rates, and not enough resources.

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