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FACTORS AFFECTING the APPLICATION of INFORMATION and COMMUNICATION TECHNOLOGIES (ICT) in DISTANCE EDUCATION

(A CASE STUDY OF TURKEY)

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ABSTRACT

The aim of this study is to determine the factors and problems associated with the growth of Information and Communication Technologies(ICT)in developing countries and examine the Turkish distance Education System from the point of the factors such as cultural;political;economic;technological..The study,firstly,introduces some applications and problems of instructional technology and distance education in some developed countries and Turkey as a developing country;than examines Turkish distance education system,Open Education Faculty(OEF),from the points of factors such as cultural,political,economic and technological.

Key Words: Instructional technology; distance education; Open Education Faculty; Turkey; Developing countries

Introduction

The term, discipline, is usually reserved for areas of inquiry and application that have been established over time and follow established paradigms. There is likely to be a consistency in their basic beliefs, rationales and common principles that define the scope and structure of the discipline. The terms of identity related to this article, "instructional technology" and "educational technology", are still used interchangeably even though official definitions of each are somewhat different.

Instructional technology, according to the current definition of the Association for Educational Communications and Technology (AECT) is "...the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning" (Seels & Richey, 1994).

It does not matter that whatever as is named, distance education is not a new concept. It is widely used in all over the world today, in such countries as the The United States, Canada, Australia, Russia, India, most of African countries and like England, Germany, Turkey, Sweden, The Netherlands in Europe and Eastern European countries as Poland, Hungary and Romania etc., since nearly more than hundered years. Its mean is distance education's roots virtually, goes back to nearly 150 years (Demiray,1997).

Rajesh (2003)examined the problems associated with Information and Communication Technology(ICT) adaptability in developing countries in the context of distance education.He said that the communication technologies had come to play a vibrant role in democratizing education not only in the developed but also in the developing countries.The problems associated with the growth of ICT that had been focused upon in his study were the political,economic,cultural and technological factors.

In the 1930s, Turkish schools had teaching materials such as maps,laboratory equipments,and film strip projectors for instructional use.Until the 1940s,mostly printed instructional materials were used in schools.Between 1950 and 1970 ,schools had technologies such as audio cassettes and overhead projectors.Distance education was first introduced to students in Turkey in 1974.During the 1970s,several new teaching materials were provided for schools and introduced to teachers.In addition,some big universities started to offer graduate programs aimed at training professionals in the field of educational

technology.Though some of these traditional technologies are still in use to prepare students,educational polocy makers in Turkey belive that schools must give students the knowledge and the skills they will need in the future.Because of this,computers have gained more importance than any other educational technology.

Although the distance education implementation in Turkey started in 1982, the discussions about distance education in general took place as early as 1927. This concept was thought to be beneficial in increasing the literacy rate among the citizens in Turkey. In those years, the other countries had already initiated the education through correspondence by mail. Due to the common belief that people can not learn reading and writing without a teacher, the idea of distance education was not considered in Turkey until 1956.

Between the years 1927 and 1955 the distance education merely remained as an idea. The first distance education project was initiated at the Research Institute of Bank and Trade Law, Faculty of Law, Ankara University in 1956. In this implementation, the bank employees were educated through correspondence by mail. In 1961, The Centre for Education through Letters was established as a sub-organisation of Ministry of Education, Turkey. This scheme targeted people who wish to complete his/her secondary education without attending courses. These attempts were extended in 1966. The establishment of Advanced Teacher Education School followed it. Later on in 1975 and 1978 two attempts to establish an "Open University" were unsuccessful. In other words, in Turkey, "Education Through Letters" (called in Turkish as being YAY-KUR) was implemented as a correspondence education. However, required efficiency and success were not attained.

Turkey has a very visible and distinguished international presence and has one of the best known distance education programs in the World. John Daniels (1995), in his book named The Mega-Universities and the Knowledge Media describes Turkey as having one of the ten largest distance education institutions in the World. Mega-universities are schools that enroll over 100,000 students each year. Countries other than Turkey having mega-universities are China, France, India, Indonesia, Korea, South Africa, Spain, Thailand, and the United Kingdom. These countries have all achieved remarkable success in increasing student numbers dramatically while lowering educational costs (McIsaac, 1996).

McIsaac (1996,.XXXI) determined that countries like Turkey that have had large scale and successful experience with distance education, could move forward with creative

solutions to new problems and this was time for Turkey to capitalize on past successes and look toward becoming a leader in pioneering learning at a distance.

Review of the Turkish Distance Education System From the Point of the Factors Affecting Applıcations of Instructıonal Technology in Distance Educatıon

In this section of our study ,we shall review the Turkısh distance education system from the point of the cultural ,technological,political and , economic factors affecting applications of information and communication technologies(ICT) in distance education;

1.Cultural Factors

Culture is a complex whole that includes knowledge,beliefs,arts,morals,laws,customs and any other capability and habit by a human being as a memeber of the society.Language is one of the major factors that hinder the easy assilimilation of ICTs by many developing countries. This hinders transfer of technology. The radio and TV programmes, computer software and the printed texts are produced in different countries bearing different cultural backgrounds. As such, such tools may fail to impress students of another country..

With regard to cultural patterns there are two groups of policy makers. Policy makers can be pro-implementation or anti- implementation. It is precisely the cultural moorings of a society that makes people either in favour of implementing technology or to reject it. Again, in recent times it has been seen that the culture of class room teaching and learning has been so strongly built into the psyche of the teaching community that they often exhibit resistance in the way of implementing technological change that forces a change in the role of the teacher from being a store house of all learning to a manager of the teaching-learning process.

Guy (1991,163) advises that “it may be more appropriate to identify the cultures of the learners prior to the development of an institutional response so that it is sensitive to those cultural forms” .Cultural context is a critical ingredient in the development of Turkish distance education programs,so, now let’s we examine the socio-cultural context in Turkey;

Numerous researchers support the importance of understanding a culture and ways of learning, before implementing a solution: Ong (1982, as cited in Murphy 1991b) reports that Turkey’s roots in an oral tradition, along with its emphasis on rote memorization and the

sacredness of text, make independent textbook learning less suitable. Ong suggests that "those who live in cultures with strong oral roots are [more] likely to express themselves in terms of practical situations rather [than] in abstract terms". These types of learners are doomed to failure in unstructured environments.

Gunawardena(1996,277) notes that in Turkey, there is a high degree of power distance, high level of uncertainty avoidance, low degree of individualism, and a higher degree of feminine values such as quality of life, interdependence, and service.

Understanding the sociocultural context is key to developing appropriate support systems for distance learners. In her study of the sociocultural context of Turkish distance learning, Murphy (199la, 225) observes that "two elements of the Turkish culture - patronage and an oral tradition seem to play a significant role in distance learning even in modern Turkey.". Patronage systems which foster values of obedience, honor, and respect for authority, are evident in Turkey's educational system through students' respect and loyalty toward their professor and bonds of friendship and mutual assistance among classmates. She further observes that Turkey's roots in an oral tradition imply that people are likely to express themselves in terms of practical situations rather than in abstract terms.

Traditionally, the Turkish sociocultural context has been characterized by close interpersonal relationships (Imamoglu, 1987; Kagıtcıbası, 1984), The individual has a network of close ties, including the nuclear family, relatives, and close neighbors (Imamoglu, Miller, Imamoglu, & Kuller, 1993). The traditional socialization processes emphasize obedience, closeness, and loyalty to parents rather than independence and self-reliance (Imamoglu, 1987; Kagıtcıbası, 1973, 1984). For example, by comparing the values of Turkish and American university students, Hyman, Payaslioglu, and Frey (1958) reported individualistic, or personal, values to be more prevalent among U.S. students, whereas loyalty to the family and to the society were predominant among the Turkish sample.

Moreover, in another study of values in Turkey (Imamoglu & Karakitapoglu ,1999), university students' value orientations in the 1990s included sociocultural normative, comfort-social recognition, love-peace, wisdom, stimulation-challenge, autonomy, arid self-respect-achievement orientations pointing to the existence of both individual and group-related concerns. In accordance with such studies, one might expect Turkish people to retain their

conservation and self-transcendence-related values but, at the same time, to assume more individualistic, achievement, and self-enhancement concerns.

Cultural context is a critical ingredient in the development of Turkish distance education programs.Turkey's roots in an oral tradition and patronage system along with its emphasis on rote memorization and the sacredness of text, make independent textbook learning less suitable .As Murphy(1996)said Turkey should use the instructional strategies and interactive technologies, like telecommunications, that are inspired by Turkish cultural context for enhance the interaction and designing media based support systems for Turkey.

2)Technological Factors

The situation reported by Orson and Greenbert (cited in Levira, 1997) innovations in instructional materials at the University of Nairobi presented a representative case study of media typical of most developing countries. A whole university that houses six colleges in different campuses had a single overhead projector, a single film projector and a photocopier in its media centre all of which are shared among the six different colleges .

It is illogical to expect any better situation in the elementary schools. The traditional media of printed text, the infamous chalkboard, a few models and teachers' own innovations such as straw abacus, and hand drawn graphics are a common scene in the elementary schools. In secondary and post secondary schools and colleges only one of each media equipment as reported by Orson and Greenbert (cited in Levira, 1997) above was not unusual. In fact, the responsibility for development and application of media is left upon teachers, with minimum support from school authority. Besides poverty, it could still be argued that there were causal administrative problems that could be discussed in four areas: low economic and technological development; lack of governing policies; excessive population growth and political instability.

The consequence of technological underdevelopment of the developing world is an obvious cause of failure in industrial fabrications for domestic educational media. In turn, the situation leads to high import dependency. It is not surprising, for example, that in many developing nations school materials such as laboratory equipment, chemicals, audio/visual materials and sometimes even paper are imported. The recent global economic recession is magnified in the economies of developing nations. As a result, education in developing

countries suffers cuts more than any other sector merely for the simple fact that it is always falsely considered as a non-producing sector. When budgets are so tight and priorities are difficult to define, media materials have always become most vulnerable. In turn, that incapacitates proper functioning of the school systems in general, and in particular, the teaching/learning process.

Once a technology is selected, there are certain other factors that need the concern of policy makers. Handling of New technology needs care and technical proficiency. For this training is an important aspect. Many developing countries lack enough personnel to train manpower in new technology. Moreover, constant retraining of manpower to acquaint them with changing technology is also important. These often act as constraints before the smooth growth of ICT.

Patsula(1999)suggested eight practical guidelines distance educators and online instructional designers can use to help select media to improve the quality of their programs;these guidelines were the following;cost;accessibility;social-political suitability;cultural friendless;openness/flexibility;interactivity;motivational value;and effectiveness.

These factors can help to select media of distance education in developed and developing countries.All factors above mentioned are very important but we want to mention about the interaction because as Patsula say(2002)interaction is an important part of all forms of learning and it legimitizes distance education;Forms of the interaction are the following;1.learner-content interaction;2.learner-teacher interaction;3.learner-learner interaction and;4.learner-technology interaction.

Learner-technology interaction is not part of the formal design of Turkish distance education (OEF) programs. But, while a well-developed distance education requires an infrastructure of telecommunications and information technology, Open Education Faculty (OEF) of Anadolu University system has a moderate infrastructure and great capacity and a well-developed distance education system. OEF, already, strives to employ some distance education one-way technologies, such as video, computer, Internet, in distance education processes. The major problem area concerned with the learner-technology interaction in OEF is to apply instructional strategies and interactive technologies that are inspired by the Turkish cultural context, practices, beliefs.

Learner support related to technology will depend on the type of technologies used in the distance education system. Garrison (1989) describes the development of distance education three generations of technology; the first generation uses primarily correspondence, delivered through the regular mail system. In this system the availability of interaction becomes critical. Thus the provision for interaction between the student and the tutor is important.

The second generation of technologies provide for real time interaction and are exemplified by audio, audiographics and video teleconferencing. Because these systems provide for real time interaction, what is critical is the quality of interaction. The third generation technologies are microprocessor based technologies such as computer conferencing. In these systems the quality of interaction with the group becomes important and support systems must facilitate the collaborative learning process.In some studies, technologies that deliver instruction to distance learners are often classified as two-way interactive or one-way non-interactive (Murphy, 1996).

Gunawardena (1996) observes that if telecommunication technologies are to be used to move distance learners from their dependency on instructors to take more control of their learning, then, adequate support systems must be provided to support these learners who have been influenced by the patronage system and oral tradition in Turkey.

Technologies used to deliver distance education programs in Turkey are typically one-way and she integrates technologies in distance education primarily by combining the one-way technologies of text and television. Turkey not using primary correspondence delivered through regular mail system still is not even in the first generation. Therefore, the main problem area is more the availability of interaction than the quality of interaction or quality of interaction with the group.

Learner-support related to technology is depend on the type of technologies used in the distance education system OEF. Learner-technology interaction is not part of the formal design of distance education programs of OEF. But in addition to the facilities for live TV broadcasting, research is being conducted at Anadolu University for the utilization of new communication and computer technologies in the distance education activities of Open Education Faculty. A videoconferencing center is established to use this technology for live lecturing and tutoring. Using internet as a medium for course material providing and

communicating with students is another goal to increase the quality and the effectiveness of the education. The computer supported teaching is being improved utilizing the capabilities of new multi-media computer technology

3.Political Factors

The perceptions and attitudes of a political system greatly affect the acceptance and growth of technology in any society. The same holds true for all the ICTs relevant to Distance Education. A political system conscious of the payoffs of ICT for the enhancement of the educational profile of a country will frame appropriate policies for the adoption and dissemination of ICT through out the length and breadth of the country. ICT should always be selected in accordance with its end result, that is the extent to which it can bring about positive pedagogic out comes.

The word is moving towards democracy.This form of social contact is definition based on the flow of infomation that is frelly and easily accessible the citizens of the country in question.The growth of ICTs will be generally welcomed in a democratic society, because, ICTs are known to democratize societies through wider dissemination of information. However, in a society in which an autocratic form of government prevails, growth of ICTs may not be viewed with favour because, greater access to information may encourage interest in creating more democratic space in the society.

The problem is that “there are significant levels of physical, linguistic, cultural, political and economic diversity within developing nations. The developing world lacks the relative homogeneity which characterizes students, systems and societies found in the developed world” (Guy 1991, 162). Thus, more and more, distance educators are being asked to design distance learning systems to suit local environments in an effort to solve the political problems unique to each nation.

Distance education initiatives must carefully work under the political policies of existing governments.Many nations are also eager to participate in world trade and become more prosperous. However, political and social organizations within the nations may be concerned about globalization as a threat to their way of life. They are faced with the dilemma: we access the world, but the world invades us (Evans 1998).

The Directorate General of Press and Information on the Turkish Republic pamphlet <<Education in Turkey>> cites the following Turkish educational goal :

Education in democracy: Efforts will be directed towards instilling in students the required knowledge for democracy; to create a society that is strong, suitable, free and democratic, with citizens possessing the necessary knowledge relevant to administering the country, with developed feelings of responsibility and respect for moral values.

The growth of ICTs will be generally welcomed in Turkey as a democratic country, because, ICTs can democratize Turkish society through wider dissemination of information.The political organizations in Turkey should be concerned about globalization as a threat to their way of life.

4.Economic Factors

In distance education, cost is an important factor that guides the adoption and growth of communication technology in a country.The democratic society continously requires qualified and component citizens.Even most developed countries can not allocate sufficient amount of their budget for meeting the increasing demand in education.A series of studies of experts from Europen showed that the costs of distance education are almost twice cheaper than the traditional one.Therefore,the modern society need a lifelong education for its citizens that could be performed through the distance education system.

Developing countries often lack the initial allocation as well as matching funds to make feasible investments in ICTs. Many countries often acquire costly technology without making provisions for building sufficient infrastructure to run them.

Most developing countries are constrained by resource scarcities. Even where the importance of ICTs is recognized, allocation for the development of these is at best paltry. Due to this, many developing countries are forced to depend on mostly traditional means of communication. These are limited in their efficiency.

The Developing countries are vitally dependent on substantial foreign assistance to ensure the development of ICTs. Often it is found that it is very difficult to invite the attention of donors on ICTs. These countries are perennially short of Foreign Exchange for acquiring latest technologies. Most of the developing countries are undergoing Structural Adjustment

Programmes under the auspices of the IMF.

Cost-efficiency of an ICT is another major factor that is important that determines its growth. Developing countries have to ensure that such a technology is adopted that is easily accessible to the target group and also fulfills all the functions that are expected of it. Such a scenario essentially implies that a costly technology need not always be the best technology. However, it is often seen that Developing Countries often invest in the latest technologies without considering whether the target audience is effectively reached or whether the target audience is interested in the technology.

Economic factors also affect the application of new ICT in distance education.Developing countries have a constant paucity of funds especially for the application of new ICT in distance education.

Like other Turkish public universities, Anadolu University and its distance education branch, the OEF, are financed by the government. All academicians and administrators' salaries are paid through government funds.Expenditures for all OEF operations including printing books, television and radio productions, mailing, examination costs, administrative costs and salaries come from Anadolu University's operating budget. Revenues to the university come from government allocations, foundation income and student fees. Although the percent from each of these areas can vary from year to year, the majority of the income comes from the government.

Murphy (as cited in Eastmond 1994, 88) reports that the Turkish Open Education faculty was able to provide distance learners with a university education, judged at roughly one-sixth of the cost of providing a conventional university education.

Turkey as the other developing countries is undergoing Structural Adjustments Programmes under the auspices of the IMF and is constrained by resource scarcities .It is forced to depend on mostly traditional means of communications.Distance education in Turkey is predominantly a government financed activity and its expansion owes much to the willingness of Turkish governments to support distance education

The perceptions and attitudes of Turkish political system greatly affect the acceptance and growth of distance education technology.It is obvious that the attitude of Turkish policy makers is a very important factor that can affect the growth of communication technologies of distance education in Turkey.

CONCLUSION

There are very important problems that hinder the growth of new information and communication technologies in the developing countries.In any developing country, political ,economic,cultural,technological and,human and administrative factors can play a major role in the growth of information and communication technologies .The growth and application of new information and communication technologies in the field of distance education in developing countries is fraught with immense difficulties

Because of the speed with which distance education (open education) was conceived and implemented there have been problems not unlike those faced by other developing countries. Although Turkey considers itself part of the European community, its educational problems place it rather with its Asian neighbors.

Today ,two great challenges face Turkey;1)fully integrating into the word economy , 2)accelerating its economic and social development.Turkey,such as the other developing countries is undergoing structural adjustment programmes under the auspices of the IMF.In Turkey,distance education such as other developing countries is predominantly a government financed activity and its expansion owes much to the willigness of governments to support distance education.The single greatest obstacle to full implementation of open education in Turkey is lack of resources.

The perceptions and attitudes of Turkish political system greatly affect the acceptance and growth of distance education technology.It is obvious that the attitude of Turkish policy makers is a very important factor that can affect the growth of communication technologies of distance education in Turkey.

Cultural context is a critical ingredient in the development of Turkish distance education programs and two elements of the Turkish culture;patronage and an oral tradition seem to play a significiant role in distance learning even in modern Turkey.

Technologies used to deliver distance education programs are typically one-way(non-interactive) and Turkey integrates technologies in distance education primarily combining the one-way technologies of text and television .While a well deveoped distance education requires an infrastructure of telecommunications and information technology,Turkey already has a moderate infrastructure and a well developed distance education system,but,it is a very important problem to select media for Turkish distance education system and human and administrive factors play a major role in the growth of information and communication technologies in Turkey such as in other developing countries**.**

SUGGESTIONS

1)The appropriate governmental role in a developing country should be an evolving,adaptive one that responds to the country's training needs for instructional technologies,which will change as the country's level of economic and institutional development changes.

2)Despite the budgetary restrictions which confront all developing countries ,Turkey should seek new ways to use available technology in the most cost effective way.

3)Turkish distance education system should seek other new financial sources such as sponsors' funds,means proceed from the activities fulfilded by institution of distance eductionresources to support distance education.

4)In Turkey,novelty of an information and communication technologies should be the least important criteria that should guide the political society in deciding upon the information and communication that should be selected ,and distance education initiatives must carefully work under the political policies of existing governments and policy makers of Turkey.

5)To enhance the interaction and designing media-based support systems for Turkey,the instructioal strategies and interactive technologies ,like telecommunicationsthat are inspired by Turkish cultural context,must be used.

6)To select media for distance education is very important problem for Turkish distance education system,so,Turkish distance educators and on-line designers should take into consideration the following eight practical guidelines;1)cost,2)accessibility,3)social-political

suitability, 4)cultural friendliness,5)openess/flexibility,6)interactivity,7)motivational value,and 8)effectiveness.

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