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Investigate the role of information and communication technologies in the educational environment

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ABSTRACT

Developments in ICT Drsrhazr is natural and inevitable. Educational system as an effective and sensitive agencies, is not immune from these developments and their needs and to coordinate with it. Since the reform and restructuring and innovation in education is a fundamental necessity in today's world. In this regard, changes in curriculum content and orientation of the issues that underlie the principles and framework of the modified learning environment in many countries. The approach described in this study - a survey of the quality of the model curriculum Francis Klein examines the role of information and communication technologies in the educational environment is discussed. The statistical population included all faculty and doctoral students in the field of Curricula and Educational Technology, University of Tehran is selected. The research instrument was a questionnaire that included the 9 components) the purpose, content, learning activities, roles of teachers, materials and resources, grouping, location, time, measure) and 42-item Likert scale which developed after , its validity and its reliability was confirmed by Cronbach's alpha formula 960/0 was calculated. Data analysis methods, descriptive statistics (frequency, mean, standard

deviation) and inferential statistics (one-sample t test, ANOVA and Duncan's post hoc test) was used. The results of this study indicate that the role of information and communication technologies in improving further the goals of the other components are. ANOVA results also indicated that the role of information and communication technologies, there is a significant difference between test components 9.

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1. Introduction

The appearance of new technologies, especially ICT, and phenomena like globalism, the accelerate flow of developing information and science and severe competition at national and world dimension, are among the features of Information Age. Now, science is considered as the most fundamental principle and it is assumed as the most important source of power and a gateway to the increasing development. Because of these changes and evolutions, the men dependence on science and technology is more than any other time as much this could be claimed that many aspects of human life directly or indirectly have been affected by science and technology and the extension of science and function of technology as a marginal and luxury issue has been changed into a necessity for multidirectional development (Maniei Reza, Lux Caro, Farasatkah Maghsoud, 2009). As using these technologies in all aspects of human life, the world is rapidly changing to an informational society (Asadi Ali, Karimi Asef, 2009). By raising the fast and increasing evolutions in societies, the function of education has been different, and also complicated (Tajabadi Reza, Ranjbar Safarali, 2006). Upon the arrival of ICT in this management era, the management of classes has been completely changed and now it is carried out through a research-oriented approach as well as an all-embracing-oriented one. So, now, the duty of tutor would not be just accumulating and transfer information, but she/ he should undertakes various duties and be a person with different skills. So he/ she should be just like supervisor, expert, student counselor, guide, organizer, manager, leader and an aid in psychology. The limited and confined pattern of educational sources and the traditional methods of learning have changed into an extended, open and unlimited one. Now, teaching and learning is free from the limitation of time and place and have brought strategic results to educational system. The scholastic materials adapted from technology possess a mobile and multidimensional nature and their planners' approach is procedure-oriented not content-oriented. The influence of arrival and presentation of ICT on the various aspects of educational system has been considerable so much that new shapes of activities, concepts and terms were invented by applying these technologies. The authors and tutors of academic materials more than any other time need to new skills, abilities and attitudes for enjoying and suitable using of technology (Mohammadi Ali Mohammad, 2008). Moreover, the accelerate flow of appearance inventions in third millennium has increased so much that before the usage of a special technology completely becomes public and be extended, a more new and convenient production with better facilities and fewer costs is offered which overtake the previous inventions. So the traditional methods of teaching and learning cannot deal with the great mass of demand for teaching and learning. Digital-based education as a technique for transition to an informational society has been suggested instead of common education and it is different from common education in that it would be fulfilled among the most knowledgeable classes. It is natural that the educational system of state would be the first option to fulfill it, so educational system remarkably shares in this important and critical issue (Ashrafi Bozorg, Rajabi Ali-Akbar). Considering the noticeable function of technology in educational environment and that the scholastic material constructs a substantial part of educational environment, it is necessary to present some definitions about technology and academic program.

2. Review of related literature

The term of Technology in Latin means finding or making. Contrary to the imagination of majority of people, technology is not just related to the usage of machinery, but it is also usable in the organized application of the concepts of physical and behavioural sciences and other sciences for solving problems (Shahnaz Zofan, 2004); in other words technology is using scientific discoveries in the issues related to science (Razavi, Seyed Abbas, 2007). Curriculum is also a provided program with determined and suitable learning opportunities to attain principal and minor related objects that have been considered for particular schools and populations (Hoveida Reza, Molavi Hossein, 2008). Through reviewing the related literature of academic program, this would be comprehended that the academic programs consist elements that their proper combination and harmony with each other would guarantee the success of an academic program. Experts have not still reach an absolute agreement about the numbers of academic program elements. Jonson, Tyler and Klien respectively have considered one, four and nine elements. Taba and Eisner, each of them, have considered nine elements (Mehrmohammadi, Mahmoud, 2002). In spite of this, the classification of Francis Klien may be the most known offered interpretation of academic program elements which for the first time introduced a model under the heading "the Scholastic Pattern of Educational System" to academic programming which as a basis was used for measuring the concordance between different decisions made upon different elements of a program. This model consists of 9 variables including object, content, learning activities, grouping learners, materials and sources, time and place, function of tutors, and methods of evaluation. According to Klien as much as these variables back each other, the program would have a higher degree of internal concordance. Examining this issue is a kind of necessity because the educational system is among the largest parts which discover, save and transfer science and information. Surely, the arrival of ICT in educational area, this system would be subjected to radical changes and evolutions. So because of this issue, it is felt that the necessity of studying in this area is more than any other time. Investigating the function of ICT in educational environment and the method of using them for improving and advancing the quality learning and teaching also would have a great importance. Review of literature includes some studies concerning the topic of this research and among them the follow cases could be mentioned. A research under the heading "an investigation into the possibilities of using the new ICT in academic programming in higher education from the viewpoint of the members of scientific group of Shahid Beheshti university and the experts in academic programming" was directed by Fathi Vajargah and Azadmanesh (2006). The results of mentioned research indicate that the new facilities of ICT are applicable in the procedure of academic programming in higher education (Tajabadi Reza, Ranjbar Safarali, 2006). The results of a research conducted by Movahed Mohammadi investigating the function of news agencies and websites in education and research activities of PHD students of the faculties of agriculture in selected universities of Tehran indicate that using internet is effective in improving the quality of research and it motivates learners to learn and facilitates the access of learners to information (Movahed Movahedi, H, 2002).

The results of another research conducted by Oliver (2001) shows that education needs to tutors with enough information and to enable tutors to record their observations easily. The other factor investigated by Oliver is to make sure of the quality of teaching and learning. He concluded that the quality of teaching and learning depends on using methods derived from ICT. He asserts that ICT is the basis of education would lead to noticeable results. These technologies give tutors the opportunity to communicate with learners and provide them with more new information (Oliver R, 2001). Zhou Man-Shan conducted a survey to do a qualitative comparison between developed countries and measure the effects of its results on developing countries. Zhou, the director of the national center of educational researchers, investigated the application of ICT in scholastic education of developed countries, especially United States of America. Moreover, he noticed the application of ICT in the procedure of training tutors and this became an important strategy in developed countries (Zhou Man-shan). The results of another research conducted by Jillian Dellit show that the application of ICT in educational environment would reform and facilitate learning activity. Technology can provide us with the instruments to collect and analyse information related to teaching and learning in a manner that enable us to recognize students' needs and inadequacies of evaluation programs as much as possible. In order to apply ICT in this manner, it is necessary to make some changes in methods of teaching (Jillian Dellit). Present research investigates those factors which parallel with education, the exchange of ideas and cultures facilitate the function of ICT in elevating the quality of teaching and learning and assessment. Mann (1999) & West (2000) also

concluded that there are numerous evidences that show the application of ICT reform and improve learning and core skills. Geoff also conducted a survey of reforming the quality of education by efficient application of ICT. He referred to the function of ICT in improving the quality of education and the increasing tendency of educational system to the application of this technology. He also asserted that ICT could be suggested as a separate field in universities and be used as an academic source and tool for making new inventions (Mann, D. et al, 1999). The results of a research conducted by Jaffer et al (2007) in South Africa indicated that ICT could carry out different functions in education system. This research suggested some methods derived from educational technologies and necessities to improve long-term teaching and learning. This research also investigated the method in which ICT is the main principal of planning the elements of study. ICT was considered as a new method to access to information and change the relationship between tutors and students. ICT enables tutors to change the methods of teaching by simulating the subject matter of teaching in real world, discussing the students' ideas and provide them with the experience of authentic learning (Jaffer, Dick Ng'ambi and Laura Czerniewicz, 2007). Laurillard (2001) also believes that technological means should be fit for teaching and learning activities (Laurillard, D., 2001). O, Hagan (1999) also believed that educational technologies could provide students with opportunities to achieve common and authentic learning. Ng, ambi & Seymour (2004) also in a similar research reported that teaching with showing movies economize consuming time. The results of this research show how educational technology facilitates teaching and learning in large scale (Ng'ambi, D. & Seymour, L., 2004). Deacon et. al (2005) also in the case of using educational technology reported that ICT is used in movie and mass media to familiarize students with practical features including film manufacturing and compilation. Correct compilation was expensive and seemed inefficient in long-term. ICT through simulation provided students with suitable condition of learning (Deacon, A., Morrison, A. & Stadler, J., 2005). Another research about application of new technologies in teaching-learning process is a study conducted by Filsell & Barnes (2002) investigating the degree of learning changes generated by using new methods of teaching based on technology in Australia. Their object was measuring the effect of using technology on the output of teaching-learning process (Filsell, Jenny & Barnes, Alan, 2002). Dalziel (2001) in his research under the heading "strengthening learning based on the application of web" by using computer-based evaluation concluded that computer could be in the service of teacher. He applied computer-based evaluation to the pretest planned for the subjects and argued that using this method helps teacher to collect answer sheet as much as possible and identify their problems with learning. By using this system can take the essential measurements and reinforce the self-assessment skills of students, with simultaneous identification of problems of learning (Dalziel, 2001).

3. Materials and methods

With regard to the nature and the aim of present research, it has been conducted through survey method. The considered population of this research includes all the members of scientific group and PHD students in academic programming and educational technology of universities of Tehran (Shahid Beheshti, Allameh Tabatabai, Tarbiat Modares, Tarbiat moallem, Tehran University and Islamic Azad University in academic year 2010-2011). These universities were selected with considering some criteria such as precedence, having professors and students in specialty level of considered fields of this research. Because of limited numbers of population, a sample was not selected and research was conducted with all the subjects of population. Data collection was accomplished through questionnaires developed by researchers. Because there was not any standard and authentic questionnaire related to the topic of research, researchers themselves developed such questionnaires. To provide these questionnaires, specialized literature of areas related to the research and the questionnaires of other researches interviews have been precisely examined. Then, in order to plan and develop the questionnaires, through a case study, researchers interviewed ten members of scientific group and ten PHD students. After that the preliminary research has been conducted, the shape of questionnaires and some of questions were changed because of the pronounced ideas of professors and students and another questionnaire was planned according to the "quality of academic elements model of Klien" that consists two sections. The first section includes personal characteristics and the second section, research items (42 questions based on 9 elements). 5 questions have been allocated to the first element, 4 questions to the second element, 5

questions to the third element, 5 questions to the fourth element, 5 questions to the fifth element, 4 questions to the sixth element, 4 questions to the seventh element, 5 questions to the eighth element and 5 questions to the ninth element. This research accomplished through school survey and questionnaire. There were five options to answer every question based on Likert model including very much, much, moderately, partly, seldom. For these options numeric values from 1 to 5 have been considered. After the preliminary research was accomplished, the stability of the questionnaire has been proved by computing the Cronbach's α . 76 copies of questionnaire were distributed among subjects and 54 copies were filled and delivered at end. The results of research are based on the analysis of the data collected from questionnaires. The data collected from research questionnaires were investigated through matched-t-test (9 questions) and the analysis of variance (the tenth question). For comparison several elements with each other, the test designed based on the model of Daniken was used. The investigated questions of research would respectively be pronounced and the answers related to them would be analyzed.

4. Results

Demographic specifications in the questionnaire included the name of teaching place university, university ranking, and the field of study in university. Among 54 persons who have attended in this research, 29 persons equal to 56/9 % of total sample are male and 22 persons equal to 43/1% are female and 3 persons also didn't answer to the this question. 14 persons equal to 25/9% of total sample have doctorate and 40 persons equal to 74/1% are PHD student. 43 persons equal to 82/7% of total sample study academic programming as the specialized field and 9 persons equal to 17/3% study educational technology and 2 persons also didn't answer to this question. To investigate the questions of research matched-t-test was used and variance analysis test was used to investigate the tenth question.

Research question one: to what extent ICT is effective in improving the aims of the curriculum?

Table 1

The descriptive statistics curriculum goals.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
curriculum goals	54	4.185	0.537	0.073

Table 1.1

The goals of curriculum of t ; The results of the exam.

Variables	The number of population	Freedom degree	The significance level
curriculum goals	16.227	53	0.000

Table 1-1 shows that there is significant difference at alpha level of .05 between curriculum based on ICT and ordinary curriculum (t-value=16/227, p=.000, df =53). So, all the results indicate that ICT is considerably effective to improve the aims of curriculum.

Research question two: to what extent ICT is effective in the contents of the curriculum?

Table 2

The descriptive Statistics of curriculum contents.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
Curriculum Contents	54	3.681	0.537	0.073

Table 2.1

Curriculum Contents t The test results.

Variables	The number of population	Freedom degree	The significance level
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curriculum contents	7.424	53	0.000
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As we can see from the above table , the calculated t for the variable curriculum contents shows the significant value of 0.05 (t=7.424 and df=53) . Generally speaking , most of the research population do believe that ITC is greatly effective in the curriculum contents .

Research question three : to what extent ICT is effective in facilitating the learning activities?

Table 3

The descriptive statistics of the learning activities of the learners.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
Curriculum Contents	54	3.737	0.729	0.099

Table 3.1

The results of the t test of the learning activities.

Variables	T value	Degree of freedom	Significance level
The learning activities of curriculum	7.422	53	0.000

Table 3-1 reports that there is significant difference at alpha level of .05 between the ICT- based learning activities and traditional activities (t-value=7/422, p=.000, df =53). So, all the results indicate that ICT is effective in facilitating the learning activities.

Research question four : to what extent ICT is effective in improving the roles of the professors?

Table 4

The statistics of the role of the professors in curriculum.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
The role of the professors	54	3.989	0.757	0.103

Table 4-1

The test results of the role of the professors in curriculum t.

Variables	T value	Degree of freedom	Significance level
The role of the professors in curriculum	9.602	53	0.000

As it is clear in table 4-1, there is significant difference at alpha level of .05 between professors using ICT and other professors (t-value=53, p=.000, df =9/602). So all the results are favor in those professors who use ICT.

Research question five: **to what extent ICT is effective in improving the sources and materials of curriculum?**

Table 5

The descriptive statistics of teaching materials.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
Teaching materials	54	3.985	0.685	0.093

Table 5-1

The results of the descriptive statistics of teaching materials t.

Variables	The t value	The degree of freedom	The significance level
Teaching materials	9.602	53	0.000

Table 5-1 shows that there is significant difference at alpha level of .05 between the ICT-based sources and materials of curriculum and traditional sources and materials (t-value=9/602, p=.000, df =53). So, the majority results reports that ICT is considerably is effective in efficient application of sources and materials of curriculum.

Research question six : to what extent ICT is effective in grouping the learners?

Table 6

The descriptive statistics of learners grouping.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
The grouping of the learners	54	3.764	0.781	0.106

Table 6-1

The results of the learners grouping t: The descriptive statistics of learners grouping.

Variables	The t value	The degree of freedom	The significance level
The learners grouping	7.190	53	0.000

Table 6-1 reports that there is significant difference at alpha level of .05 between the learners using ICT and other learners (t-value=7/190, p=.000, df =53). So, the results of research reports that ICT is considerably effective in grouping the learners.

Research question seven : to what extent ICT is effective in the learning settings flexibility ?

Table 7

The descriptive statistics of learning settings flexibility .

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
The learning settings flexibility	54	3.889	0.856	0.116

Table 7-1

The results of the learning settings flexibility t .

Variables	The t value	The degree of freedom	The significance level
The learners grouping	9.602	53	0.000

As we can see from the above table , the calculated t show the flexibility of the learning setting with significant level of 0.05 (df=53 , t- 8/954) . In other words , the obtained results indicate that ICT plays a major role in shaping the time of the learning .

4.1. Research question eight: To what extend ICT plays a role in learning time flexibility

Table 8

The descriptive statistics of learning time flexibility

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
The learning settings flexibility	54	3.948	0.778	0.106

Table 8-1

The results of the learning time flexibility t

Variables	The t value	The degree of freedom	The significance level
The learners grouping	8.954	53	0.000

As we can see from the above table , the calculated t show the flexibility of the learning time with significant level of 0.05 (df-53, t- 8/954). In other words, the obtained results indicate that ICT plays a major role in shaping the time of the learning.

Research question nine: To what extend is ICT effective in measuring the learners knowledge ?

Table 9

The descriptive statistics of the learners' evaluation.

Variables	The number of respondents	Mean	Standard deviation	Standard deviation mean
The learners' evaluation	54	3.741	0.910	0.124

Table 9-1

The results of the learners' evaluation t.

Variables	The t value	The degree of freedom	The significance level
The learners' evaluation	8.982	53	0.000

As we can see from the above table , the calculated t show The learners' evaluation with significant level of 0.05 (df-53, t- 5/982). In other words, the obtained results indicate that ICT plays a major role in The learners' evaluation.

Research question ten : is ICT effective in improving the goals , contents , learning activities , the roles of the teachers , teaching materials , students' grouping , learning settings , and the evaluation of the learners' knowledge in a similar manner ?

Table 10

The table of Variance Analysis.

	QS Total	DF	QS Mean	F value	Level of Significance
Inter-group	11.549	8	1.44	2.551	0/010
Intra-group	269.88	477	0.566		
Total	281.437	485			

Regarding the level of significance in the analysis of variance table which was 0/010 and comparing that value with that of permitted error of 0/05 we can conclude that hypothesis is rejected . In other words , there is a significant statistical difference between the role of the ICT and the variables of : goals , contents , learning activities , the roles of the teachers , teaching materials , students' grouping , learning settings , and the evaluation of the learners' knowledge .So we used the Dunken test to find the differences .

Table 11

Dunken Table : The application of ICT.

Sub-Group	Sample	Variables
2	1	
4.1852	54	Goals
3.9889	54	The role of the professors
3.9852	54	Materials and sources
3.9481	54	learning time flexibility
3.8889	54	Learning place flexibility
	3.7639	54
	3.7407	54
		The learners' grouping
		The learners' evaluation

3.7370	54	Learning activities
3.6806	54	Contents

Regarding the obtained results in the above table, The mean of the objectives variable was 4.1852, The role of the professors 3.9889, materials and sources 3.9852, the learning time flexibility 3.9481, the learning setting flexibility 3.8889, the learners' grouping 3.7639, the learners' evaluation 3.7407, the learning activities 3.7370, and contents 3.6806 respectively. It can be seen that ICT has had more impacts on variables of objectives, the role of the professors, materials and sources, the learning time flexibility, the learning place flexibility.

5. Discussion

Nowadays in the early decades of the century and new millennium, human creativity and ingenuity has brought a new technology called ICT (information and communication technology). Although this technology has a much broader potential impact capacity than the past technologies, and educational systems can benefit from technological developments in the foundations and educational elements, but we have to avoid naive imagination when dealing with ICT and its capabilities. In other words, we have to ponder about the ICT (information and communication technology) capacities and capabilities, and then apply it in appropriate circumstances and priorities.

Based on this study, the present research project was done in order to show the role of the ICT in the learning environment. The findings showed that the first component of the study, which was related to the curriculum objectives, and the fourth component related to the promotion of the computer literacy of professors to enrich the curriculum and the first and second component regarding the use of electronic library resources and creating a website for professors to enrich the curriculum contents were the least and the most applied elements in this component respectively. The findings of this research along with the studies of Azadmanesh (2006) showed the feasibility of using ICT (information and communication technology) in the curriculum of higher education. Moreover, the research findings of Jeuf, Gillian Dylt, Manen (1999) and West (2000) were supported. They observed that ICT can effectively increase the quality of teaching and learning and played a major role in education including material development and planning. Jeffrey et al (2007) also got similar results.

Among the fourth elements of the second component regarding the curriculum contents, the ninth element the presentation of teaching materials using multimedia Cds and the sixth element the presentation of teaching materials in the form of style training program were the least and the most applied element in this component respectively. The findings of Jeuf, Gillian Dylt, Manen (1999) and West (2000) along with the studies of Azadmanesh (2006) Lvryald (2001), Ngamby Vsymvr (2004), Fylysl and Barnes (2002) supported the role of ICT in increasing and modifying the learning process.

Among the five elements of the third component regarding the learning activities, the eleventh element as to the presentation of curriculum materials in the form of group research and the element of thirteen regarding the creation of private Email for learners were the least and the most applied element in this component. The results of this component along with the findings of Movahed Mohammadi (2002) supported the idea that using internet has been effective in facilitating the learning process, improving the course activities, increasing the research quality increasing interest in learning, increasing interest in research, and rapid accessing to knowledge and information. In addition, the findings of Jefer et al. and Ogdan (1999) confirms the role of this component. They found that ICT provides valuable learning experiences for students and create an atmosphere for acquiring precise and common knowledge. Based on the findings of NeGambi and Simour (2004) and et al. (2004) the use of ICT removes the ambiguities of the learners and it is in line with appropriate learning situation. From among the five elements of the fourth component which was related to the role of the professors, the element nineteen which is related to finding information from technical sites and the element fifteen and eighteen dealing with holding computer classes for professors and the use of Email for communication among the students were the most and the least application in this component respectively. The results obtained from this component along with the findings of Azadmanesh (2006), Oliver (2001), Joman Shaun I Jafer and et al. (2007) and

also Dalsil (2001) show that ICT enables the professors to facilitate the discussion among the students by simulation in the real world .

From among the five elements of the fifth component regarding the materials curriculum contents , the element 20 which was the use of Electronic libraries (E-brary) and the element 24 which was the production of digital learning resources by the professors had the most and the least application in this component respectively. The results obtained from this component along with the findings of Jeuf , Jaffer et al (2007) show that ICT can be used as a tool for educational innovations . Moreover , the findings of Azadmanesh (2006) supported the important role of ICT facilities at the colleges and universities for students . The findings of Dick Ng'ambi and Simoor (2004) , Deacon et al. (2005) verified the effective role of educational technology in facilitating the teaching and learning process in classes .

In the fourth component comprising of 4 elements dealing with the grouping of the learners , the elements of 27 and 28 regarding the presentation of teaching materials in the form of educational games and participation in audio-visual conferences and the element 26 dealing with the forming of groups and internet forums were the most and the least important elements respectively . Jaffer et al . (2007) maintained that ICT are the state -of -the art ways of accessing the information and knowledge for students and create valuable learning opportunities for them . The results of their research are also consistent with the findings of the present study .

Regarding the element four of the component seven regarding the flexibility of the learning environment , the element 29 which was the creation of appropriate sites to deliver course contents and the element 31 which was the presentation of teaching materials in the form of educational games had the most and the least application in this regard .

From among the 5 elements of the component 8 regarding the flexibility of the learning time , the element 33 which was the creation of appropriate sites for presentation of teaching materials or establishment of university network and the component 34 and 37 regarding the presentation of teaching materials in internet discussion sessions and online exams through internet had the most and the least application in this component respectively .

The results of these two components along with the findings of Azadmanesh(2006) , Jaffer et al (2007) reiterate the importance of distant learning and innovative methods in teaching and learning. The findings of the present study was not in line with the results of Daliziel (2001) which used computer centered measurement to evaluate the learners and the use of this system to provide instant feedbacks for the learners .

6 . Conclusion

The results obtained from this study showed that the 9 components used have significant impacts on the improvement of learning environment . Therefore , we have to pay more attention to the use of these Information communication technologies . Moreover if any educational center faces new challenges in this regard , it is the responsibly of the administration management to stress on the Improvement of educational quality using ICT capabilities while detecting the present obstacles. So it is necessary to pay more attention to quality of the educational strategies in proportion to the needs and expectations of the learners and in curriculum planning . Paying a lot of attention to quantity aspects of education such as the number of the learners is not effective now a days . Instead , it is necessary to upgrade the participation of the professors and students who use technology in teaching and learning activities . Professors must also try to up to date their knowledge and educational skills . They should emphasize the new teaching methods in dealing with instructional materials .

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