



## THE ROLE OF ICT IN LEARNING – TEACHING PROCESS

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### ABSTRACT

Suggestion directs today in most advanced countries, most savings are made in the area of information processing and ICT as a key device and within the area of education in the learning- teaching procedure. Therefore, how this tool is learned should be at first measured and then to understand how to teach by means of this tool logically and this issue assumes a thematic importance, where in this paper it has been advanced by way of library studies and using researches by way of modern and arithmetical methods. While defining thoughts affecting to the role of ICT in the learning-teaching process, we have wanted to study thee nature, appearances benefits and difficulties in relative to ICT within the learning and teaching process. Lastly, it will be complete that while getting schools and teachers familiar with ICT and instruct them how to use it and intelligent utilization of this modern tool, single can create the appearance of interactive learning-teaching process in the process of teaching attractive quantitatively and qualitatively and thus make it unfixed. This means in the up-to-date creation, obligations to ICT, we are handled with a new development based on which we can participate our learning and teaching measures while regarding cultural issues and objects as well as approaches and thus attain new forms accept production in more innovative forms by placing learners and mentors in the face of a large part of enabling, revolutions and promoted information along using limited schoolroom times optimally.

**Keywords:** ICT, procedure, learning and teaching, learner and teacher

## 1. INTRODUCTION

Single can mention to the inspirational progress of ICT and the universal information system fetching general due to improved speed and value in running of services. This technology has entered into all parts including higher education which is home to the congregation and analysis of the modern technical. The present global successes which have reduced in huge progress and dynamism in the area of global education is the growth of ICT which interpretations for determined efforts by people while optimally using of the basics of time, place and services within the knowledge and education process. Looking into instructional and instructive processes, mostly learning-teaching process, there are gross modifications as regards the quality of information change in the light of current skills, which it is impossible to neglect it from the upended of teaching and learning, whether using ICT for an teacher from a balancing surface relating to teaching methods and easing the transfer of concepts or for developing it for increasing and emerging personal and competent skills.

Information Communication Technology are qualifying technologies which include both hardware and software's needed for sending of spoken sound, audio, data (in height speed and little speed) video recorder and internet facility from one point and connected device's that are linked via internet protocol (IP) and non IP network the world is text becoming a global village as a result of the growth in information communication technology ICT According to them the key device to this globalization is the computer. Computer facilitate communication is gradually fetching the fact of everyday life mostly in the developed and some developing countries. Now these conditions information and communication technologies have different low people live effort and play. By means of it could be seen ICT is shifting each phase of human life skill, manufacturing communications package, culture, entertainment, education, research, defense and collective security.

Organizes research specify that with the occurrence and extension of ICT in learning, the most basic variations in terms of value have been completed with respects to professors' performance and classroom communications. ICT, by means of a manufacturing revolution, has carried about a new period of Information and Communications registered by information society, where ICT is among its main

mechanisms. Hence, training of ICT related skills and tools and the method they stand used are amongst the critical needs in this area. The obligation of the Educational structure is to strategy teaching of ICT through sighted contact with information skills and the condition by which a basis is rested to contract with Information Technology.

Only of the most estimable accesses for presentations is information. Two some of valued information reasons to growth assurance and reliability of human foundations, but less information kinds a reducing share of confidence factor and determination. Today, the current data in organizations are collected, managed and saved by "Information Technology". Information was recorded on documents & main parts, from now, it could be looked in one position and was available for a specific person because in that time, data and resources were a kind of control, but currently, "IT" has separate this boundary and solved this problematic.

### **The idea of ICT**

Technology refers to a set of devices, measures, tools and implements by which a creation is made or examined are presented. It is the data of liability things and a right procedure in which sources and systems are applied for resolving difficulties so that human control over natural location is lengthy and life circumstances are made improved. One idea, improvement, tool or means which focuses consideration on the communication between teacher and the learner in the direction of qualities is an example of Learning technology and the application of ICT, representing the sole essence of instructive technology, includes online and offline material and media. ICT means technologies which help us record, store procedure, retrieve, transfer, and receive evidence.

### **Who is information literate?**

Information learned is the one who is able to create, evaluate and combine data and to send them by way of well. Condition a student influences thus limit of knowledge, i.e. if he arrives at a step of information knowledge, will become his/her own learning supervisor fairly than being a simple customer of evidence. Now additional difference of opinion, he/she is a learner who goes beyond the humble level off knowledge and joining information in the path of information making development, and in addition to being as a generation learner, he/she will develop an lively learner who will be extremely different from other reactive learners from the position of originality and utility, for the reason that he/she will assume obligation and thus take developments to resolve problems individually (Universal symposium on teaching skill in community exercise, UNESCO, 1985).

### **Statement of the problem**

Now the dated of knowledge, importance on the strong presence of modern technologies in education not only does not mean ignoring teacher in educating knowledge to students, but also the very ease of use of this technology can be defined by the attendance of teacher. It should be pointed out that accepting them as regards learning organize helpful rules which help Learning specialists, teachers and

students choose to design and produce media and specific Learning strategies. Specialists have divided the role of ICT as concerns learning in four groups Educational functions (learning) in applying Educational technologies which include instructive learning manners, ICT provides wonders, education direction and the way education is executed so that students resolve a difficult and respond to problems and change behaviors into training. Detection role this means education technologies create abilities and situations in order that students can examine into sciences through their own existing information. Influential meaning this group of technologies has not been planned for schools and they are practically active; however they can be applied for attaining Educational tops, e.g. word processing software and PowerPoint.

### **Communication function**

Technology is used for creating communications, where in that case, it contains Educational programs and tools. Now such technologies, learners and teachers are allowable to use other networks and technologies for receiving and sending messages, raise question and answer to problems (Zofran & Lofty Transfer, 2001). Usually, education has two major goals:

1. Making the different persons to obtain more studies and understanding, 2. Making the young for the domain of work and life. The first goal pertains to educating sciences and the next goal relates to educating technology. These two goals are interchangeable and concomitant and separating of sciences from technologies will leave undesirable effects on the quality of education looking exactly into the very process of technology development, it will be determined that Educational technology has never been a main component in the cycle of education. In other difference of opinion, video education by teachers and managers and works will be achieved skeptically. Now, educational technology is one of the six main subjects in schools. Five additional subjects are reform and modernization, participation by the society, teaching profession, curriculum and learning, evaluating students. Educational technology is now becoming an acceptable word at higher levels of education pyramid. Thus, the role of ICT is undeniable in plans relating to reforms and Educational reconstruction.

### **Research questions**

1. What are the features of ICT in education and learning?
2. What is the nature of ICT in the learning and teaching process in the Iranian Educational system?
3. What are the benefits of ICT in knowledge and education?
4. What decision should schools show in dealing with ICT as favors education and training?
5. What are the difficulties of applying ICT in learning and teaching procedure?

## Significance and necessity of research

It is essential to join electronic technologies within the process of learning and teaching, because trainees need to learn how to live in a society in which electronic media are constantly integrating them with faculties' cultures which are different from their own cultures. IN these days, the important issue is not why these facilities are used in learning and teaching, rather the issue point is the way these needs facilities are attained and better use of them intelligently in a world which is moving towards new information and communications possibilities. The power of ICT in learning will one time appear when we occupy in actions with a specific impression of the classroom as a central core in the learning and teaching process - far from traditional effects along with experienced experts in the art of designing and using technologies effectively. It is believed that if ICT is combined into the learning applies of learners, they can be helped with their selections and conclusion making procedures and thus they will learn how to resolve true problems and how to mode in a human society and to provide conditions for their own family be alive (Zofran & Lofty Purr, 2001).

## 2. EXPLANATIONS

1: in the current era of knowledge, the teachers' knowledge does not suffice or that the teacher lacks the power to convey or visualize some abstract concepts being highly complicated and time consuming (teaching the volumes, and complicated graphs containing herb's growth stages, etc...) in the learning and tacking process. Here, the role of ICT needs to be focused attention in fixing problems.

2: The entrance of learners and teachers to the doorway of media literacy and the way ICT is effectively used in the direction of reforming traditional and old ways of learning by heart processes and teacher centeredness and inconsistency with functionalism expectations in removing students' misunderstandings have all made using ICT in learning and teaching areas undeniable.

3: Using five sense capabilities in learning and teaching at schoolrooms and leaving from educational time breaks and optimal use of time as well as permanent learning in formal and informal settings embody the reasons for using and applying ICT

4: To be up-to-date, the country's large community no if students on the one hand and increased size of human knowledge on the other hand, have made the role of ICT stronger than ever due to the fact there is little chance for formal instruction at schools, communication and ingraining of knowledge with the emergence of creativities and production of modern and innovative knowledge in learning and reaching process.

5: The attractively if modern technologies in offering and communicating information and interaction in ICT in learning and teaching settings along with the emergence of positive instructors' affection are proofs for arousing the instructors' higher feelings.

## 3. RESEARCH METHODOLOGY

The technique used in this investigation is qualitative and has been carried out through library note taking. A qualitative research is the one which lays importance on qualitative and complete inputs as

well as using hermeneutic methods. Its capacity methods lead to description and understanding than statistical analysis. The goal of a qualitative research is to know a single or an event under its natural conditions given the related ground. This research is wholly about values (Share pour, 2007). Starting among several qualitative research methods which are survey, investigational, momentous, descriptive and comparative, we use library method for examining the role of ICT in learning-teachings process.

### **Research scope**

However examining the role of ICT in learning-teaching process, we refer to various researches and existing sources as well as ideas of experts and also experiences and observations of authors and mining of indices and criteria pertaining to the concept under debate for inspecting the role of ICT in the learning and teaching procedure.

### **Statistical population**

Due the fact that this examination is not field based and kinds no use of digits and numbers, we are not distributing with a arithmetical population; though, we have a written population which contains current books and also examines published around the role of ICT in the learning and teaching process.

### **Research tools**

Now qualitative and reading room based researches, due to the fact that questionnaires are not used, library note taking method, both traditionally and digitally, as well as experiences of authors is applied.

### **Research administration**

The research management is library study based on which the concept of ICT is first addressed and later, via stating several reasons, the position and meaning of ICT in the knowledge and teaching process will be discussed. Thereafter, according to the analysis made by experts and results of existing researches as well as skills of authors and field observations, the benefits, features and arrangement pertaining to ICT in the learning and teaching process will be examined.

### **Data analysis method**

Given the fact that data analysis is in two qualitative and quantitative forms, and the quantitative method is not applied for data analysis, then, qualitative method including interpretative analysis of upgraded sources and comparison with existing researches based on concepts available is used.

## **4. FINDINGS**

## **1. The ICT's features in education and in learning-teaching process**

Now the teaching space, some ICT's services can be applied for discussing its role in the learning-teaching process as a static source of information for finding sources needed for teaching(e.g. an aerial photo or map), dynamic interactive plication and debates between people based on the theory of constructivism intentionally, relationship between class with class for engaging students for co-op in plans, communication between person and person in electronic relations, statement between person (or class) with the world and difficult resolution on the internet (Zofran&Lofty Pour, 2001). Of other features of ICT with respects to its role in the learning-teaching process, one can mention to the following cases:

**A)**Developed problem solution skills during contribution in curricular activities, learners arrive at this point that ICT could provide single opportunities for the creation of problem solutions to instructors while organizing and outlining non-liner, interactive and evidence situations.

**B)**Developed the power to adoptthe ICT environment provides the learner with suitable choices from the perspective of audio and vision content as well as moving picture, color, time of learning, choosing complementary sources of learning and collaboration with other classmates within the learning and teaching process. Hence, the initiate will be able to develop sense of constant decision making.

**C)**Increasing sense of interest and creativity among instructors in order to improve the sense of concern among students, they should be familiarized with new conditions; hence ICT allows this and serves as a learning facilitator for the issue of teaching.

**D)**By means of discussion and exchange method in the discussion conference and the simulation method and role play and designing some forms of oral and written evaluations within a virtual environment: Of ICT's features, we can refer to the fact that ICT helps knowledge and education (Azimi&Seraji, 2011).

## **4. Just how can the nature of ICT's approach in learning and teaching process in the Iranian education system be defensible?**

The nature of ICT as apersonification of a new civilization in the Iranian Education System has been formed in the meaning of the nature of developed peoples' subjective mind and is emerging and can be defined in the learning and teaching process of anevolution look. A civilization looking creates an intelligent setting as regards Educational revolution where in the nature and goal of education is fixated attention (Mehrmohamadi, 2007).

Hence, since the Education method and inside of which the issue of learning and teaching has been defined in the basics of the Allowed an Common Fundamental Development Document of Education in the 2025 Horizon along with summary of value issues and integrating civilizations and beliefs with modern global techniques and with an interactive communication from the teacher to the learner in an effective and constructive not destructive form in a form appropriate with values and settings of the Iranian Education System which is a civilizing approach, it appears that this issue is justifiable and

rational. Pointless to say, undesirable effects of the media environment and ICT could bring about compulsory capacities for a constructive communication among instructors given an immunization approach instead of limitations within the official and common education system (Fundamental development document, 2011).

### **3. The benefits of ICT in learning and teaching**

ICT is just a piece of a large puzzle under the heading of "ways of securing and facilitating high quality Educational life at school and home" for students (Talia, 2011). ICT results in growing confidence skill among students in teaching activities and group and participating learning via providing opportunities in the teachers' teaching style and providing communication skills between instructor and the learner while facing the student with the skill of difficult solution and through re-teaching learning prospectuses in which students have problems (even in online forms) and also looking for issues and discovery of solutions and vague points as well as subjective questions by way of educations and information under web. ICT addresses problem solution through subjective intelligent. In fact, ICT as a communicating tool makes learning and teaching process stronger. The additional benefits of ICT, one can refer to eliminating teachers' traditional authority as an absolute source of knowledge and information and via creating education opportunities and learning chances for all, it has led to increase and promotion of abilities and access, making learning and teaching issues is of quality and differentiating learning conditions in teaching and learning settings.

ICT displays an active role via creating motives, developing and expanding learning and supporting learning as well as removing world wide tedium and creating subjective skills for secretarial (Shariatmadari, 2012). Through increasing critical thinking among learners and cooperation and participation in learning, ICT leads to an development of students and instructors' thinking skills; thus, ICT, via teaching social skills, gets about conditions where the teacher shares his/her own information with others through social communications e.g. emails, Bluetooth, Viber, What's App, SMSs and modern social networks and thus supports societal communication anytime and anyplace based on the learner's responsibilities.

It looks the ICT runs the learner various options in terms of selecting content, time of study and learning, choosing complementary source and interaction with classmates. From now, the student needs to have the power to decide self-sufficiently and to have continuous choices. In the ICT set, learners can support their own aesthetics sense via participating in producing and representing multimedia, evaluating them and manipulating and simulation.



It looks what is designed and development in our country's schools is attention and position of technology agents at schools and creation of a constant network for schools staffs and students, which establishes suitable facilities in an interactive virtual domain, ranging from awareness of school teachings to questions and answers related to the learning and teaching process and corresponding learning of official and informal lessons among the instructors and trainees. As fine, examples' electronic content as a subset of ICT can be used in this process. Nowadays, in all focuses of basic and humanities sciences, one can fortunately make use of ICT's advanced tools in finishing the ICT's nature in debate of the quality and quantity of learning and teaching as well as learning professional and value based issues at schools and homes anytime everywhere via helping access for all to learning chances at the expense of removing limitations arising from sexual category, race, social and financial

Achievement of learners within the learning procedure. ICT is able to develop and encourage human sources needed by the era of knowledge and information through rational rational for applying their own special tools in the direction of problematic solutions. The other profits of ICT, we can refer to higher efficiency and production in Education in form of supportingreorganizing and promoting participation of people, parents, students and teachers and employers in policy making, implementationsupervision and evaluating of Educational activities, strengthening decision making system and management based on information through centralized supervision and decentralized execution, Producing schools and other Educational and cultural entities, reducing costs incurred by access to rare information.

Learning Communications and Technology Institute cites reasons for accounting to the question of why ICT is measured to be an impressive tool for learners and teachers it enables learners to come to be active learners at the session rather than a reactive observant; offers chances for different learning styles; enables learners to concentrate over their on activities and overcome physical forces; increases learners' individuality; brings about a means and promotes the speed of learners' development; helps social relations and communications and places learners in a wider field; arrange for teachers a tool for discerning and distinguishing learners' skills; provides mans for learners, so that they disseminate it for wider community; arrange for easy access to hardware and software for all learners; acceleratesconsistency and progress; provides different ways, such that learners are concerned, motivated and aroused; creates flexibility among teachers and also provides accessible content freely and electronically; facilitates participatory effort, such that trainers can take part by means of world network and Emails; provides a means for maintaining peoples' progress registration; encourages all learners to work independently, and creates opportunities for making use of human resources best. Dome other benefits: increasing speed of conveying learning and teaching; increasing learning accuracy; reducing physical size of information area; avoiding teachers' exercise of tastes; creating full time work; creating a condition for remote collective for teachers and students; reducing Education incurred costs. Specifieddeclared issues, particularly, increasing speed which results in more work and conduct of full time work, system's efficacy will rise and as a result leads to a reduction of costs for the state and students.

##### **5. What are the requirements and reservations of schools in learning and teaching in the face of ICT?**

One of the conditions for applying ICT at institutes in the field of learning and teaching is that teachers should be practically used to with the digital creation; of course, this issue is happening in the Iranian Learning system; but due to some explanations including lack of organization and the simple reaction of degrees from relevant enterprises and teachers and teachers who have not got familiar with the said virtual world, this issue might not be able to attain its own position at schools and at universities around the country. Thus, basic requirements in the Fundamental Development Document (on Macro Strategies), in the area of ICT contain intelligent utilization of modern technologies within the formal and general Educational system based on Islamic Criteria. Thus, costs need to match functions (Attaran, 2014). Another requirement in applying ICT is intelligent and up-to-date consistency of schools with ICT in order to avoid escape from department. (Mehrmoahamadi, 2007). Students learning through ICT, as well as teachers need to apply their own self-regulation skills, i.e. examining thoughts, senses and behaviors in order to reach their own goals through organizing data and writings and computers play a key role in here (AbbasidAvail, 2012).

Of reservations in dealing with ICT in the field of learning and teaching is one has to be aware of while using ICT; because the student should not danger socially insulated and second, he/she should not be stripped from intelligent, i.e. ICT needs not be a final conclusion. This is the same advice included in the Fundamental Document in which emphasis has been laid at realization and reservations while refraining from the risk of Internet and ICT networks becoming specialist.

#### **5. What are the problems of applying ICT in learning and teaching process?**

Fredrik son et al (2009) conclude in a research that using ICT in Educational innovations supports learning and teaching process and highlights that teachers need to utilize technology skills and learn relevant programs for increasing IT at schools .

**1.** Trainers simply acquiescing to electronic content representations in rooms known as IT at some schools and in some hours for some special lessons cannot be a rational justification in using ICT in the field of knowledge and teaching. Now this way, for authors, lack of hardware infrastructure and expansion of networks and special software, either for schools or at schools or for students especially in deprived areas are among the obstacles of this issues;

**2.** Lack of consciousness and familiarity and belief to facilitating and the contributory use of ICT at schools and the system curricula are launched that end to be conducted at some special time will bring about problems for using ICT for learners and teachers;

**3.** Teachers and chiefs' lack of familiarity (especially chief people) with ICT and those who are not familiar with hardware and software tools needed for learners and teachers;

**4.** It is observed that learners' inadequate familiarity with languages and formal global writings have brought about problems for them to intelligently use the information;

**5.** It appears that students, due to marginal issues including more attention to maintenance issues and, lack sufficient time for learning and spending time for learning indication literacy and using curricular

lessons fitting with ICT as well as formulation of curricular sources with regards to learning and teaching issues. Thus, they get acquiesced to the same traditional methods in teaching space.;

**6.**Lack of an evidence literate instructor as regards ICT at schools surfaces the way for a publication passage in using the available facilities and thus creates problems for the acculturation off thus issue in the part of learning and teaching at classrooms;

**7.**Non-standard classes in using and using ICT as well as incapacity of teachers in preparing Educational content appropriate with ICT in increase curricular concepts teaching.

## **5. CONCLUSIONS**

Backward-looking tendency denotes despite ascending growth of sciences, particularly in the area of ICT, one cannot board on using tools for access to the unknown and change in the ocean of the 21th century. That which is fixated attention in this research was emphasis on the significance of applying benefits and form of using ICT as a resilient tool in fostering and facilitating knowledge and in fact accentuating on learning the technique of swimming, offering a roadmap and a compass and then immersing the learners in the sea of acquiring knowledge and skills. That ICT can play roles in increasing learning among learners through interactive and flexible tools: color, pictures, forms, voice, quality, measure of information, upgrading information, participatory learning and communication with the farthest points across the worlds is taken for decided. Thus, the precondition for this is to eliminate the instructors' theoretic and practical knowledge as regards applying classrooms, structure culture of teaching and learning factors in the field of education for an intelligent facing of this occurrence.

## **Recommendations**

Designed for the promotion of teachers: utilizing IT literacy in expanding theoretical and scientific knowledge as regards the application of ICT through holding high quality periods- expanding thinking activities and engaging of mind of the individual learners by using ICT in the classroom - for the development of substructure removing centers and learning classes" needs from the view of equipment to hardware and software facilities related with ICT, educational support in the process of joining daily lessons by using ICT facilities, developing strategies and guides for the expansion of ICT, expanding and developing advanced video conferences, E-learning, mobile learning philosophybuildingpresenting ICT as an instrument and the school system as a secondary object and both as the culture of school and room within the natural issue of learning and teaching.

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