PROMOTING ICT IN EDUCATION: THEORETICAL AND PRACTICAL ROLES TO ENHANCE A BETTER LEARNING

Heri Mudra
Dosen pada Program Studi Tadris Bahasa Inggris STAIN Kerinci
herimudra1985@gmail.com

Abstrak

Teknologi informasi dan komunikasi memiliki manfaat dan kelemahan untuk siswa di kelas pengajaran bahasa Inggris. Peran teknologi informasi dan komunikasi tidak dapat lepas dari kelemahannya., karena setiap fungsinya tidak hanya dapat membantu, namun juga berbahaya untuk siswa jika mereka menggunakannya untuk hal-hal yang negatif. Untungnya penggunaan teknologi infomasi dan komunikas dalam kelas harus selalu dipromosikan guru Bahasa Inggrsis yang mengharapkan bahwa siswanya akan mendapatkan informasi lebih dan terbaru melalui peralatan seperti internet. Untuk meyakinkannya, guru akan menjadi model dalam menggunakannya. Mereka harus menyajikan cara belajar yang efektif dan modern dengan menggunakan peralatan yang canggih seperti internet, ponsel android,dan jenis lain dari peralatan wireless. Teori harus diikuti oleh praktek yang nyata yang dapat dengan mudah diraih oelh siswa. Lebih banyak praktek yang mereka lakukan, maka mereka akan menjadi lebih baik lagi. Faktanya telah banyak ahli menggunakan teknologi infomasi dan komunikasi dalam bidang pendidikan.

Kata Kunci: ***Peralatan teknologi informasi dan komunikasi, manfaat dan kelemahan, Teknologi informasi***

Abstract

Information and Communication Technology (ICT) has both advantages and disadvantages for learners in an ELT classroom. The roles of ICT are not separated from their weaknesses, since each function of ICT tools is not only helpful , but also harmful for learners if they are utilized in a wrong way. Fortunately, the use of ICT in the classroom should always be promoted by English teachers who expect that their learners will obtain more and up-to-date information via the tools such as the internet. To convince, the teachers are the models of using the tools. They have to present effective and modern ways of learning by using advanced tools such as the internet, android mobile phone, and other types of wireless tools. Theories have to be followed by a real practice that can be easily achieved by the learners. The more practice they practice, the better they will be. The fact has been testified by many experts in the use of ICTs in education.

Keywords*:* ***ICT tools, advantages and disadvantages, ICT in education***

Introduction

The term ICT or Information and Communication Technology is not a new abbreviation for most people in the world. Many kinds of media in ICT have been used either in formal places such as a company, an office, a school, a college or informal spots like at home, cafes, movie theatres, and the like. The use of ICT is not without any reason. There are various functions of ICTs applicable for the people who need some practical and automatic tools to help them clear up their work and duty. Manual tools and media are being left behind as more innovation of ICTs has been used widespread. Such atmosphere is also found in the context of education. Allah SWT says in the holy Qur`an:

قَالَ ٱلَّذِى عِندَهُۥ عِلۡمٌ مِّنَ ٱلۡكِتَٰبِ أَنَا۠ ءَاتِيكَ بِهِۦ قَبۡلَ أَن يَرۡتَدَّ إِلَيۡكَ طَرۡفُكَۚ فَلَمَّا رَءَاهُ مُسۡتَقِرًّا عِندَهُۥ قَالَ هَٰذَا مِن فَضۡلِ رَبِّى لِيَبۡلُوَنِىٓ ءَأَشۡكُرُ أَمۡ أَكۡفُرُۖ وَمَن شَكَرَ فَإِنَّمَا يَشۡكُرُ لِنَفۡسِهِۦۖ وَمَن كَفَرَ فَإِنَّ رَبِّى غَنِىٌّ كَرِيمٌ ﴿٤٠﴾

Artinya: Berkatalah seorang yang mempunyai ilmu dari AI Kitab: "Aku akan membawa singgasana itu kepadamu sebelum matamu berkedip". Maka tatkala Sulaiman melihat singgasana itu terletak di hadapannya, iapun berkata: "Ini Termasuk kurnia Tuhanku untuk mencoba aku Apakah aku bersyukur atau mengingkari (akan nikmat-Nya). dan Barangsiapa yang bersyukur Maka Sesungguhnya Dia bersyukur untuk (kebaikan) dirinya sendiri dan Barangsiapa yang ingkar, Maka Sesungguhnya Tuhanku Maha Kaya lagi Maha Mulia" (Al Qur`an, Surat An Naml, ayat 40).

Nowadays, there is a tendency that both teachers and students prefer automatic and practical tools than manual, but sometimes impractical tools to undertake their works and tasks. Tools of ICTs are considered more reliable as they can be practically used in various situations and functions. Teachers in a modern city tend to use technology to work on their syllabus, materials, learners` tasks, and tests. Otherwise, learners also feel that ICTs are effective as they can do their tasks easily via internet technology.

As a reflection, Reddi[1] stresses upon the following phenomena.

As a parent or an educator, you have seen that many young learners seem to spend a lot of time watching television and the computer. When given some project, they provide information collected from the internet instead of a textbook. Do you think this much exposure to media is useful? Do you think the media are educating the learners?

The above reflection can be both a challenge and a problem faced by every teacher and parent in any place in the world. Similar cases are easily found throughout everyday lives.

Children, who are learners in a school or a college, might survive longer in front of a television compared with just looking at a book. They prefer to use internet for hours than quote some phrases out of a printed article. When a teacher asks learners to do a homework or a task, the learners use internet to find some information related to the task and then to copy and paste the information on their paper sheet. The more time spent for tools of ICTs, the worse the learners` minds can work. However, this does not mean that ICTs are useless and are not appropriate for learners` education. There should be a clear description consisting of identification, types, advantages and disadvantages, and functions of the ICT tools. This paper describes basic meaning of ICT, types of ICT, advantages and disadvantages of ICT respectively.

Basics of Information and Communication Technologies (ICTs)

Information and Communication Technologies (ICTs) consist of advanced tools and media which are particularly inter-connected with computer-based technologies. ICTs are also associated with both modern and conventional technologies. Modern tools consist of computer, laptop, android-based phone; otherwise, the examples of conventional technologies are radio, television, and telephone.

Another definition of ICTs based on Margaret[2]

[2]which states that "ICTs are basically information-handling tools – a paired set of goods, applications and services that used to produce, store, process, distribute and exchange information. Those include the 'old' ICTs of radio, television and telephone, and the 'new' ICTs of computers, satellite and wireless technology and the internet. The definition of ICTs implies that it may include any kind of tools used to share any news, announcement, documents, or information either via old or new technologies. However, people`s minds today are identical with modern, advanced tools of ICTs such as laptop, wireless, android, and so on. The other examples of ICT such as radio and telephone are considered as tools which do not belong to any type of ICTs.

Talking about ICTs, it does not mean that we only focus on the latest computer and internet-based technologies, but also to simple audio visual aids such as transparency and slides, tape and cassette recorders and radio; video cassettes and television; and movies. These older and more familiar technologies are referred to under the collective heading of "analogue media" while the newer computer and internet-based technologies are called "digital media". However, nowadays, along with the increased convergence or blending of the engineering

designs and with the coming together of the satellite and the computer, the dividing lines between these different media are becoming blurred and consequently, the way people define and refer to ICTs is also getting blurred[3].[3]

It is the effect of many types of technologies that are produced and blended between old and new ones. The effect has also decreased the gap between people`s views that focus laptop or wireless as new ones, while radio and telephones are the old ones. People can use both new and old simultaneously by combining them into a more advanced technological system which finally create new blended technologies without any tendency to one type of ICTs.

Livingstone stated that the notion of "new" can either be seen with reference to the "newness of technology" or in the context of "what`s new for society" about these media[4].[4] Her further states that what is new for western world is not necessarily so for the rest of the world. Within a social context, the introduction of radio or television may be as "new" as the introduction of internet. While there is much euphoria about the ICTs, after more than half a century of research, social scientists are still sceptical about tall and ill defined claims about potential societal changes that may follow a technological innovation. The means that 'new' cannot merely defined either in terms of time and time scales or in terms of the technology innovation.

Types of ICTs in Education

There are various types of ICTs used in EFL classrooms. The types are adapted based on a need of learning goals. Commonly, ICTs media are divided into synchronous and asynchronous media. Synchronous media require all students to gather together at the same time though in different locations. Asynchronous media of ICTs allow for students in the learning process to be at "different times" and "different places." Such groups of ICT media are categorized under the term "delivery system," which is based upon their characteristics. Look at the following table.

Synchronous Media	**Asynchronous Media**
Audio-graphics	Audio and video tapes and DVDs
Audio conferencing (teleconference)	E-Mail
Broadcast radio and television	Computer file transfers

Teleconferencing	Virtual conferences
Computer conferencing (online chat)	Multimedia products (offline)
	Web-based learning

ICT media can be also divided based on content. Educational content is dicided into two different types of educational content –general awareness and instructional content. The table below describes the different features of educational and instructional content. When a decision is taken to use ICTs for educational purposes, we must be able to define and describe for what purpose the content will be used and also be very clear as to what delivery system we are going to use. Such a decision should not be based on the technologies but on the conditions and contexts in which we seek to use the ICTs, e.g. access to media by the learners etc.

Factors that will determine the choice of ICT use and of the content are important. We must ensure that there is adequate reach and access. Look at the following table.

Educational	**Instructional**
Broad audiences awareness orientation	Clearly defined target enrichment
Nature of learning is broad, multidimensional, even incidental process, and summative methods	Target related format and treatment
	Clear objectives
	Evaluation critical, through formative

Advantages and disadvantages of ICTs

ICTs have both advantages and disadvantages. The advantages of ICTs[55] are, as follows:

a) Individualization of learning: This means that people learn as individuals and not as a homogenous grop. ICTs allow each individual to relate to the medium and its content.
b) Interactivity: Interactivity is the way in which a person can relate to the content, go forward and backward in the content, start at any point depending upon prior knowledge instead of always in a sequential way.
c) Low per unit cost: Per person, ICTs reduce the cost of education from very high to very low.

d) Distance and climate insensitive: It does not matter where you are, or how the weather is, you can still access and learn from ICTs.
e) Can serve multiple teaching functions and diverse audiences: ICTs, especially the computer and Internet based can be useful in drill and practice; to help diagnose and solve problems, for accessing information and knowledge about various related themes.
f) High speed delivery, wide reach at low cost: There is instant delivery of information.
g) Uniform quality: If content is well produced and is of good quality, the same quality can be delivered to the rich and the ppor, the urban and the rural equally and at the same low cost.

The advantages arise because of its nature. It is used for pleasure, entertainment, study and work purposes. Besides using it for pleasure and entertainment, we also use it for study and work purposes[6].[6] ICT encourages learning; it motivates the individual and at the same time gives him (or her) the capability to do certain activities. Besides that, its presence betters the learning environment and enriches the learning experience.[7]

Punie claims that ICT enables the students to process the learning content in an entertaining and interesting way[88], while Markovac and Rogulya have proved that the usage of ICT also develops the child's competences. ICT is not only an educational tool, but also a supporting one, because it helps to develop children with special needs and behavioral problems.[9] Besides that, it lays the foundation for long life learning and personal development, because among other things it also develops the digital competence and technical competences, which are needed for employment, education, self-development, and general activeness in the modern society.

However, there are also disadvantages of ICTs that can disturb teaching and learning process,[10] as follows:

1) High infrastructure and start up costs: It costs money to build ICT systems and to maintain them.
2) Tend toward centralized uniform content in economies of scale: The larger the numbers, the lower the cost. This means that sometime we try to reach large numbers so we make content common, not taking into account individual differences.

3) Are not ideally location and problem sensitive: Address problems in a general way, but cannot, without special effort, solve local and culturally sensitive problems.
4) Problems of reach, access, remain: Not everyone has equal access; so not everyone benefits equally from the use of ICTs.
5) Tend to create new class of knowledge rich/knowledge poor: Those who have access and knowledge through the media become richer and those who do not become poorer, widening the "knowledge or digital gap" between rich and poor.
6) Essentially delivery systems: A medium is different from the content; and often we forget that we can deliver any content, because ICTs are essentially meant only to deliver content, not to change attitudes or to bring about behavior change.
7) Hard to access impact: Learning from ICT delivered content id difficult to assess since such learning is of a multidimensional and long term kind, rather than from immediate learning assessment as in a classroom test.
8) Officers, trainers need reorientation and retraining: Just as people learn to use ICTs, trainers and officers also need training – something they sometimes resent.
9) Call for attitudinal change to understanding of teaching and learning: These are different media and have a different way of teaching from what we are accustomed to – therefore, they need different ways of understanding what teaching and learning is all about.

For many years ICT have been judged for their potentially bad influence on the child. Often, worries about the usage of ICT are concerned with the question how early exposing of the child to the ICT influences its general development. Experts like Shelly et.al. claim that the children learn more from real-life experiences than from the ones offered by ICT, especially if the content is not suitable for the children.[11] The debate about the technology's influence on the child's development has long ago exceeded the borders of academic circle and became public. McPake et.al. have found out that even the general public thinks that the usage of ICT is dangerous for the child, and that its creative potential is being more and more overlooked.[12] But where hide the reasons for such thinking? The major argument of all studies, which stress the negative sides of ICT is that the children in early stages of development are the most susceptible and because of that also very vulnerable.

In one of their studies, Newhouse[1313] and Oliver[1414]divided the dangers and disadvantages of ICT usage into three major categories. The first category includes dangers

and disadvantaged of ICT usage for the child's socio-cultural development. The writers found out that ICT supposedly endangers the child's social development, because children spend less time playing with their peers and are mostly isolated; ICT is supposedly to offer virtual experiences from "the second hand" and not realistic experiences from "the first hand"; besides that the marketing of ICT is in our society very intense and prays on vulnerable children, which represent the biggest part of its target group. The second category includes the dangers and disadvantages of ICT usage for the child's cognitive development. ICT is supposedly to endanger the child's intellectual development, the development of imagination (it stimulates passivity and not activity), and the development of language (lack of communication with peers). The last category includes dangers and disadvantages of ICT usage for the child's wellbeing. Children are supposedly to spent more time in enclosed spaces and not outdoors, the child's health is also endangered (sitting usage, which increases the risk of obesity), the usage of ICT supposedly leads to addiction with technology and exposure to inappropriate content., besides all that the chances of child interacting with family members are also decreased, what is supposedly to lead towards decreasing of child's emotional development.

Conclusions

All these dangers and disadvantages of ICT usage are mostly connected with the amount of ICT usage, its content and the degree of parent control. Today, children can through ICT more easily access various contents than ever before. Adults do not have control over this access, because the media environment has changed so drastically that a complete control over the child's usage of ICT is today practically impossible[15].

Endnote

[1] Reddi, UV.(2010). *Roles of ICT in Education and Development*.New Jerse, USA.
[2] Margaret, L. (2005). *Towards a definition of the integration of ICT in the classroom*. New South Wales: Parramatta.
[3] *Op. Cit.* Reddi (2010)
[4] Livingstone, S. (1999) New media, new audiences? New Media & Society, 1(1), 59-66.
[5] Khalid, AB. (2009).*Barriers to successful integration of ICT in teaching and learning environment*. Melbourne: RMIT University Australia Press.
[6] Punie, Yves. 2007. Learning Spaces: an ICT-enabled model of future learning in the Knowledge-based Society. *European Journal of Education*. Vol. 42, Issue 2, June 2007, pp. 185 - 199.
[7] Markovac, Vesna and Rogulja, Natasha.(2009). *Key ICT Competences of Kindergarten Teachers*.8th Special Focus Symposium on ICESKS.
[8] *Op.cit.*Punie (2007).
[9] *Op.cit.* Markovac and Rogulja (2009).
[10] McPake, Joanna et.al. (2005). *Already at a disadvantage?: ICT in the home and children's preparation for primary school.*(Final Report). Stirling: Becta.
[11] Shelly GB, Gunter AG, Gunter RE.(2010). *Integrating Technology and Digital media in the classroom.* USA.
[12] *Op.cit.*, McPake et.al.(2005)
[13] Newhouse (2002) *The impact of ICT on learning and teaching Perth.* Western Australia: Western Australia University Press.
[14] Oliver, R .(2010). *The role of ICT in Higher Education for the 21st century.* Perth: Western Australia University.
[15] *Op.cit.* Khalid (2009)

References

Khalid, AB. (2009). *Barriers to successful integration of ICT in teaching and learning environment*. Melbourne: RMIT University Australia Press.

Livingstone, S. (1999) New media, new audiences? *New Media & Society*, 1(1), 59-66.

Margaret, L. (2005). *Towards a definition of the integration of ICT in the classroom*. New South Wales: Parramatta.

Markovac, Vesna and Rogulja, Natasha. (2009). *Key ICT Competences of Kindergarten Teachers*. 8th Special Focus Symposium on ICESKS.

McPake, Joanna et.al. (2005). *Already at a disadvantage?: ICT in the home and children's preparation for primary school.* (Final Report). Stirling: Becta.

Newhouse (2002) *The impact of ICT on learning and teaching Perth*. Western Australia: Western Australia University Press.

Oliver, R .(2010).*The role of ICT in Higher Education for the 21st century*. Perth: Western Australia University.

Punie, Yves. 2007. Learning Spaces: an ICT-enabled model of future learning in the Knowledge-based Society. *European Journal of Education*. Vol. 42, Issue 2, June 2007, pp. 185 - 199.

Reddi, UV. (2010). *Roles of ICT in Education and Development*. New Jerse, USA.

Shelly GB, Gunter AG, Gunter RE.(2010). *Integrating Technology and Digital media in the classroom.* USA.