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A Study of Uses of New Education Technologies in Teaching Environment

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ABSTRACT

This paper work is a short presentation of the new educational technologies applied in the worldwide learning systems. In knowledge based society the information communication technologies provide the necessary instruments for educational programs and generates a quality learning and teaching process. The idea is that we must promote the new technologies in schools and universities, and to understand that a intelligent educational management system generates value added for the human capital.

1. Introduction

In a world that is moving with the aid of the computers and advanced technologies, there is no need to ask ourselves “Why a intelligent and efficient educational systems?” Learning using information technology is a must in the 21’ “digital” century. Many of us will say that the technology can be used inappropriately in schools and can be harmful for the young children and for also for the students that are leaving behind the old models of learning and approach new methods. The thesis is also available for the teachers.

The answer is that the technologies have given humanity unbounded access to information which can be turned into knowledge. Appropriately used-interactively and with guidance-the new technologies and the information have become tools for the development of higher order thinking skills. Students are using the computers and many helpful applications to learn, practice and testing the gained knowledgements and this new tools are not so different from workbooks. Teachers can use multimedia technology to give more colorful, stimulating lectures.

The current emphasis is ensuring that technology is used effectively to create new opportunities for learning and to promote students achievement. Educational Technology can be defined as an array of tools that might prove helpful in advancing student learning. Technology mean computers, machines or hardware or but systems, smart applications, methods of organization, and techniques.

2. New Educational Technologies - Used At Global Level

Most countries of the world tries to apply in their learning process new teaching and learning techniques using informational communication technologies. Many different types of technology can be used to support and enhance learning. Everything from video content and digital moviemaking to laptop computing and handheld technologies (Marshall, 2002) have been used in classrooms, and new uses of technology such as podcasting are constantly emerging. Various technologies deliver different kinds of content and serve different purposes in the classroom. For example, word processing and e-mail promote communication skills; database and spreadsheet programs promote organizational skills; and modelling software promotes the understanding of science and math concepts.

It is important to consider how these electronic technologies differ and what characteristics make them important as vehicles for education Technologies available in classrooms today range from simple tool-based applications (such as word processors) to online repositories of scientific data and primary historical documents, to handheld computers, closed-circuit television channels, and two-way distance learning classrooms. Even the cell phones that many students now carry with them can be used to learn. Each technology is likely to play a different role in students' learning. Rather than trying to describe the impact of all technologies as if they were the same, researchers need to think about what kind of technologies are being used in the classroom and for what purposes. Two general distinctions can be made. Students can learn "from" computers—where technology used essentially as tutors and serves to increase students basic skills and knowledge; and can learn "with" computers—where technology is used a tool that can be applied to a variety of goals in the learning process and can serve as a resource to help develop higher order thinking, creativity and research skills The most important tools and instruments of learning and teaching using new technologies are computers and internet – are the most important communication instruments.

The Internet is a complex repository containing a huge maze of information from a variety of sources. It has become a prominent source of information for many people worldwide. Schools and universities need to consider how technology-based instructional programs are mounted to ensure that students use the Internet efficaciously as a learning tool for various authentic learning activities such as conducting research on a given topic or finding relevant information for an assignment. The Internet can provide the following three basic types of tools in the educational domain: Tools for inquiry, Tools for communication, Tools for construction. In providing tools for inquiry, the Internet facilitates finding sources of information appropriate to a task, working to understand the information resources and how they relate to the task, and if possible applying this understanding in a productive way. The Internet enhances students' knowledge acquisition by facilitating students' access to resources from the outside world including experts in the field, as well as interacting directly with

them. Thus exposure to real life contexts of the external world trains the students to face the uncertainties of the ever-changing outside world. In providing tools for communication, the Internet is a remarkable tool for rapid communication. Such communication can be both synchronous and asynchronous and takes on many forms such as e-mail, mailing lists, newsgroups, chat and videoconferencing. Such interaction involves communication with students and professionals in distant places, cultures and traditions as well as facilitating teachers to be in touch with other teachers.

In providing tools for construction, the Internet promotes learning by scaffolding varieties of authentic learning activities for students. Through these activities the Internet also supports the development of student's higher-order thinking skills. For example students are able to demonstrate their conceptual understanding by constructing products such as web pages. In these activities learners regulate their individual learning progress according to their own experiences and expertise. Learners can access a wealth of resources at their own pace and have meaningful interactions with the content information. For instructional activities, the Internet also has the added advantage of being adaptable for both individual and cooperative learning.

Training and teaching applications, learning and practice applications are the most important instruments which are helping improve the learning and teaching systems. Many countries use in their national education programs, new learning and teaching technologies such as: The ADDIE model - The five phases-Analysis, Design, Development, Implementation, and Evaluation; Distance education - or distance learning, is a field of education that focuses on the pedagogy and andragogy, technology, and instructional systems design that aim to deliver education to students who are not physically "on site". (Web based Voice Over IP, Telephone, Videoconferencing, Web Conferencing , Audiocassette, E-mail, Message Board Forums, Print materials, Voice Mail/fax, DVD), Learning Content Management Systems, eLearning, m-Learning, Usability testing, Programmed Instruction, Sharable Content Object Reference Model (SCORM), Information mapping, Mind map, Assistive technology, Human Performance Technology, Technological Pedagogical Content Knowledge, Blended learning, Computer –adaptive test, Information and communications technologies in education.

3. Using ICT in learning process - Student & Teachers Skills and ICT Literacy

Information and communication technology offers access to learning to students and people who most need them (such as out-of-school youth and children with disabilities) and that improve the quality of teaching and learning outcomes. Science, technology and innovation capacity are three issues that continually assesses, adapts, and applies new technologies.

ICT Literacy reflects the need for students to develop learning skills that enable them to think critically, analyze information, communicate, collaborate, and problem-solve, and the essential role that technology plays in realizing these learning skills in today's knowledge-based society. Computer, internet and-most important-learning applications, represents the master tools for the students. First of all they must learn to use the computer, to manage with the web and the learning applications. Going beyond, they must: - communicate effectively

- have a range of skills to express themselves not only through paper and pencil, but also audio, video, animation, design software as well as a host of new environments (e-mail, Web sites, message boards, blogs, streaming media, etc.); - analyze and interpret data
- compare, and choose among the glut of data now available Web-based and other electronic formats;
- understand computational modelling - students must possess an understanding of the power, limitations, and underlying assumptions of various data representation systems, such as computational models and simulations, which are increasingly driving a wide-range of disciplines;
- manage and prioritize tasks-students must be able to manage the multi-tasking, selection, and prioritizing across technology applications that allow them to move fluidly among teams, assignments and communities of practice, engage in problem solving-understanding of how to apply what they know and can do to new situations and use strategies to acknowledge.

In the teaching process the technologies must be used in the appropriate way. ICT literacy among the teachers represents a necessity. The aims of the teachers are:

- Determine the purpose of using technology in the training process, as determined by the specified educational goals.
- Coordinate technology implementation efforts with core learning goals, such as improving students writing skills, reading comprehension, mathematical reasoning, and problem-solving skills.
- Collaborate with colleagues to design curricula that involve students in meaningful learning activities in which technology is used for research, data analysis, synthesis, and communication.
- Promote the use of learning circles, which offer opportunities for students to exchange ideas with other students, teachers, and professionals across the world.
- Encourage students to broaden their horizons with technology by means of global connections, electronic visualization, electronic field trips, and online research and publishing.
- Ensure that students have equitable access to various technologies (such as presentation software, video production, Web page production, word processing, modelling software, and desktop publishing software) to produce projects that demonstrate what they have learned in particular areas of the curriculum.
- Encourage students to collaborate on projects and to use peer assessment to critique each other's work.
- In addition to standardized tests, use alternative assessment strategies that are based on students' performance of authentic tasks. One strategy is to help students develop electronic portfolios of their work to be used for assessment purposes.

- Ensure that technology-rich student products can be evaluated directly in relation to the goals for studentoutcomes, rather than according to students' level of skill with the technology.
- Create opportunities for students to share their work publicly--through performances, public service, openhouses, science fairs, and videos.
- Learn how various technologies are used today in the world of work, and help students see the value oftechnology applications.
- Participate in professional development activities to gain experience with various types of educationaltechnology and learn how to integrate this technology into the curriculum.
- Use technology (such as an e-mail list) to connect with other teachers outside the school or district andcompare successful strategies for teaching with technology.

4. Technology Application In Education

Learning combined by educational technology are, firstly to accommodate slow participants in more individual ways, secondly, to stimulate student learning interest in doing exercises or assignments given by teachers [1]. From the benefits obtained, the use of technology in education is believed to increase the results and motivate the students themselves [2]. Improving learning outcomes directly is an indicator of effectiveness and efficiency in implementing learning. So, the development of learning by utilizing this technological development is very important and must be used by the teacher or educator as well as possible. Turning this psychological development to be negative things need to be avoided because the image of educators and students will be bad. A development will give positive or negative impacts depend on the way it is used by human [3].

Discussing about the positive impacts or benefits of educational technology, the negative effects are also exist [1]. If the display of the contents of the learning is not well designed or just like a learning textbook, it cannot increase the motivation of students because they will quickly get bored. In addition, teachers who do not understand the application of technology will not be able to design learning through this technology, because of the limited knowledge about the technology possessed by these educators. The relationship between teacher and students is teacher is only as a facilitator while students need to develop their ability to understand the material or topic presented by the teacher. So that students learn happily and enthusiastically. Educators or teachers need to innovative and creative in making teaching methods for students so that the learning process is more interesting and can reach the target learning. This can be happen if the teacher continues to update the teaching materials by using varied learning methods by utilizing technology [4]. Based on the study that was done by Anitah in 2010, especially if in the teaching and learning process the teacher only uses the monotonous lecture method that will reduce students' interest in learning because students may feel bored or think it is not interesting for them.

The teacher uses this educational technology as a medium for learning. Learning media consists of two components, namely hardware such as LCD, TV, Radio, Computers and software such as the contents of the learning that is on the hardware that will be delivered to students [5]. Technology that is very practical can easily lift the learning process. By the use of visual technology, teachers can facilitate the learning process with educational things. Other learning media such as the internet are very easy to reach. Because of its free nature, educators can easily find out information from any perspective [6]. However, by the entry of technology into the world of education as it is today the role of teachers or even parents is very important, to support the character education of students. The role of the teacher to sort out and choose which is best for students is very important so as not to deviate from the positive things of this educational technology for the learning process.

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