The Role of ICT in Education Sector

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Abstract- *Vaccines are antigenic substances prepared from the agents that cause disease and they help to provide immunity. Different types of vaccines and adjuvants that have been investigated for the purpose of controlling cancer. Some of the vaccines such as dendritic cell vaccine and the recombinant viral prostate cancer vaccine, PSA-TRICOM are approved for clinical uses. Different types of cancer vaccines include the vector-based vaccine, peptide vaccine, dendritic cell vaccine, and tumor cell vaccine. Some traditional vaccines are available against those viruses such as HPV virus and Hepatitis B viruses which sometimes cause cervical cancer and some liver cancer. The main function of all these vaccines are the activation of antigen presenting cells and the stimulation of an antigen-specific cytotoxic T lymphocyte-mediated immune response.*

I. INTRODUCTION

Nowadays the role of Information and Communication Technology (ICT), in the education sector plays an important role, especially in the process of empowering the technology into the educational activities. Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Technology in another side can be the most effective way to increase the student's knowledge.

The use of ICT in education adds value to teaching and learning, by enhancing the effectiveness of learning. It added a dimension to learning that was not previously available. After the inception of ICT in schools, students found learning in a technology enhanced environment more stimulating and engaging than in a traditional classroom environment

Information Access

Technology plays a central role to both students and teachers searching for information. Online reference material, such as Encyclopedia Britannica Online, offer vast amounts of content supplemented by engaging multimedia and interactive links. Ebook collections offer thousands of texts, and the sheer amount of online articles and journals devoted to every imaginable topic make research efficient and highly rewarding. Teachers looking to engage their students have

access to thousands of images, diagrams, videos, maps, animation, games and a host of other options to appeal to the varied learning styles of their individual students. Today's broad access to educational resources encourages students to inquire more and follow pathways of information according to their own interests. Information technology thus plays a key role in the development of the autonomous learner.

The followings are the aim and objectives of ICT implementation in education:

1. To implement the principle of life-long learning / education.
2. To increase a variety of educational services and medium / method.
3. To promote equal opportunities to obtain education and information.
4. To develop a system of collecting and disseminating educational information.
5. To promote technology literacy of all citizens, especially for students.
6. To develop distance education with national contents.
7. To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)
8. To support schools in sharing experience and information with others.

Creativity and Self-Expression

Information and communication technology also plays a role in how students express themselves and reflect on their learning. Aided by the digital recording functions integrated into smart phones, tablets and other electronic devices, students are able to index the world the way they see it and add their own perspective to already existing bodies of knowledge to create original work. With audio, photo and video editing software and the various ways to post self-created media on the Web, students not only access information but contribute to its creation. The ability for students to be active members of the learning community, whether on the small scale of a school's social media site or on the larger canvas of the entire World Wide Web, gives their work broader significance and affirmation.

Communication and Collaboration

Information and communication technology provides students and teachers more opportunities to communicate and collaborate. With Learning Management Systems such as Blackboard and Moodle, many courses have an online space to participate in discussion threads and forums, chats, and video conferences. Collaborative functions in office applications allow students and teachers to view revisions and add comments in real time, making the process of relaying feedback more efficient. Technology further transcends traditional brick-and-mortar settings by providing working adults and parents taking care of children, geographically-isolated students, and the underprivileged the opportunity to connect and interact with learning communities through online schools and educational networks.

Student Achievement and Learning Outcomes

Information and communication technology also plays a role in how administrators assess the achievement of student learning outcomes. Various assessment tools such as standardized tests, student portfolios, rubrics, and surveys yield data that can be collaboratively analyzed by an educational institution to find areas in which to improve. As the data is entered into databases and statistics, charts and graphs are generated, and administrators identify patterns and make decisions involving changes in the curriculum and budget allocations. Technology has a prominent role in assessment and evaluation and helps direct curricula to the greater achievement of students.

ICTs are making dynamic changes in society. They are influencing all aspects of life. The influences are felt more and more at schools. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is, forcing schools aptly respond to this technical innovation. Operational definition of terms Information Communication Technologies (ICT) in this review article refers to the computer and internet connections used to handle and communicate information for learning purpose. E learning: is a learning program that makes use of an information network- such as the internet, an intranet (LAN) or extranet (WAN) whether wholly or in part, for course delivery, interaction and/or facilitation. Web-based learning is a subset of e learning and refers to learning using an internet browser such as the model, blackboard or internet explorer (Tinio, 2002).

Blended Learning

Blended Learning: refers to learning models that combines the face-to-face classroom practice with e-learning solutions. For example, a teacher may facilitate student learning in class

contact and uses the model (modular object oriented dynamic learning environment) to facilitate out of class learning.

Constructivism: is a paradigm of learning that assumes learning as a process individuals ''construct'' meaning or new knowledge based on their prior knowledge and experience (Johassen, 1991). Educators also call it the emerging pedagogy in contrast to the long existing behaviorism view of learning.

Learner- centered learning environment: is a learning environment that pays attention to knowledge, skills, attitudes, and beliefs that learners bring with them to the learning process where its impetus is derived from a paradigm of learning called constructivism. In the context of this article, it means students personal engagement to the learning task using the computer and or the internet connection.

Information Communication Technologies in Education

ICT helps to keep pace with the latest developments with the help of different technologies included in it. www – www stands for world wide web which is one of the most important and widely accepted services (like IRC, E-mail etc.) of the Internet. Its popularity has increased dramatically, simply because it's very easy to use colourful and rich content. According to Dennis P. Curtin (2002): - "Web is a series of interconnected documents stored on computer sites or websites".

E-learning– E-learning is also known as online learning. E–learning encompasses learning at all levels both formal and non-formal that uses an information network– the Internet, an intranet (LAN) or extranet (WAN). The components include e-portfolios, cyber infrastructures, digital libraries and online learning object repositories. All the above components create a digital identity of the user and connect all the stakeholders in the education. It also facilitates inter disciplinary research.

Group Discussion – Internet Relay Chat (IRC) is among the popular Internet service people mostly use for live chatting. Group of people with common interest can exchange views / opinions with each other instantly through Internet. Description of the internet technologies required to support education via ICTs (www, video conference, Tele-Conference, Mobile Conference, CD Database, Word-Processor, Intranet, Internet etc.)

There are some unavoidable facts in the modern education;

First, the ICT has been developing very rapidly nowadays. Therefore, in order to balance it, the whole educational system

should be reformed and ICT should be integrated into educational activities.

Second, the influence of ICT, especially internet (open source tool) cannot be ignored in our student's lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. In this case the widely use of internet access has been an unavoidable policy that should be anticipated by schools authorities.

Third, the presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. The students cannot be exterminated from this case. They can have and do with it wherever and whenever they want. Schools, as a matter of fact, do not have enough power and time to prevent or stop it after school times. Meanwhile, most parents do not have enough times to accompany and control their children. So, the students have large opportunities to do with multimedia games or online games or browsing *the negative and porn sites*. Having been addicted, the students will have too little time to study, and even do not want to attend classes.

In such situation, education institutions play an important role to eradicate these problems. One of which is by facilitating the students to do edutainment or educational games. Schools can let their students be familiar with educational games adjusted by their teachers. Besides, they can also support and facilitate their students to have their own blogs in the internet. A lot of WebBlog providers are free to the users, such as *WordPress*. In their blogs, the students can create and write something, like an article, poem, news, short stories, features, or they can also express their opinion by an online forum provided in the internet. They are able to share experiences throughout their blogs to others from all over the world. I think it will be an interesting activity for them, and *it will lessen their time to visit the negative or porn sites* existed. By doing so, I think our young generation will get more and more information and knowledge by browsing in the internet. They can also create innovation in web design that it may be out of the formal curriculum content, but it will be useful for their future.

Fourth, the implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the schools and the government institutions to enhance ICT implementation at school.

Fifth, the teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification.

II. CONCLUSION

The use of such technology in teaching training programmes the quality of teaching will increase effectively. A well-designed teacher training program is essential to meet the demand of today's teachers who want to learn how to use ICT effectively for their teaching. It is thus important for teacher trainers and policy makers to understand the factors affecting effectiveness and cost-effectiveness of different approaches to ICT use in teacher training so training strategies can be appropriately explored to make such changes viable to all. So if use of ICT in teaching training programmes by the institute of conducting teaching training programmes, our teaching learning process will be too smooth and able to understand for every type of students of our country. Finally, more attention should be paid to specific roles of ICT in offering multimedia simulations of good teaching practices, delivering individualized training courses, helping overcome teachers" isolation, connecting individual teachers to a larger teaching community on a continuous basis, and promoting teacher to teacher collaboration. Intended outcomes as well as Unintended results of using ICT for teacher professional development need to be explored.

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