Past, Present and Future of Educational or Instructional Technology

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**Abstract**

Due to the invention computers and the internet, there have been many successive technological developments that have brought about other changes in different sectors of the world. One of the most touched sectors is that of education. There has been a tremendous change in education in the manner in which information and instructions are passed from the tutor to the learner. This has been seen as the key approach towards the realization of the greatest benefits from education. However, there have been a number of issues that have to be addressed if the world is to meet these goals towards educational technology. This paper therefore looks deeply in educational technology in which reference has been given to the past, the present, and the future of educational technology along with the challenges and benefits technology in education.

**Introduction**

Each and every day there has been many new technology developments in education. The development of new technology has led to improved performances in education sectors. This new pedagogy has seen the third generation of education moving forth to the fourth generation which has been full of technological developments and better performances. Educational technology, which will be well known as learning technology, has come this far in the technology education. (Varlamis & Apostolakis, 2006). This is the study or ethical practice in which all aspects of learning are addressed in order to improve educational performances through the creation, management, and improvement of all technological procedures which are farther adopted for educational developments. This term, educational technology, has more often been attributed a closer association with learning theories and instructional theories. With this kind of technology, it should be agreed that education has been undergoing a number of key transformations. These transformations have been on constant improvement over the past years. Educational technology has positively changed today compared to the past and will continue to change in the future; however, there is still many current problems and critiques that need to be addressed before it is fully integrated into education.

**The Past of Educational Technology**

The past of educational and instructional technology was quite different from what we

have today. The change has been tremendous, and this has been as a result of continued

technological advancements which have seen the development of computers, increased

internet use, and provision of adequate instructions to the students and learners through the

present day technologies (Varlamis & Apostolakis, 2006). During the old days, educational

technology greatly relied on the old fashion means in which a teacher would come to a

lecturer room or a classroom and give notes through power point presentations. This would

use a projector through which explanations would be given accordingly to the learners

 However, this lies in the third generation of educational technology. The first

generation comprised of structures through which the teacher would use the chalkboard and

chalk in passing across the necessary instructions to the student. This saw much time being

wasted and inadequacy of the process. However, a number of benefits have always been

associated with the process. This means the student shall be in a position getting the

necessary communication skills from the lecturer or the tutor.

**Present and Future of Educational Technology**

The present developments in the instructional and educational technology have been

brought about by the subsequent technological advancements that have been taking place

today. This has involved the invention third, fourth and fifth generation computers which

have proved useful and effective for current technological operations (Pemberton, 1995). Due

to the invention and development of computers, there has been the development of internet

which has been effective in improving the manner in which man communicates with each

other and how information can be passed from one place to another. The use of e-mails has

improved the rate of communicating by reducing the time taken in the process by the greatest

percentage ever. It is this kind of development that has brought these changes towards

technological and instructional education.

There has been a rapid growth into which schools have been adapting new technology

in all the learning infrastructures hence improving the quality of education. This has been as a

result of the continued increase of computers that have been made available in many schools

today in different parts of the world. Majority of schools today have their students now using

and having adequate access to internet and computer use within their classrooms. In majority

of the fully developed nations, nearly all the students have been having adequate access to the

use of computers and internet in their schools. As well the modern education system has been

seeing teachers using this kind of technology as an important tool and approach towards

teaching. In addition, this has been a great appreciation on technology, and hence it is

possible that the future days shall result in greater changes through which the manner in

which education is passed along to the student shall change (Pemberton, 1995).

The modern education system has been seeing the use of computers as a key support

towards education delivery. This has seen a greater appreciation of technology as more

individuals continue to favor those schools which have the facilities for their children. There

have been increased efforts in making stronger efforts towards increasing the access of

students to computers and internet for the students. This has been aimed as a strategy through

which majority of the schools shall be able to use computers in teaching and overall adoption

of any other form of technology that come as a result. Because of these implementations,

there has been a dramatic change which has seen today more and more schools becoming

computerized and applying the same technology in their teaching practices (Pemberton,

1995). Today, in a country like the United States, the ratio in which students have been

supplied with internet on their computers has improved from about 20 students using one

computer in the year 1998 to about 3.6 students using one computer in 2007. This has

continued to improve and the year 2014 might see one computer with internet per every

student (Roblyer, 2006).

At the very time, a number of states in the country have been keen in ensuring that

more and more schools have been supplied with internet and computers for the teaching

activities. This means that the future must result in better performances in which different

states shall be able to promote technology and use it in all the teaching operations. This

means that the future shall be a little bit better. This would see teleconferencing, increased e-leaning, and improved performance within the educational practice. However, as more and

more technology continues to be adopted, there have been great issues that the same might

result in a number of problems which might as well be very hard to solve. For example, there

have been complains that the increased use of technology might end up affecting

communicational aspect of human beings, result to loss of morals, and kill human dialogue

which has always been encouraged by past education systems (Matthew, 2005). Due to this

fact, there have been suggestions that future technology in the educational sector should be

adopted in an intelligent manner so that no one is harmed as well as with our own societies.

This shall ensure that the morals and societal ethics have been maintained throughout the

teaching process. However, experts have argued that the new wave change which has been

taking place is very great and there is no way we can stop it. The best way we can address

change is through appreciating it, and especially when the kind of change is educational. This

means that more and more individuals shall be educated with the new educational systems

and eventually improve the rates at which our educational systems shall be improved.

**Benefits of Technological or Instructional Education for the present and future**

Educational or technological technology has been intended by the world as one of the

appropriate ways through which education can be improved through the continued utilization

and appreciation of technology. There have been a number of benefits that have been

enumerated to have a direct link with this kind of technological or instructional education.

The first benefit is that it has become very easy in accessing all learning materials. In this

case, the instructors can very easily post the required and necessary course materials through

the website and by so doing make it easy for the students to access the information, and can

as well go ahead and read for their own. Why is this very important? With this case, a student

can be able to get the information and instructions posted by the tutor wherever he or she is

around the world. This improves efficiency and makes it easier to provide the necessary

information to all the students and learners wherever they may be. This has improved

efficiency in the learning practice hence becoming a major benefit for the practice (Varlamis

& Apostolakis, 2006).

The other benefit with instructional or educational technology is in the fact that it

promotes student motivation. All form of computer**-**oriented instructions would possibly give

the learner instant feedbacks hence making them have appropriate answers which would

boost their morale after recording increased motivation from the kind of practice. Also, the

use of a computer makes an individual composed, patient, and non-judgmental, and hence

giving him the necessary motivation needed for the academic work. The benefit in this is that

more and more students shall be encouraged to continue learning hence remaining motivated.

Through this approach, we can have the student learning a lot of work within a shorter period

of time hence reducing the hours that have been unnecessarily wasted with past education

systems. With the same practice, it is no doubt that lesser time would be needed in the

teaching process and hence bringing the necessary positivity from the learning process to the

students.

The new educational technology would also be useful in widening participation. This

means that only lesser materials for learning shall be needed for use since students would not

have to be physically present. One document would be effectively distributed to all the

individual students wherever they may be. As well, a benefit expresses itself in that more

students shall be reached and be handled by only one tutor. As well, this would improve the

writing skills of the students. It would be convenient for all the students in editing their

works, and as well improve their know-how in use of word processors, and also improve their

typing speed. From a number of researches that have been done, it would as well increased

student participation and issue and issues of copying from one another shall be greatly

reduced (Tennyson & Spector, 1998). Once technology has been embraced with education, there is a myriad of software which has been noted to be capable of making work and the study procedures quite easy. This means that the subjects being taught would be made much easier for the students to understand. Today there are very many and different kinds of software for educational purposes that have been designed and competently developed in helping young children and teenagers in learning a number of specific subjects. The use of software has been known to improve performance of the students. This kind of teaching has also been known to bring proper structures which can be easy to monitor, follow and comprehend accordingly.

Generally, the new technological approach towards education has been known to have

many benefits on both the tutor and the learner.

**Issues and Challenges with Future Educational Technology**

As the universe goes computerized with its educational system, very many schools

have become equipped with internet and computers that have been made available to the

students, the teachers and all other individuals within the educational sector. As that has been

happening, many states in a country like America and other parts of the globe have been now

facing a number of challenges towards the future for educational technology. For instance,

there has been a big challenge towards the building of schools which have capacities that can

comfortably accommodate any form of new technology and its efficiency. Most of the

experts today have been agreeing that the increasing capacity would be effective in enhancing

the technological skills within the teachers as well administrators’ fraternity (Coe-Regan &

Youn, 2008).

As this is yet to be met and be achieved farther than it has been achieved for now, the

question of funding has also been raised. This would be used for the hardware and the

software materials that have to be bought, upgraded, and so on. This means that the

governments should be prepared for the increased spending so that they can be able to fund

the operations in an effective manner. With very many issues that have to be addressed, it

should come up as a wakeup call in ensuring that all the issues have been dealt with through

the provision of necessary amount of money for the concerned ministries. This has been one

big issue as the globe looks forward into becoming an educational center which appreciates

new technological advancements.

The other question has been on the individuals who shall deliver the services to the

students. This has been due to the fact that majority of the tutors in these countries have been

a product of the previous generations of education and did not acquaint themselves with any

computer knowledge in the very beginning. Many countries have hence been called upon to o

address the educators' skills in technology, and this is being done through creating centers in

which the teachers and other individuals like the administrator would be given the

appropriate know-how towards technology in education and how it can be the greatest

importance on the students. Because of this, a number of nations have been on the front line

in the adoption of technological requirements towards this initial licensure towards education

improvement in their nations. For example, almost all the developed world countries have

been having all the mangers, school administrators, tutors and teachers forced to have a

computer-technology based course so that they can be in a position of delivering adequate

services to the students whenever the need arises. This has been a challenge to a number of

individuals and especially the old aged whose retirement has been placed on the corner. This

has also been seeing more and more individual forced into extra expenditures in search for

computer and new technological know-how if they have to retain their jobs and remain the

practice.

Although the countries that have been involved in this rush towards educational

technology have been quite few, the number of these countries has been increasing steadily.

The countries have been participation in these technological and professional developments if

new educational practices could be appreciated (Ansell & Park, 2003). The latest data has

been showing that over seventy per cent of public school and their consecutive teachers have

been taking the extra skills and training as the world prepares towards a classic technological

education in the future days. Basically, the number of challenges and issues that have to be

addressed as the world prepares itself for this technological advancement and improvement of

technology in educational practice. This means that a lot of money shall be needed if the

future dreams can be realized, and if more and more countries would be part and parcel of

this integration (Roblyer, 2006). The other grand issue is the disparity this kind of technology in education shall have on overall human kind (Fletcher, 2004). This is to say, there are very many

countries that are still struggling with providing their citizens with the slightest primary

education. Majority of these countries shall be found in the third world countries in

continents like Africa and Asia. These countries have even been unable to provide the very

old school education to their citizens, and the integration of new technology in their

educational systems is something which is too far beyond reach.

**Criticism with Technological Education**

It is something well known that the use of technology in the learning process would

have the greatest benefits. However, many issues have been raised towards the same

technology. These drawbacks are real and therefore they cannot be taken for granted. For

instance, lack of good training would effectively affect the process, the limited access on to

enough technological hardware and software, and the exorbitant need for resources and

capital which have been hampering the adoption of new technology. Some students might not

be keen enough in studying for themselves and hence would end up not benefiting from the

practice. Some other critics have argued that the future of education is not really in the

manner in which we embrace new technology, but on how we pass the relevant information to

the student. This has seen the process being highly criticized. This means that more and more

individuals shall be forced to do things which might not have a relation with their careers

whatsoever. In that case, this kind of approach itself diminishes the relevance of education

while promoting technology promoters and developers rather than providing cognitive

abilities to the learner (Pemberton, 1995).

Another difficulty has been in the time that is greatly limited in which the tutor would

interact with the student. This is to say that the use of computers and other developments

might never address the old school needs of a class setting. The implementation of any sort of

technology is another issue that has been raised as well (Pemberton, 1995). This is because it

can be time consuming, taking a lot of time which might have been used in providing the

learner with the right information and education. There would be very many issues that have

to be addressed when thinking of an initial setup of the technology, the training, and the cost

that have to be addressed. Another issue that have been seen is that there would be different

developments each and every day would keep on changing and hence schools and countries

would be required to incur costs every time there is a technological change.

**On-line Learning and Computer Use-Future Benefits**

The use of computers and on-line studying appears to be the exact future in which the

modern developed world has been headed for. Recent statistics in technological

advancements and usage in schools having been showing increasingly positive trends in

which the students and staff have been using hardware and software devices in delivering

online learning. For example, in a country like the United States, there are over 70 per cent of

schools that have been using computers and internet for their schoolwork operations and even

in class. In about 83 percent of the schools in the developed countries, about half of the

teachers have been using computers in their daily activities for lesson planning, teaching

purposes, or for both of them. This has been a steady rise from 58 per cent in the year

2001(Tennyson & Spector, 1998).

As well, in about 73 percent of all the schools these countries, half of its teachers have

been using the internet in giving assignment, instructing students, and for research work in

order to provide the learners with the appropriate information and instruction which bring

about better understanding on them. As more and more technology come to man, there are

very high possibilities that more and more schools and countries shall adopt the online

learning. This is the exact description of the present and future of educational technology

(Coe-Regan & Youn, 2008). In the future, more and more schools would be willing to

embrace this kind of technology and promote online learning. Over the last years, different

states and countries have been trying to embrace this kind of idea in incorporating the online

instruction as part of the curriculum and be used for teaching purposes.

**Conclusion**

Once the developed countries have gone ahead with their dreams, there would be an

increased disparity, and hence more and more differences and dominion would continue

being seen in the world. Therefore, it would be something good that the approach to this kind

of future technological integration in education is done in a manner in which all the entire

globe is given the necessary consideration (Ansell & Park, 2003). In addition, to equip

schools with the necessary hardware and the software towards this infusion of technology

would be something expensive for the third world countries and the reason it should be taken

as a global agenda if the dream would be realized and bring the greatest happiness to the

greatest majority in the world. This would improve educational performance in the entire

world and see all the people being in a position of accessing advanced form of education.

This would bring new incentives through which the greatest gains can be achieved from this

education. The status of different educational learners shall be improved accordingly, and the entire globe would be geared towards the realization of its goals. This would eventually result in

better living conditions for humanity. In conclusion, technological education is something

that has come a long way for the last centuries until what it is today.

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