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IMPACT OF INFORMATION TECHNOLOGY ON TEACHING AND LEARNING IN THE EDUCATIONAL SECTOR

BY

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Abstract:
Information and communication technology has become an inseparable part of human life and caused doing things more through the consumption of less time and cost. The pace of change brought about by new technologies had a significant effect on the way people live, work, and play worldwide. New and emerging technologies challenge the traditional process of teaching and learning, and the way education is managed. Information technology, while an important area of study in its own right, is having a major impact across all curriculum areas. Easy worldwide communication provides instant access to a vast array of data, challenging assimilation and assessment skills. Rapid communication, plus increased access to IT in the home, at work, and in educational establishments, could mean that learning becomes a truly lifelong activity, an activity in which the pace of technological change forces constant evaluation of the learning process itself.

Keywords: *Technology, internet, IT, Learning, Teaching and Communication*

Introduction

21st century is knowledge and information revolution century. It means the conversion of industrial society into informational society; and today the richest countries and human societies are those who have access to the greatest knowledge, awareness and information. Certainly, the leadership of future education will be assumed by IT. Technology will have a critical role in 21st century (Alinston, 2002). Therefore, nowadays using IT is essential for every organization (Kurupparachchi et al., 2002). During the last semi-century, modern organizations have increased investing on IT, because they believe that IT has a positive effect on the organizational performance (Muata et al., 2003). In the organizations, data network has become as important as the social network and they are actually been merged together. Finally it must be noted that nowadays IT application is a common characteristic of organizations and has been proved as a vital factor in the success of many organizations (McClea &Yen, 2005).

By introducing information technology in teaching and curricular program domains, classroom management was generally revolved and it is performed by a research-based and student-based procedure. The responsibility of the teachers is no longer gathering and transferring information, but he/she assumes various responsibilities and he/she should be a multi-skilled person. Closed, limited and concentrated pattern of teaching resources and traditional learning is also converted into open, non-concentrated, and unlimited pattern and devoid of time and space limitations and presents very procedural results for teaching and learning system. Curricular subjects obtained from technology have multi-dimensional and motional nature and its designers have process-based policy not context-based one. In traditional attitude towards this subject, teacher- based policy is the basis and foundation of human teaching. But in new attitude, the basis of teaching and training has been established student-based.

It is undeniable that the unilateral form material-based systems are being destroyed and educational methods have been established based on exploiting from bilateral values of learning according to new communicative systems and video-audio framework. Ineffectiveness of traditional methods of teaching in the present age is an accepted issue and the application of information and computer technologies in order for quantitative and qualitative improvement of teaching process is inevitable.

The combination of education and technology has been considered the main key to human progress. Education feeds technology, which in turn forms the basis of education. It is therefore evident that information technology has affected changes to the methods, purpose and perceived potential of education. The usage of information technology (IT), broadly

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referring to computers and peripheral equipment, has seen tremendous growth in service industries in the recent past (Berger, 2003).The increasing role played by information technology in the development of society calls for an active reaction to the challenges of the information society.

Technology is bound to rule our present and our future. This is an escapable fact that we need to face. It has ruled over different facets of our life and influenced the way we live. Computers and the Internet technology in particular have undoubtedly revolutionized the field of education. It plays an important yet fragile role in this field. The student teacher dynamic has drastically changed since the introduction of technology based class structure. The instructor is no longer the king of the classroom but rather a middleman between information and student. Instead of a passive sponge soaking up knowledge, the student has now become an active informational architect, procuring, rearranging and displaying information.

Two-thirds of teachers surveyed at the turn of the century stated that they were not comfortable using technology, leaving tech-savvy students in a position to assist the teacher in technology based lesson plans. The Internet itself has unlocked a world of opportunity for students. Information and ideas that were previously out of reach are a click away.

Students of all ages can connect, share, and learn on a global scale. Succession at difficult technological tasks, as well as social networking such as Face-book can also lead to improved self-esteem. The environmental aspects of e-mail and online drop boxes are the most compelling argument. In the recent century, we have seen a rapid change in the classrooms. The impact of technology is evident; computer has become the new classroom. Traditional classrooms became virtual ones, traditional teachers became virtual instructors. What was once an impossible task of teaching. A person in a distant and without actually going there became possible, thanks to the advent of computer and the internet. Traditional chalk board setting has now evolved into digital projectors, interactive board even physical library to virtual library. Books that have once burdened us for their volume and weight can now be digitally squeezed into a handy storage device. Finding and retrieving of information became easier than ever.

The existence of technology gap provides an opportunity to use IT supported education technologies for better delivery of education, easier access to a number of knowledge sources, sharing through networks and quality distance learning in higher education.

Research Objectives

The goal of this paper is to observe what positive and negative consequences the internet and information technology itself have in the field of teaching and learning, especially how it can be used for acquiring professionals in IT fields, motivating and leading. Also observed is, what outcomes we can expect from the use of Internet and IT in discussed field in the future and what are the possibilities for management and exploitation of the inevitable coming changes.

Significance of IT in educational sector

In the era of technology, IT aids plenty of resources to enhance the teaching skills and learning ability. With the help of IT now it is easy to provide audio visual education. Now with this vivid and vast technique as part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies. In particular, they need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work. Now in the year of computers and web networks the pace of imparting knowledge is very fast and one can be educated anywhere at any time. New IT has often been introduced into well-established patterns of working and living without radically altering them.

For example, the traditional office, with secretaries working at keyboards and notes being written on paper and manually exchanged, has remained remarkably stable, even if personal computers have replaced typewriters.

Now IT has made it easy to study as well as teach in groups or in clusters. Efficient postal systems, the telephone (fixed and mobile), and various recording and playback systems based on computer technology all have a part to play in educational broadcasting in the new millennium. Audio-Visual Education, planning, preparation, and use of devices and materials that involve sight, sound, or both for educational purposes. Among the devices used are still and motion pictures, filmstrips, television, transparencies, audiotapes, records, teaching machines, computers, and videodiscs. The growth of audiovisual education has reflected developments in both technology and learning theory.

Studies in the psychology of learning suggest that the use of audio-visuals in education has several advantages. All learning is based on perception, the process by which the senses gain information from the environment. The higher processes of memory and concept formation cannot occur without prior perception. People can attend to only a limited amount of information at a time; their selection and perception of information is influenced by past experiences. It was found that, other conditions being equal, more information is taken in if it is received simultaneously in two modalities (vision and hearing, for example) rather than in a single modality.

Furthermore, learning is enhanced when material is organized and that organization is evident to the student. These findings suggest the value of audio-visuals in the educational process. They can facilitate perception of the most important features, can be carefully organized, and can require the student to use more than one modality. Internets support thousands of different kinds of operational and experimental services one of which is online library. We can get plenty of data on this online library. As part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies. In particular, they need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work. This requires them to select the medium best suited to conveying

their message, to structure information in hierarchical manner, and to link together information to produce a multidimensional document. Information technology has brought drastic changes in the life of disabled children. IT provides various software and technique to educate these poor peoples. Unless provided early with special training, people profoundly deaf from birth are incapable of learning to speak. Deafness from birth causes severe sensory deprivation, which can seriously affect a person's intellectual capacity or ability to learn. A child who sustains a hearing loss early in life may lack the language stimulation experienced by children who can hear. The critical period for neurological plasticity is up to age seven. Failure of acoustic sensory input during this period results in failure of formation of synaptic connections and, possibly, an irremediable situation for the child. A delay in learning language may cause a deaf child's academic progress to be slower than that of hearing children. The academic lag tends to be cumulative, so that a deaf adolescent may be four or more academic years behind his or her hearing peers. Deaf children who receive early language stimulation through sign language, however, generally achieve academically alongside their hearing peers. The integration of information technology in teaching is a central matter in ensuring quality in the educational system. There are two equally important reasons for integrating information technology in teaching. Learners must become familiar with the use of information technology, since all jobs in the society will be dependent on it, and information technology must be used in teaching in order to improve its quality and make it more effective.

Today, most people realize that computers have had and will continue to have a significant impact on their lives. In most of the schools, knowledge and information are delivered with teaching aids like slide projector, overhead projector and LCD projector. However, in distance mode of learning various other tools like audio-visual tapes, broadcast on radio and telecast through T.V., teleconferencing through satellite, floppy diskettes and CD-ROMS, networking via EARNET and the INTERNET are being used or may be used in a big way to impart management education in remote areas also. With access to internet, the learners have a reach to an unrestricted pool of knowledge, through the Web T.V. while operating at their home. Hence the homes will come to harbor the Virtual class room. With the help of broadcast T.V. the best available professionals, emeritus professors and functional specialists can interact directly to a large number of learners.

Huge information, data, figures, pictorials, documents, graphics may be stored within them along with audio and video effect. Further internet communication is a very useful medium of imparting knowledge as classroom situations may be created at home with the access to E-mail and web browsing on the World Wide Web, which is now commonly available due to the launch of web television. Computers play a useful role in creating learning materials. Through multimedia symbiotic advantage may be gathered by integration of various types of information such as clip art, animation graphics, music, voice and live interaction that makes the delivery effective. A selected program can be viewed at the convenience of the viewer and not when relayed.

Multimedia computer can be used for training in a one-to-one situation with the student. Multimedia system is treated to be more learner friendly as compared to T.V. as it enables tocontrol the response of instruction transfer process as per the pace of the learner's grasping capacity and preference so as to purposive and situation specific interface with the availableinformation package. This creates an identical condition to the classroom on computer monitor without engaging a teacher and the given package can be browsed again and again by the learner to match with his or her own learning process.

It is now realized that IT tools have some relative advantages as compared to conventional mode of information sharing. This generates the need for computer, which is not only useful in sharing knowledge but also, imbibes skills required in a prospective manager such as conceptual, behavioral, analytical and administrative.

It is evident that information technology has affected changes to the methods, purpose and the perceived potential of education. While various authors differ in their opinion on the degree, desirability and destiny of these changes, all agree that change processes have certainly been underway.

While education in the past has been centered on teaching and learning, information technology has affected changes to the aims of education, therefore now education is increasingly perceived as the process of creating, preserving, integrating, transmitting and applying knowledge.

The perceptions of knowledge itself have also changed whereas knowledge could once have been perceived as unchanging; it should now be perceived as "revisionary, creative, personal and pluralistic". The future of education is not predetermined by modern information technology, but rather that this "future will hinge prominently on how we construct the place of technology" in the education process.

The use of information technology (IT) in higher education is far ranging. In order to produce a working document for the educators, Web pages and other information-gathering devices have become an essential part of our daily life, as they provide extensive information on all aspects of our society. This is mirrored in education where there are many different tools available, IT offers added value to traditional teaching methods and examples are provided. In spite of the continuing debate on the learning effectiveness of e-learning applications, students request such approaches as an adjunct to the traditional delivery of learning materials.

In essence, simple technology can overcome many of the barriers to learning. IT will always remain exciting, as it is always changing and the users, whether students or educators are like chameleons adapting to the ever-changing landscape.

Within the last two decades, the Internet became one of the most popular and demanded technological innovations which are currently used by billions of people throughout the world.

It is impossible to deny the fact that the Internet has had a huge impact on our life, but should itsinfluence be considered as something more positive than negative, or vice versa? To find an answer on that question, let's take a closer look at the role of the Internet in modern life.

First of all, it is necessary to mention that the most important function of the Internet is its being a unique source of information. Every Internet user has a free access to many powerful search engines like Google, MSN or Yahoo, which can assist in finding any specific information or data within a few seconds. In addition to that, today's Internet offers its users an opportunity to watch videos and TV shows online, read newspapers and books, download a great number of movies, PC games, music, software and so on. Undoubtedly, it is a great positive influence of the Internet since viewing various educational or entertaining sites helps people to learn a lot of new things and increase their general intelligence.

Moreover, the Internet is an invaluable source of information for today's students. It gives an opportunity to access electronic libraries, e-book catalogues and databases, scientific documents and academic works, news, educational websites, etc., and can be of a great help when writingacademic researches and course works. Launching the Internet in the classrooms substantially enhances the opportunities of modern education and allows teachers to use online resources,various educational videos, programs, visual aids and so on. Also, nowadays the Internet became an irreplaceable tool for distant education, helping millions of people to receive their academic degree regardless of where they are physically located.

Besides, the Internet has opened absolutely new dimensions for interpersonal and intercultural communication allowing people from all quarters of the earth to communicate with each other using IM tools, e-mails, online chat-rooms, etc. Moreover, nowadays, it became possible to do voice and video chat, so the users are able to hear each other's voices and see each other's reactions and emotions while talking. As a result, the Internet should be considered a perfect tool for meeting with the people who share the same interests, or making friends with the people of other nationalities and learning more about different cultures of the world. This way, the Internet brings people closer together, and this is another very important positive function of Internet technology.

Modern use of internet in educational sector

The Internet is allowing greater flexibility in working hours and location, especially with the spread of unmetered highspeed connections and web applications (Gopal, C., et al 1995). The Internet can now be accessed almost anywhere by numerous means, especially through mobile Internet devices. Mobile phones, data cards, handheld game consoles and cellular routers allow users to connect to the Internet from anywhere there is a wireless network supporting that device's technology. Within the limitations imposed by small screens and other limited facilities of such pocket-sized devices, services of the Internet, including email and the web, may be available.

Educational material at all levels from pre-school to postdoctoral is available from websites.

In distance education, help with homework and other assignments, self-guided learning, whiling way spare time, or just looking up more detail on an interesting fact, it has never been easier for people to access educational information at any level from anywhere. The Internet in general and the World Wide Web in particular are important enablers of both formal and informal education.

Messages can be exchanged even more quickly and conveniently than via email. Extensions to these systems may allow files to be exchanged, "whiteboard" drawings to be shared or voice and video contact between team members.

Objective of study

The objective of this study is to show how information technology impact positively on the performance of the learners in the educational sector as well as the changes that have been brought by the Information Technology in teaching and learning and to enabling new ways of work. It is also to encourages open space to e-learning material, platform and programmers.

Research questions

1. What impact has IT on learners in the educational sector?
2. Has IT improved the performance of learners in educational sector?
3. Do learners need to be motivated to acquire IT skills?

Research hypothesis

Ho: Using of information technology has no impact on educational motivation of learners in the educational sector.
Hi: Using of information technology has an impact on educational motivation of learners in the educational sector.
Ho: Information technology has no effect on the educational improvement of learners in the educational sector.
Hi: Information technology has effect on the educational improvement of learners in the educational sector.

Research Methodology

Regarding to the mentioned goal and hypotheses in this study, the research approach is descriptive survey
Statistical population in this research has been teachers and learners from schools in Ughelli North Local Government Area of Delta State which totaled 200.

In this study, questionnaire containing 24 questions realized by likert spectrum which had been compiled proportional with the hypotheses, are used for data collection.

Findings and results

All the 200 respondents show their response to answer the required questions. The analysis shows that independent variable as Information Technology and performance as dependant variable shows positive results.
From the result, using of information technology has an impact on educational motivation of learners in the educational sector. Therefore, by a 99 percent confidence, it can be said that there is a meaningful difference between the

observed frequencies and the expected frequencies. And this result indicates that using of information and communication technology has an impact to a high extent on educational motivation of learners in the educational sector.

It was also discovered that Information technology has an effect on the educational performance of learner in the educational sector. Therefore, by 99 percent confidence, it can be said that there is a meaningful difference between the observed frequencies and the expected frequencies. And this result indicates that Information technology has an effect on the educational performance of learner in the educational sector.

Conclusion

From the analysis we have reached the conclusion that information technology is very helpful to enhance performance of the learners in the educational sector.

In this paper we discuss some of the changes that have been brought by the Information Technology in teaching and learning and to enabling new ways of work.

IT tools have some relative advantages as compared to conventional mode of information sharing. The combination of education and technology has been considered the main key to human progress. Education feeds technology which in turns forms the basis of education. Therefore it is evident that it has affected change to the methods, purpose and perceived potential of education.

The future of education is not predetermined by modern information technologies but rather than this future will hinge prominently on how we construct the place of technology. This paper encourages open space to e-learning material, platform and programmers. In modern time traditional examination schemes and evaluation process also can be enriched by IT.

Computer technologies facilitate educational opportunities and assist an individual in perfecting his perceptions. Internet is invaluable source of information for today's student as well as human resource working in organization. It gives opportunities to access electronic libraries, e-books, catalogues and database etc. So launching the internet in classrooms as well as administrative areas substantially enhances the opportunities of modern education and allows human resource to use online database/resources.

Recommendations

On the basis of above discussion, we make the following recommendations:-

1. Schools should implement information technology as a strategy in imparting the learners in order to compete in today's dynamic and competitive environment.
2. Launching the internet in classrooms as well as administrative areas is essential
3. It was found that schools require support to enable them to effectively use the technology to the benefit of their students. This support should be provided by the government
4. Qualified teachers is recommended to man the IT equipments need for training the learners
5. Adequate electricity should be provided by the government to ensure smooth teaching and learning
6. There should be a policy for appointing an e-learning champion with good interpersonal skill to support and encourage the learning of IT.
7. The IT tools needed to operate at peak performance should be made available by schools and government

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