

INFORMATION AND COMMUNICATION TECHNOLOGY, A FACTOR OF SOCIAL CHANGE IN THE EDUCATIONAL SECTOR IN NGAOUNDERE CAMEROON.

FON TABEL Wilson¹;
NDZANA Ignace Bertrand²;
FALNA Taubic³;
MOUSSIMA Njanjo⁴;
AFANE Henri⁵

¹PhD researcher in Sociology, University of Ngaoundere, A Sociological Analysis of Information and Communication Technology as a factor of Social Change in Education.

²Department of Sociology and Anthropology, University of Ngaoundere

³Head of Department of Sociology and Anthropology, University of Ngaoundere

⁴Department of Science of Education, University of Ngaoundere

⁵Department of Sociology and Anthropology, University of Ngaoundere

Abstract

This article is based on the phenomenon of ICT as a factor of social change in education. In the world today in general and Cameroon in particular, the expansion of ICT for Education (ICTE), the training and educational sector is highly revolutionized as far as Education is concerned that is from the traditional to the modern method of teaching. We conducted some investigations with the teachers in some secondary and high schools in Ngaoundere Adamawa Region of Cameroon in order to know if they use ICTs to facilitate the teaching/learning process. Social change may be defined as a new fashion or mode, either modifying or replacing the old, in the life of people or in the operation of a society. Social change refers to the transformation of culture and social organizations/structures over time. We are aware that in a modern world, a society is never static and that of social, political, economic, and cultural changes occurs constantly. Considering the world being a global village, Information and communication technologies (ICT) have become more valuable entity in all

aspects of life. Over thirty years, the use of ICT has fundamentally changed the practices and procedures of nearly all forms of exertion surrounded by business, governance and education. In recent years, many organizations and governments have worked to increase frankness and clearness in their actions on how Information and communication technologies are understood by many people as a cost-effective and suitable means to promote candidness and social changes in E-government, E-learning and social interaction in particular. Some of these individual efforts have received considerable attention on the issue of whether these ICT-enabled efforts have the ability to create a substantive social change in approaches toward transparency or not. In this article, we shall look on the role of ICT on social changes and transformation and identify some viewpoints regarding the nature of the role ICT played in social changes and transformation toward innovation; by combining the perspectives of nature of ICT innovation on social development and transformation.

Keywords: *Social change, ICT, Society, Education,*

Citation: *Boudon Raymond & Bourricaud F., Sociology critical Dictionary, Paris PUF.1982 and H.T Mazumder*

Introduction

A group of interrelated technologies (electronic devices) for accessing, processing and disseminating information is called ICT or Information and Communication Technologies. Information and communication technologies have become more valuable entity in all aspects of life. Over thirty years, the use of ICT has fundamentally changed the practices and procedures of nearly all forms of exertion surrounded by business, governance and education. In recent years, many organizations and governments have worked to increase frankness and clearness in their actions on how Information and Communication Technologies are understood by many people as a cost-effective and suitable means to promote candidness and social changes in E-government, E-learning and social interaction in particular. Some of these individual

efforts have received considerable attention on the issue of whether these ICT-enabled efforts have the ability to create a substantive social change in approaches toward transparency. ICTs are indisputably important part of our social setting today. The term ICTs has been used to embrace technological innovation and merging in information and communication transforming our world into information or knowledge societies. The rapid development of these technologies has fainted the boundaries between information, communication and various types of media. The fast-tracking merging between telecommunications, broadcasting multimedia and ICTs is the driving force that gradually changes many aspects of our lives, including knowledge dissemination, social interaction, economic and businesses, politics, media, education, health, leisure and entertainment.

The development of a society mostly depends on the access to information. The Information and Communication Technologies (ICTs) greatly ease the flow of information and knowledge offering the socially-marginalized and unaware community an extraordinary chance to attain their own rights socially, economically, educationally and politically. Despite ICT's massive potential, the current global information outburst has had surprisingly little impact on development activities and access to practical information for rural communities, local people and forefront development workers in developing countries.

Information Communication Technology are versatile and powerful technologies that have assisted individuals, groups and organizations in many different ways. Different people have different views on what ICT is all about. Onyegeme- Okerenta in Asodike, Ebong, Oluwuo and Abraham (2013) views ICT as an umbrella term that includes any communication device or application, encompassing,

radio, television, cellular phone, computer and network hardware and software, satellite system, etc, as well as the various services and applications associating and distant learning. Similarly, Ajayi in Ain (2003) in Asodike et al (2013) view ICT as an electronic based system of information, transmission, reception, processing and retrieval. Abifarm (2003) in Asodike et al defines ICT as the application of computers, telecommunication, and equipment to process, store, retrieve and send information to all kinds in whatever form. From the above ICT can be viewed or defined as electronic and communication devices used in transmitting, processing, receiving storing and retrieving information. They assist humans to collect information.

Background of the study

The emergence of Internet, World Wide Web, mobile cell phones, digital television, and several other new electronic devices pertaining Information and Communication Technologies are opening a fresh passageway for transforming the way we live, work, learn, communicate and also provides a strategic opportunity of diverse and significant social and economic benefit to individuals across the globe. There are few aspects of life in these present days which are unaffected by ICT. In the office, factory or at home, visiting a bank, supermarket or garage and in many other places. ICT provides information, carry out transactions, record data, make decisions and perform an ever-increasing range of tasks. He further stated that traditionally, the basis of all information systems was a manual one. Data were recorded on paper, stored in filling cabinets and processed manually using simple procedures and office equipment such as typewriters, calculators multi-pat form, duplicating machines and so on. In

recent years, the position systems even in small organizations are now almost entirely computer based.

Methodological approach and theoretical framework

This study uses the narrative design with qualitative research approach. It aims at describing and analyzing social transformation and mutation with the advent and integration of Information and Communication Technology in the Society at large and Education in particular. Different techniques were used for data collection: documentary research, participant observation, and interview.

The theory of methodological individualism of Raymond Boudon was used. For Boudon, any social fact is the result of interaction of a set of individual behaviors even when these are subject to the influence of collective norms or values. The structured set of human relationships is therefore no longer passively shaped by the weight of conditioning, but the result of divergent confrontations considered of the intentional and strategic dimension of the actors. In the social sciences, methodological individualism is the principle that subjective individual motivation explains social phenomena, rather than class or group dynamics which are according to proponents of individualistic principles illusory or artificial and therefore cannot truly explain market or social phenomena.

Ict as a change agent in learning process

The use of ICT in educational settings by itself acts as a catalyst for change in this domain ICTs by their very nature are tools that aid, encourage and support independent learning students using ICTs for learning purposes become immersed in the process of learning and as more and more students use

computer. Information and Communication Technologies have become common place entities in all aspects of life. Across the past twenty years the use of computing and ICT have fundamentally changed the practices and procedures of nearly all terms of endeavors within business and governance. Within education, computing and ICT have begun to a presence but the impact has not been as extensive as in other fields. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The use of ICT in education tends itself to more Students–Centre learning settings and often this creates tensions for some teachers and students. But with the world moving rapidly in to the digital media and information. The role of computing and ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21st century.

Change can be seen as a process of making something different. It is a form of activity or event that takes place around us all the time. The world that we live in and all that around us witness constant change. These changes are experienced virtually in every aspect of life from when one is born even unto death. Change is a systematic paradigm shift. Shannon (1990) in Lu and Ortleib (2009) notes that from historical perspective on education, we are confronting many struggles just to survive, such as the concepts of teaching, approaches to literacy, school system reform.

Change agents according to Lu and Ortleib (2009) are those who fell unsafe, uncomfortable, dissatisfied with the current situation and plant to change it. They initiate change schedule the change and create the climate for the change. A change agent aims at communicating an innovation to an intended adopter (Ellsworth, 2000). This is accomplished using a change

process, which establishes a channel through the change environment.

Student-centred learning is used widely in teaching and learning. It is linked with such terms as flexible learning, experiential learning and self-directed learning. Student-centred learning focuses on the student learner rather than the teacher, driven by a need for change in the traditional environment which is known as the educational environment. According to Slarin (2009), learning is much more than memory. For students to really understand and be able to apply knowledge, they must work to solve problems, and to discover things for themselves, to wrestle with ideas. He further stated that the task of education is not to pour out information into the student's heads, but to engage students' minds with powerful and useful concepts. This view is affirmed by Sharma (2007) as he posits that modern methods condemn rote memorization and promote the adoption of lively and effective methods like play way, learning by doing, learning by experience, and that these methods stimulate motivation, interest and attention.

The paradigm shift away from teaching to an emphasis of learning has moved power from the teacher to the student. In the past, the teacher focused on the transmission of information in the form of lecturing but now is paving way to a wide spread growth of student-centered learning. Student-centered learning involves the construction of knowledge by the student with the lecturer as the facilitator of learning rather than a presenter of information. Student learning created room for the reliance on active learning rather than passive learning. It places emphasis on deep learning and responsibility and accountability leads to an increased sense of autonomy in the learner; and results in a reflexive approach to on the part of both teacher and learner.

Conventional teaching has emphasized content. Before now, courses have been written around textbooks, teachers have

taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. According to Amaele (2007). The teacher has upper hand in the class, which the learner is restricted in the activity of the class and that strategies are mapped to make the class more comfortable to the teacher than to the learner; that learning activities are selected by the teacher. Presently, higher education favours curricula that promote competency and performance where learners will begin to construct knowledge. Slarin (2009) posits that students must construct knowledge in their own minds and that the teacher can facilitate this process by teaching in ways that make information meaningful and relevant to students, by giving students opportunities to discover and apply ideas and consciously use their own strategies for learning. Anderson, Greeno, Reder, and Simon (2000); Waxman, Padrun, and Arnold (2001) state that learners must individually discover and transform complex information if they are to make it the own. Hence curricula are beginning to emphasize capabilities and how information will be used than with what information is. According to Bilte and Legacy (2008) ICT application in education could be applied in three ways; first teachers use ICT on their classroom teaching or plan instruction and present content to their classes. Second, students use ICT to explore practice ad prepare papers and presentations.

Teachers and administrators use ICT to accomplish administrative tasks associated with their profession, such as assessment record keeping, reporting and management tasks and the males teaching-learning experience an appealing one. Just as technology is influencing and supporting what is being learned in schools and universities, so too is it supporting changes to the way students are learning. Mores from content-centered curricula to competency-based curricula are

associated with moves away from teacher centered forms of delivery to student centered forms through technology-facilitated approaches, contemporary learning setting now encourage students to take responsibility for their own learning. In the past students have become very comfortable to leaning through transitive model. Students have been trained to let others present to them the information that forms the curriculum. The growing use of ICT as an instructional medium is changing and will likely continue to change many of the strategies employed by both teachers and students in the learning process. This (Hoeffler & Leutner 2006; Reed, 2006) concludes when they said that technology is used on the increase to combine text and visual content and that this multimedia approach enhances students' learning as long as the text and visuals directly support each other. Chambers et al (2006) in Slavin (2009) in as study of first-grade reading found that adding video content on letter founds, sound blending, and vocabulary to teacher-led reading lessons significantly increased students' learning. The many technological tools available they say, make teachers' lessons more dynamic and leaning more exciting. The fears that computers might replace teachers are unfounded.

Technology has the capacity to promote and encourage the transformation of education from a very teacher directed enterprise to one which supports more student- centered models. Evidence of this today is manifested in the proliferation of capability competency and outcomes focused curricula, moves towards problem-based learning and increased us of the web as an information source, users are able to choose the exports from whom they will learn Becker (2001) conclude this when he said that computers have replaced typewriter and encyclopedias and that students use technology for a wide variety of purposes in the following categories word

processing and publishing spreadsheets and databases computer-assisted. Instruction, the internet multimedia, integrated learning system, and computer programming. The use of ICT in educational settings by itself acts as a catalyst for change in this domain ICTs by their very nature are tools that aid, encourage and support independent learning students using ICTs for learning purposes become immersed in the process of learning and as more and more students use computer as information sources and cognitive tools the influence of the technology on supporting how students learn will continue to increase. This is the view of Bitter & Legacy et al (2008) in Slavin (2009) where they noted the three general types of technology applications in education and stated that first teachers use ICT in their classroom teaching to plan instruction and present content to their classes. Second students use ICT to explore, practice and prepare papers and presentations, finally teachers and administrators use ICT to accomplish administrative tasks associated with their profession such as assessment, record keeping, reporting and management tasks and these makes teaching-learning experience an appealing one. Information communication technology has become indispensable of schools. Its application in all spheres of human activities has changed the face of the earth. The world is undergoing tremendous change as a result of advance in science and technology. The school needs such advancement. All Stakeholders in the education industry need to encourage a technological based environment for a better learning and quality output.

Change in the way of learning

ICTs are cause to make a move from a teacher centered learning to competency-based learning. Learning Institutions are

responsible to make supporting changes in the way students are learning. Traditional way of learning is based on Tran missive modes. Use of ICT in education also affects the way students learning. The following points are particular forms of learning: Students Centered Learning, and Supporting Knowledge Construction.

Students centered learning

With the help of technologies, it is possible to promote transformation of education from teacher centered to students centered example: Increased use of web as a source; Internet users can select the experts from whom they will learn; Process will become problem-based learning; The proliferation of capability, competency and outcomes-oriented curricula. ICTs act as a change agent in education. It supports independent learning. Students become immersed in the learning process by using ICT.

Contribution of ict to social changes development

The impact of ICT is extensive. As a matter of fact, we experience it effect in our daily lives. It is however important to note that the benefits are of ambiguous with some being harmful and other being beneficial. On this paper, I decided to mention few not all on the benefit of ICT toward social changes and transformation.

Social transformation through ict empowerment

Social transformations that could result from the increasing use of ICTs depend strangely on verdicts made by organizations and individuals outside our household, many of whom have

great economic leverage, political power or technical expertise. To increase the consent potential of ICTs, it is important to understand some of their basic features, which make them a unique kind of technologies. ICTs are general purpose technologies and this means that they have a standard use through a huge collection of sectors and activities. With gradual society-wide adoption, GPTs lean towards to disrupt existing social systems and recreate new ones in their place. Below are some of the social transformations through ICTs:

Entertainment

With the advent of new technologies, the world of entertainment is constantly evolving. Digital broadcasting has completely changed the way we experience television and radio with more interactive programming and participation. Digital cameras, scanners, and printers have enabled more people to experiment with image production. Computer gaming has also been an important influence in the development of graphical interfaces. Technology has been at the forefront of changes in production and distribution of music, as well as the way in which people can access and listen to music.

Public services

Many of the nation's public services are available through online. For example, individuals can pay their driving licenses online, file their income tax papers balance online and many other countless public services. A lot of countries have embarked on these online services with fruitful results.

Financial services

Financial services go through huge changes in recent years as a result of the development of ICT systems. Jane K. Winn says “without information technology, financial markets couldn’t consistently acquire information at the same time as their competitors”. For examples, internet allows access through use of sage or Microsoft excel software to manage accounting activities, look at financial record when required, monitor and respond to customers enquiries.

Business

Businesses in today’s life have promoted a lot with the coming of ICT. Its impact cannot be over emphasized. For example, ICT helps to increase productivity in business through the use of social Media’s platforms for marketing and promotion. The use of websites now allowed companies to develop new and cheaper ways of offering customers with opportunities of buying goods and services at their convenient time, and also enhance the level of customer service. ICT, provides more efficient scheduling of man power and jobs through the provision of a Human Resource software System that streamline many of the task that took too many hours to be completed manually,

Ict and social transformation on political moves

The advent of ICT set up a stage for considering political changes. ICTs tools are enabling governments to change the way in which they function, including how they communicate and interact with their citizens, which provides many new opportunities for reconfiguring who gets access to politicians

and governments as well as who politicians and governments can reach with their own messages. On the other hand, Citizens are also able to employ ICTs tools to discuss issues in groups, Protest, organize campaigns, and seek to influence public policy. It appears that as long as alliances and links can be built across a relatively large base of political and economic elites, ICTs can be used as instruments of sustained dominance as much as further democratization. ICTs can both be employed to increase statist domination, as well as establishing corporatist ideologies through newer kinds of informational and communicational controls. For example, 'E-voting' using Direct Recording Electronic (DRE) voting machines or through the Internet can permit election processes to be more efficient and eliminate the kind of margins for human error that might occur.

Social consequences of ict

There are three examples of how our experience of information and communication technology might be changing and might themselves be influenced by wider social developments. These three areas have not been chosen as the most important areas of change in our experience of ICT nor is it claimed that they have the most significant social consequences. The three examples and related questions are: Time stress. Is our use of ICTs, perhaps especially the mobile phone and other portable technologies, contributing to greater time pressures or stresses in society? Individuals expanding communication repertoires. What issues and problems arise from the increasing range of communication channels open to us. Parent-children relationships and ICT. Is it becoming increasingly difficult for parents to monitor their children's use of ICTs?

The advent of ICT has somehow complicated parental surveillance of children. On the one hand, it offers more monitoring potential of a certain kind. Parents can phone to check up on their children when the latter are out of the home. In this sense, the mobile is referred to as a 'digital leash' (Ling, 1997) although teenagers sometimes allow such parental surveillance simply in order to gain possession of a mobile phone (Green, 2001). Sometimes teenagers even accept parental arguments about safety as being legitimate (Green, 2001). Yet, at other times they resisted such monitoring (for example by diverting the calls sent to them by the parents directly to the mobile phone's voice mail. Another development is that in the case of some ICTs, such as the use of the Internet, the children are sometimes more competent than their parents, which again makes parental monitoring difficult. Moreover, even if the parents are competent online. Most social activities that in the past took place in public are increasingly taking place in the home. The home is itself becoming more public, more open to outsiders (Wellman, 1999). Children also experience this, having their friends around to interact with in their homes, in their own rooms (Livingstone, 2002). This socializing in the home has been identified as 'Bedroom Culture'. However, monitoring by parents has once more become problematic. The children were now often at home and so monitoring where they are is easier. But was more difficult to monitor children's use of ICTs in their bedrooms rather than in a communal space in the home. Social construction or childhood and parenthood framework provided as a wider context for thinking not only about changing parent-children relationships over time but also variation across cultures and countries. The general point being made here is that this provides a basis for evaluating any trend

that may be taking place and understanding why people's everyday responses to such changes take the form that they do.

Conclusion

The emergence of ICT as a learning technology unknowingly insists to think on alternative theories for learning. The conventional teaching process has focused on teachers planning and leading students through a series of in structural sequences to achieve desired outcome. This way of teaching follows the planned transmission of knowledge though some interaction with the content as a means to consolidate the knowledge acquisition. It depends on the process of personal understanding. In this domain learning is viewed as the construction of meaning rather than memorization of facts. Use of I CTs provide many opportunities through their provision and support for resource based, student centered learning. It acts to support various aspects of knowledge construction and as more and more stud. Employ ICTs in their learning process, the more pronounced impact of this will become.

ICT tools facilitated open government, meaning greater access to public information, e-government improvements in the support of administrative services example: budgeting and personnel, decision-making and in improving the speed, efficiency, accuracy, and effectiveness of delivering public services, develop E-democracy capacities and infrastructure that employ the technology to bring government closer to citizens and to encourage broader, more active participation in decision making.

Bibliographical references

Bibliography

Bandura, A. (1986). *Social foundations of thought and action: A Social-Cognitive View*. Englewood cliffs, NJ: Prentice-Hall

Bandura, A. (1997), *Social cognitive theory of personality*, In O. P. John (Ed.), *Handbook of personality: Theory and research* (2nd ed., pp. 154-196), New York: Guilford Press.

Boudon Raymond & Bourricaud F. (1982), *Sociology critical Dictionary*, Paris PUF.1982

Dewey, J. (1937). *Education and social change*. *Bulletin of the American Association of University Professors*, 23(6), 472-474.

Edwards Paul. (1994). *From “impact to social process: Computers in society and culture*. *Handbook of science and technology studies*. Sheila Jasanoff, Gerald E. Markle, and James C. Peterson, Chap.12. Beverly Hills, CA: Sage.

Ertmer, P. A. and Otterbreit-Leftwich, A. T. (2010). *Teacher technology change: How knowledge, confidence, beliefs, and culture intersect*, *Journal of Research on Technology in Education*, vol. 42, pp.255-284.

Greene, M. (1993a). *Diversity and inclusion: Towards a curriculum for human beings*. *Teachers College Record*, 95(2) 211-221.

H.T Mazumder in Puja Mondal *Social Change: Characteristics and Factors*

Mansell and Silverstone. (1996). *Design and the Domestication of ICTs: Technical Change and Everyday Life*.

Okeh O. D. & Opone, M. C. (2007). *Information and Communication Technology (ICT): A veritable tool for national Educational Growth*, *Journal of Academics*, 2(3), 234 – 246.

Parsons, Talcott, (1937). *The Structure of Social Action*, 2 volumes, New York: Free Press.

Webography

J. Wakefield. (2010), “World wakes up to digital divide,” 2010.[Online].Available:
<http://news.bbc.co.uk/1/hi/technology/8568681.stm>.