

Health Education

for Tertiary Institution Students
(In Honour of Late Prof. J. A. Ajala)



Edited By

Olawale Akanbi Moronkola

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E-mail: awemakin@gmail.com

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INFORMATION COMMUNICATION TECHNOLOGY (ICT) AND ISSUES IN HEALTH

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Famuyiwa, S.A.

*Dept. of Human Kinetics and Health Education,
Faculty of Education, University of Ibadan, Ibadan.*

Introduction

Health education is a process with intellectual, psychological and social dimensions relating to activities which increase the abilities of people to make informed decisions affecting their personal, family and community wellbeing. The primary goal of health education is to provide learning experiences relevant to youth's need and interests that will lead to the acquisition of factual health knowledge, sound attitudes and reasonable behaviour.

According to Moronkola, (2002) health education involves teaching individuals, families and communities what to do to be healthy, avoid illness. It involves teaching good habits and has the following aims: to promote health of the mind and body; to promote the use of preventive health service, to enable people change their attitudes and behaviour and adopt better habits, to present health teaching in attractive and acceptable ways, and to assist individuals and communities to take responsibilities for their own health as well as encourage people to use curative health services.

Telecommunication is the transmission of signs, signals, messages, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems. Telecommunication occurs when the exchange of information between communication participants includes the use of technology. It is transmitted either electrically over

physical media, such as cables, or via radiations. Such transmission paths are often divided into communication channels which afford the advantages of multiplexing. The term is often used in its plural form, telecommunications, because it involves many different technologies (Goggin, 2011).

Information Communication Technology (ICT) is an electronic based system of information transmission, reception, processing and restively which has drastically changed the way we think, the way we live and the environment in which we live (Ogunsola, 2005). Igbafe (2002) defined ICT as a computer and other forms of technology that both share and generate information which can be transmitted widely by electronic means. ICT transmit or disseminate information to audience, and these cover internet service provision, telecommunication equipment and services, media and broadcasting. Abimbade, Aremu & Adedoja (2003) stated that there is a wide variety of technological options that can be used in the delivery of instructional contents ,among which are: Mobile phones, audio cassettes, television radio, satellite conferencing, fax facility computer, internet electronics and e-mail.

Information Communication Advantages in Educational Settings

ICT has tremendous advantages in teaching and learning in the educational settings, Lizgamita (2015) identified some of the advantages of using ICT to both students and teachers as follows: it enhances school achievements by positively impacting students' performance as students learn new skills analytical, including improvement in reading comprehension, writing skills, spelling, grammar, punctuating and redrafting; encourages independent and active learning and students' responsibility for their own learning. He stated further that ICT helps the teachers in preparing their lessons, sequencing classroom activities, hence making their lesson more efficient. It also helps in terms of share ideas released to school

curriculum, broadband and interactive whiteboards play a central role in fostering teachers communication, increasing collaboration between educators as well as supporting innovative pedagogy.

Mudasiru (2005) quoting Davis & Tearle (1999), Lemke & Coughlen (1998) on the quality and quantity of teaching, learning and research in traditional and distance education institutions as it can enhance teaching and learning through its dynamic interactive and engaging content and it can provide real opportunities for individualised instruction. Information and communication technology has potential to accelerate, enrich and deepen skills, motivate and engage students in learning; helps to relate school experiences to work practices; help to create economic viability for tomorrow's workers; contribute to radical changes in schools, strengthen teaching and provides opportunities for connection between the school and the world.

Ahmed, Corbett, Rogers & Susset (1985) stated that Information Communication Technologies has many advantages in teaching learning process both to the students and the teacher, among which are: motivating factor, internet can act as a motivating tool for many students as they are captivated with technologies has interest excitement and enthusiasm about internet for the purpose of enhancing learning; ICT enhances fast communication across geographical barriers as students can join collaborative projects that involve students from different states, countries or continents. ICT also facilitates cooperative learning, encouraging dialogue, and creates a more engaging classroom for example LISTER V will allow students to get involved in class discussions through e-mail on a way not possible within the four walls of the classroom. ICT facilitate sourcing and retrieving of material resources on the internet than the school library can provide for students and teachers, ICT enhance students to acquire varied writing skills, if students are required to publish their work on the internet they have to develop hypertext skills and these skills help students gain

experience in non-sequential writings. Moreover, and since the internet is open to all with access, students publishing their work on the internet are forced to be mindful of their language to write to non-expert evidence.

Yusuf (2005) observed that the field of education has been affected by ICTs which have undoubtedly affected teachings, learning and research. Al Ansari (2006) stated that ICT have the potential to innovate, accelerate, enrich and deepen skills, to motivate and engage students to help relate school experience to work practices, create economic viability for tomorrows workers as well as strengthening teaching and helping schools change. Syed Noor U.I. Amin (2010) opined that one of the most vital contributions of ICT in the field of education is easy access to learning, with the help of ICT, students can now browse through e-books, sample examination papers previous years papers etc, and can also have an easy access to resource persons, mentors, experts, researchers professionals and peers all over the world and noted that Young (2002) stated that wider availability of best practices and best course materials in education can be shared by means of ICT which thus foster better teaching. Plump Pelgrave & Law (2007) stressed that people have to access knowledge via ICT to keep pace with latest developments as ICT allow for the creation of digital resources like digital libraries where the students, teachers and professionals can access research materials and course material from any place at anytime. UNESCO (2002) expressed that ICT can be used for non-education like health campaigns and literacy campaign.

According to Onasanya, Shehu, Ogunlade & Adefuye (2011) ICT foster students' interest and promote students commitment to learning, make the lessons more exciting and interesting for both teachers and students. It also introduces the concept of new learning e.g. many on line learning packages which give students greater control over what they learn and how they learn bring students and teachers together for lectures, tutorials and one to one interactions across geographic locations, make students to do science

effectively and conduct experiments as viewed on screen, facilitate the process of learning through interaction with stimulations, make students visits different landscape, museums, libraries and any other places (factories, industries, dams, ecological sites/habitats etc) on time screen while staying at a place.

Akindolu (2002) stated that Information Communication Technology centered on education, covers the use of composers on line self-learning packages, interactive CDS, satellites radio, optical fiber technologies, tele presence, systems hardware and software. Bottino (2003) asserted that the use of ICT can improve performance, teaching administration and develop relevant skills in the disadvantaged communities. It also improves the quality of education of facilitating learning by doing, real time conversation, delayed time conversation, directed instruction self learning, problem solving, information seeking and analysis and a critical thinking as well as the ability to communicate, collaborate and learn.

Information Communication Technology and Health Education/ Health Care System

Since health education is an integral part of the general education, all the usage and advantages of Information Communication Technology in education are applicable to the teaching and learning process in Health Education. In addition, to the advantages in teaching and learning, ICT has tremendous benefits in improvement of health care systems e.g. prescriptions, virtual health care, e-medical records, e-diagnosis and computer physician order entry.

Dala (2003) stated that Information Communication Technology play an increasingly important role in medical education and health care system, among these is telemedicine which is the use of telecommunications technology to deliver medical diagnosis and patient care to sites that are distant from the provider; this includes health care delivery, diagnosis, consultation, treatment, education and transfer of medical data. Telemedicine uses a large array

of technologies to distribute health care and educational services including plain old telephone service, cellular systems, integrated services digital network (ISDN) satellite and terrestrial microwaves. He explained further that well known examples of telemedicine include: teleradiology (radiographic images are transmitted to radiologist for interpretation telepathology (a pathologist can look down and in some cases, control a microscope located several hundreds miles away, surgical telemedicine (used for post residency surgical education, telemedicine has the advantages of improved quality of health care and reduced cost).

Billie (2014) stated that computer has a lot of benefits in health care system; it improved quality of care as automated hospital information system has the far reaching capabilities. Decrease in cost when a health care provider orders a test by computer, it can automatically display information that promotes cost effective treatment and testing, computer also allow the use of paperless electronic system, not having to print out test results, test information, appointment information etc. could significantly decrease paper waste and in turn save trees and money. Computer allow patients to grasp a visual perspective on their health, radiographs, Xrays and several other visual representations could aid in patient knowledge of their own health, in addition through the use of computer in healthcare, patients are able to be more proactive in their lifestyle choices as they use computer to track their daily activities and improve healthy decisions.

ICT Induced Medical Problems and Its Prevention Strategies

Despite the numerous advantages of information communication technology on teaching/learning process and on health care system, some of its components especially computer and cell phone have induced medical problems.

O'Brien & Marakas (2011) stated that there are three main notable medical problems that can arise from using computers such as Carpal Tunnel Syndrome CTS which is a

stress related injury caused by repetitive movements of joints, especially the wrist, and can lead to numerous musculoskeletal problems due to poorly placed computer components and extensive typing over a long period of time, computer vision syndrome which is a degenerative eye problem which can result in severely reduced eyesight (myopia), blurred vision, overall eye tiredness and even glaucoma, due to an elevated amount of monitor glare, poor display quality and insufficient picture display refresh rates. Studies have been conducted into the correlation between computers and eye problems and it was found that the ionising radiation given off by monitors has severe detrimental effects on the eye and eyesight on a whole musculoskeletal problems which occur as a result of user posture being crunched and crunched towards the monitor and computer components due to the design and positioning of these particular computer peripherals. The hunching forward of the user causes posture and back problems, but is also the cause of severe and acute pain in the upper back, particularly pain in the neck and or shoulders.

Shradda (2015) reported that there are six health problems common with computer use as follows: musculoskeletal problems such as muscle soreness, muscle fatigue, back pain, chest pain, pain or numbness in arms, shoulder and feet. Repetitive stress injury causing pains in the neck, shoulder fingers arising from twisting the wrist to use mouse, specific typing techniques that causes stretching of fingers or pressure on the wrist can turn really painful. Vision problems arising from constant focusing on the screen without blinking can cause dry eyes, bright light and bad glare or flickering image can strain your eyes.

Headache as a result of increased muscle tension or pain in the neck at the base of the skull arising from prolonged use of computer and this can also affect eye power which may need vision correction. Other health problems reported include obesity associated with sedentary lifestyle while working on the computer, eye strain and poor postural problems.

Famuyiwa & Ani (2014) reported that ICT has negative influence on health and behaviour of students such as not taken their meal on time thus negatively affect their nutritional pattern, as well as their sleeping pattern as they sleep late in the night because of their usage of ICT. They also found out that ICT exposes students to have unlimited access to information on sex thus negatively influencing their sexual behaviour.

Stalin, Sherin, Kanimozhy, Vishnu, Zig & Anil (2016) believed that mobile phone usage has some effects on users such as headache, earache tinnitus, painful fingers, restlessness, morning tiredness, tingling fingers, fatigue, eye symptoms sleep disturbance and hypertension. Sara (2012) found out that there is an association between ICT use and mental health in young adults, frequent mobile phone use was seen as a prospective factor for reporting sleep disturbances in users and symptoms of depression in both sexes. Sandra, Marjut, Raija, Lea, Harr & Class, (2014) reported that the intensive ICT use was associated with poor quality of sleep, indicated by psychological measures among children and adolescents.

Orzack (1998) observed that computer addiction is one of the disadvantages of computer usage which is defined as the excessive or compulsive use of the computer which persists despite serious negative consequences for personal social or occupational function. Block (2008) noted that it is often referred to as a compulsive impulsive spectrum disorder that involve online and/or offline computer usage and consist of at least three subtypes: excessive gaming, sexual preoccupations and e-mail text messaging. Computer addiction is characterised by the following symptoms (i) having constant preoccupation with the computer either online or offline, (ii) feeling an intense desire to go online play computer game or socialize, (iii) being drawn by the computer as soon as one wakes up and before one goes to bed (iv) spending time on the computer despite family functions taking place, special events or activities that one was once happy to be a part of (v)

replacing old hobbies with excessive use of computer and using the computer as one's primary source of entertainment and procrastination (vi) performing actions on the computer that are outside the realm of what one's original places were (vii) losing track of time while on the ICT and spending more time on it than intended (viii) using computer as a form of escapism from reality (ix) lacking physical exercise and/or outdoor exposure because of constant use of the computer which could contribute to many health problems such as obesity. When one is addicted to the use of ICT, associated health problems and social problems may follow.

Miracswwinava's (2010) observed that there are some disadvantages of using ICT for teaching and learning as: (i) plagiarism in which students downloading information from the net and turning them in for grades; (ii) student privacy in which criminals, marketers and other persons can easily get information from students when they are online which could pose danger to students lives or may even lead to litigation against the school. (iii) students from low income families may not have computers at home or may have computers at home with no access to the internet and may be at a disadvantage. (iv) new administrative responsibilities as it brings to bear a new set of administrative demands on the teacher and the school administration which include development and implementation of acceptable use policy, training developing new evaluation criteria as needed and addressing parents' concerns.

However, computer addiction may be resolved if the addicted seek for appropriate psychological treatment from psychiatrists and or clinical psychologists through cognitive behavioural therapy.

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