ICT IN HEALTH EDUCATION/HEALTH PROMOTION FOR SUSTAINABLE NATIONAL DEVELOPMENT

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Abstract

The information and communication technology is becoming a vital tool in the present day educational system. One of the sustainable developmental goals (SDGs) is to ensure healthy living and promote well-being for all at all ages. Health education which is also called information, education and communication is the principle by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance, or restoration of health. Health promotion is the process of enabling people to increase control over their health and its determinants thereby improving their health and this entails the empowerment of the community in improving its health through improvement of the social, physical and economic environment. The new technologies, the internet, social networking sites and even cellular phones offer new and proclamation opportunities for both teachers and students in education. Empirical evidence has it that over 53% of these individuals accessing the web are seeking information related to health issues. Given the revolutionary access of global information presently, it is important to consider how this technology can be effectively incorporated as a tool for health education.Adequately health informed individuals will translate to a healthy community, which will bring about a healthy nation and obviously a positive sustainablenational development. The paper recommended that all

health educators should have at least a rudimentary knowledge of computer usage and internet compliance,Government should also endeavour to empower all teachers in ICT trainings regularly.

Keywords: ICT, Health Education, Health Promotion, Sustainable National Development, Sustainable Developmental Goals (MDGs).

Information and communication technology (ICT) in education is part of educational technology. Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. Information and communication technology can contribute to universal access to education, equity in education, the delivery of equality learning and technology, teachers' professional development and more efficient education management, governance and administration.

Health education is an important component of any health promotion programme and preventive medicine. The ultimate goal of health education is to motivate behavioural change aimed at improving the health status of individuals, family and community. Health education strategies involve the use of information, education and communication to teach people what they can do to protect and improve their own health. Health education is the part of health care that is concerned with promoting healthy behaviour. Through health education, people understand and are aware of the behaviour that affects their health. Health education encouragesbehaviour that promotes health, prevent illness, cures diseases, and facilitates rehabilitation.Thus,health education focuses on people's ways of life and behaviour (Briggs, 2010).

Information is simply a message intended for communication. Information refers to the knowledge and ideas which are provided in order to increase awareness. Information is the resultof translating knowledge about issues insimple and understandable languages for the public. Communication is the process of imparting, conveying information, thoughts, ideas, facts, message or even emotions from one person to another. Arguably, the area in which information is growing fastest and in which there is tremendous public interest is health. People today seem almost obsessed with the need to gather information about such health topics as diet, exercise, stress management, vitamins, drugs, sexuality, depression, safety, disease, violence prevention, health care policies, health insurance options, and the cost of medical procedures or prescription drugs. The fact that there is an increasing demand for information, coupled with the fact that information is being produced at an ever greater rate, creates added need for health education(Cottrell, Girvan & McKenzie, 2009). Thus, this makes the information and communication technology a ready tool in health education and promotion.

Information and Communication Technology (ICT)

Information and communications technology (ICT)in education is part of educational technology. Educational technology is an inclusive term for both the material tools and the theoretical foundations for supporting learning and teaching. Information and communications technology (ICT) is an extended term for information technology (IT) which stresses the role of unified communication (Murray, 2011) and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middle ware, storage, and audio-visual systems which enable users to access, store, transmit and manipulate information. The term ICT is also used to refer to the convergence of audio-visual and telephone network with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the telephone network with the computer network system using a single unified system of cabling, signal distribution and management.

According to www.tutors2u.net(2015), ICT has no universal definition as the concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis. The broadness of ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a vital form, e.g. personal computers, digital television, email, robots. The United Nations Educational, Scientific and Cultural Organization (UNESCO) took a holistic and comprehensive approach to promoting ICT in education. Access, inclusive and quality are among the main challenges they can address. The organizations inter-sectoral platform for ICT in education focuses on these issues through the joint work of three of its sectors: communication and information, Education and Science (UNESCO, 2015).

In modern society ICT is ever-present, with over three billion people having access to the internet (www.itu.int, 2015). With approximately eight out of ten internet users owning a smart phone, information and data are increasing by leaps and bounds (ARC, 2015). This rapid growth, especially in developing countries has led ICT to become a keystone of everyday life, in which life without some facet technology renders most of clerical work and routine task dysfunctional. The most recent authoritative data, released in 2014, showed that internet users continue to grow steadily, at 6.6% globally in 2014 (3.3% in developed countries, 8.7% in the developing world): the number of internet users in the developing countries has doubled in five years (2009-2014), with two-thirds of all people online now living in the developing world (ITU, 2015).

Favourably, the gap between the access to the internet and mobile coverage has decreased substantially in the last fifteen years, in which ‘’2015’’ was the deadline for the achievement of the United NationsMillennium Development Goals (MDGs),which global leaders agreed upon in the year 2000, and the new data show ICT progress and highlight remaining gaps (ITU, 2015)

Currently, there are 5,357,000 facebook users in Nigeria, which makes it number 35 in the ranking of all Facebook statistics by country. The largest age group is 18-24, with total of 1,930,460 users, followed by the users of the age of 25-34. There are 69percent male users and 31 percent female users in Nigeria.

From facebook to BBM, from Twitter through 2go to skype and all other social media platforms, youths are engaging one another, networking and building relationships.Indeed, the social media are opening up the Nigeria social space in new ways. It is now the new equalizer that is breaking the information monopoly that was enforced by the state and few media houses. Some other social networking's sites, which are increasingly offering people uninterrupted windows to interact with one another are Skype, Linked in and blogs.

The power of the social media is huge; you can reach millions in seconds. With the social media, from your room, you can talk to millions of people and no one can stop you (Ukeh, 2016). Thus health information and education can reach millions of audience through this medium.

Health Education/Promotion

Health education is people working with people, establishing good relationships, avoiding prejudices, knowing how to communicate clearly and how to provide partnership with people in achieving their needs and wants. However, the provision of information alone is not enough to change behaviour. The information must be relevant to the target audience and should be presented or communicated in a simple and interesting way that people will easily understand. Although correct health information and communications are basic parts of health education, it is not the same as health education which addresses factors that affect health behaviour and considers availability of resources and support from individuals, family and community members (Achalu, 2008 and Briggs, 2010). Health education is the sum of all experiences that favourably influence knowledge, attitudes and practices relating to individuals and community health (Kilander, 1970).

Health promotion is the process of enabling people to increase control over and to improve their health entails the empowerment of the community in improving its health through improvement of the social, physical and economic environment. Health education seeks the development of community and individual measures which can help people to develop lifestyles that can enhance the state of well-being (Briggs, 2010).

Information, education and communication (IEC) are essentially aspect of health promotion. IEC is being widely used as a general term for communication activities in health promotion (Gupta &Ghai, 2007). According to them, a new term behavioural change, communication (BCC) is gradually replacing IEC in several health promotional activities. BCC is better focused and targeted form of IEC.

ICT/Health Education/Health Promotion for Sustainable National Development

The environment for communicating about health has changed significantly over the years especially in developed countries such as United States and Canada. There is a consumer demand for quality health information using sophisticated marketing techniques and strategies, advertising and internet. Advances in medical consumer health informatics are changing the delivery of health information and services around the world.

The value of health information and communication in the promotion of the health and well-being as well as quality of life of individuals and community is well established. For example, research shows that clear, candid, accurate, culturally and logistically component provider- audience communication is important – for the preventive, diagnosis, treatment and management of various health problems and concerns. For effective communication, there is the need for multidimensional approach to health promotion that has potentials of reaching diverse audiences with health information using multiple communication channels on media (Achalu, 2008).

Arguably, the area in which information is fast growing fastest and in which there is tremendous public interest is health. People are almost obsessed with the need to gather information about such health topics as diet, sexuality, depression, safety, violence prevention among others. The fact that there is an increasing demand for information, coupled with the fact that information is being produced at an ever greater rate, creates added need for health educators. Two of the major responsibilities of a health educator involve being a resource person for health information and communicating to others health education needs concerns and resources. In order to perform these tasks, the health educator must have the skills to find information, evaluate the source of the information to determine its credibility, disseminate the information to consumers through the appropriate channels, and explain the meaning of the information in an understandable manner (Cottrell, Girvan & McKenzie, 2009).

The internet has become a major source of information and resources for many individuals who need to research specific topics. Although the library has historically been the first research point of call, for most people, the speed, efficiency, and global nature of the internet has revolutionalized the way research is conducted. Although libraries today still fulfill important role providers of the printed word, even these institutions have altered their focus to utilize internet access.

According to 2007 National Survey of United State (U.S) libraries, at least 99.1% of libraries provide online services to the public (Bertot, McClure &Jacger, 2002). Universally, a vast numbers of individuals seeking information of all types turn, as a matter of course, to their personal computers and literally search the world for answers to their questions. The explosion of personal computers usage in the world is an indicator of habit change forever. It is estimated that there are over a billion personal computers in use around the world. In addition to personal computer ownership, computer experts estimate that approximately one-third of internet users log on using a

laptop, handset, personal digital assistant (PDA), or Smartphoneusing WIFI broadband or other cell phone networks (Horrigon, 2007). Perhaps, most important for health education/health educators is the statistic that 53.5% of these individuals accessing the web are seeking information related to health issues (Diaz, Griffith, Reinert, Friedman &Moulton, 2002)

Technology in Health Education

Given that such revolutionary access to global information now exist, it is important to consider how this technology can be effectively incorporated as a tool for health education/health educators. Certainly all health educators should have at least a rudimentary knowledge of computer usage. Tasks that health educators might be expected to perform using newer technology in the course of health education are as follows:

Using Handheld Devices (PDAd/Smartphone)

- Texting
- Exchanging information between devices

Using Personal Computers

- Basic word processing function, using programmes such as Microsoft Word that might range from simple reports to more complex activities such as newsletter or brochure development
- Data collection and recording with some type of spreadsheet software like Excel or SPSS.
- Presentation preparation that might include charts, graphs, and presentation software such as PowerPoint
- Utilizing health-related software, such as health risk appraisals or informational CD-ROM or DVD.

Using the Internetvia;

Researching a topic to obtain the latest data, searching the internet for websites that might provide differing view-points, searching for specific websites for archival data, researching the application of methods by topic and reading or contributing to electronic professional journals. Many of these journals are good- quality, Peer-reviewed publications that appear in an electronic format. In addition, many traditional health education journals are also accessible via internet (Diaz, Griffith, Reinert, Friedman & Mouton, 2002).

The authors posited that Communicating via the Internet include;

Simple email message, talking in a chart room and posting or reading messages on blogs, forum, or social networking sites or something more elaborate like; distance learning, videoconference and podcasting.

The use of computer technology has certainly created exciting learning opportunity for classroom teachers, opening up new worlds to explore in addition to enhancing the

more traditional modes of learning. Dorman's (1998) citing, Peak and Dorricot (1994) offer 10 reasons why classroom teachers should use technology in the classroom.

Technology in the Classroom: Application to Health Education

- One tenet of health educationhold that the educator must consider the individual health and learning needs of the student. Use of technology in the classroom can facilitate this goal by evaluating and assessing the health needs of the user and starting the educational activity at an appropriate level for the learner. For example, many computer-based germs and learning programmes are able to assess the level of competence, record the playing history, and start the user at the appropriate level of the programme.
- Living in the information age necessitates developing skills to access, and evaluate health information. The average consumer is bombarded with information. Technology makes health information ever present. However, much of the information on the internet, for example, is not evaluated and communicating health information as prescribed by the competencies of the entry-level educator.
- Technology opens awareness for study and exploration about health that until now would have required visiting a university campus or a major health centre. The advanced information available allows the health educator/student to access on abundance of source such as the centers for Disease Control and prevention (CDC), National Institute of Health (NIH), and World Health Organization (WHO), which can stimulate advanced thinking about health issues. Access to forums and listsevsallow health educators /students to express themselves and to critique the expressions of others.
- Technology allows teachers/students to explore complex health problems that would be difficult to stimulate in a classroom without technology. For example, SimHealth, a computer game developed by the Markel Foundation, enables students to explore the impact of changes in government, health manpower, funding, taxation and politics on the health of local community. The average individual may take years to understand those complex relationships, yet this game presents them in a way that allows the users to grasp the dynamic impact they can have on health.
- Health-related graphic images such as those on the Visible Human Body Project give teachers/students access to visuals that previously were available only in the medical arena. These illustrations not only provide vital information about human anatomy, but also reveal the beauty of the human body in a way not seen before. In addition, with powerful software programmes such as Freehand, Director Multimedia studio, and 3D choreographer, artistically inclined students can use technology to develop health-related computer activities, animations, and videos as class projects.
- The internet allows teachers/students inexpensive and instant access to health information around the world. Whether it is information about developments in biomedicine from NIH, facts about disease transmission and epidemiology from CDC;

or late-breaking news on treatment and cures from the National Library of Medicine, the internet allows the user access to this information found outside the wall of the school.

- Technology serves as a tool to provide the conduit for individuals in the health and helping professions to contact difficult-to- reach populations. Many would listen to a mass communication message on television or other media, yet would not attend a public education lecture on the same topic. Health teachers/students can use technology to assembly highly creative venues for health information, which may indeed influence health behaviours. For example, health teachers or students may be involved in video production, development of computers-assisted instruction module on a health-related topic, or assembly of dynamic set of webpages in health issue.
- Although the teacher should not solely rely ontechnology to support other stimulating forms of instruction or use technological application as a placating device for bored learners, technology can provide thought-provoking and stimulating avenue of study. CD-ROMs and DVDs, for example provide the health education students with access to thousands of pictures of health-related issues and disorders,
- The information Age requires students to feel comfortable and proficient in accessing information about health by using technology. Students must feel capable and have a high level of comfort when interfacing with computers and technology format to access health and other information.
- Technology may help schools and teachers become more productive and efficient in health instruction. For example, electronic grading devices may give teachers more time to spend with students. Currently, several computer-based grade book programmes are available for free downloading to an individual's computer. Local school-based electronic bulletin boards and e-mail enable teachers to communicate easily with parents. CD-ROM technology allows teachers to implement learning stations in the health classroom, where students may engage in discovery learning at a pace on their level. Learners can be exposed to the basic facts about health by using technology, allowing the teacher to assist students with more complex task.

Distance Learning and Health Education

The addition of the computer and the internet has opened up new and exciting avenues for meeting communication needs in health education through distant education, continuing education, and professional development. Advances in technology have spurred the evolution of off-site learning from correspondence course to interactive video and visual learning via distance education (Matheous, Johnson, Schittek, &Attrom, 2000). Initially, technology problems limited the extensive use of the internet distance education by health educators- namely slow speed of transmission, power visual reception, band-width limitations on standard phone line capabilities, and high cost of quality hardware.

These limitations have been diminished with enhancement of internet speed bandwidth capabilities, and increased accessibility of hardware devices. The development of a sophisticated software and addition of a variety of tools (media) such as video lectures,flash animations, podcasts, and videoconferencing to enhance the distance education for both the health educator and the studenthas made distance learning more interesting(McNeill &Eddy, 2005). The growing demand for distance education is apparent. Student enrollments are escalating as students are shopping for education that meets their needs (Scott, Howell, William, & Lindsay, 2003). According to McNeill & Eddy, (2005), multiple factors contribute to the increased interest in distance education. These include: Convenience, Cost, flexible learning and expanded opportunities.

Conclusion

The fact that the use of ICT in health education and promotion has improved and increased the productivity of health educators and students is incontestable. The coming of the internet, computers and smart phones has made education in general more productive, enhanced learning and interesting. There is increase in enrolment of students in tertiary institutions especially in the area of distance and continue education to bring about a better informed and more literate society. Individuals and communities are closer to the health educators and are more informed as this information is easilyaccessible in the internet and social media. A well educated, and informed individual and community is a great asset to the nation, as health issues such as preventive, promotion and behavioural change are better handled, and students are also well informed and educated through the use of ICT. All these combined bring about great increase and improve the productivity of community, society and nation. These will eventually reflect in the sustainable development of any nation.

Recommendations

Based on the foregoings, the following recommendations were proffered

1. Health promotion professional researchers, public officer and stakeholders should collaborate in a range of activities to initiate robust health information system to contribute to the improvement of personal and community health.

2. The government (Local/state/federal) should empower health educators/teachers through community capacity building/workshops, seminars and conferences to update and improve the knowledge and practice among these group of people

3. Policy should be formulated to make computer education and ICT compliance a must and compulsory requirement for teacher's employment.

4. School libraries and environment should be made internet compliance through the provision of WIFI for easy accessibility to the internet.

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