

# **APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICTS) IN THE EFFECTIVE TEACHING AND LEARNING OF HOME ECONOMICS IN SECONDARY SCHOOLS IN NIGERIA**

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## **Abstract**

Home Economics is one of the pre vocational subjects that has faced several criticisms since its introduction into the Nigeria National School Curriculum, among the criticisms is the method adopted by the teachers. This paper therefore examines the need to apply Information and Communication Technology in the effective teaching and learning of Home Economics in Secondary Schools in Nigeria. It reviewed the concept of ICT, and its place in teaching and learning. ICT tools that are suitable for use in the three areas of Home Economics were identified. The tools were radio, television, cameras, video and computers others were social networks such as emails and search engines. The benefit of using ICT and factors militating against the effective use of ICT were highlighted. One of the suggestions on ways of solving the problems of using ICT among teachers in this paper is that training of teachers for Home Economics should include basic ICT and computer mastery.

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**Keywords:** Application, ICTs, Home Economics, Curriculum

## **Introduction**

The emergence of Home Economics on the Nigerian curriculum was born out of its usefulness in addressing skill needs of students. Essentially, home economics is meant to equip learners with skills and aptitudes to maximally enhance family life through the optimal utilization of its human and material resources. A well balanced home economics curriculum prepares students to become responsible citizens in a democratic society; prepares them for profession through which they can fill competent place in the technological world as well as the important profession of home making (Anyankoha, 2009).

At the basic education level it is one of the prevocational subjects that

prepares students for the world of works.

### **Place of Home Economics in the Secondary School Curriculum**

The growing need for a strong, self reliant nation and a great dynamic economy in Nigeria gave recognition to home economics as one of the prevocational subjects that must be offered by all students in the Junior Secondary School (JSS). This is revealed in the national policy on education (Federal Republic of Nigeria FGN, 2004). Integrated Home economics (a combination of Food and Nutrition, Home management, Clothing and Textile) is taught as one of the electives amidst Agricultural Science, and Business Studies. While in the Senior Secondary School, it is divided into Food and Nutrition, Home management and Clothing and Textiles. Students therefore have the options of offering any one of the aforementioned areas. As stated in FGN (2004), the objective of Home Economics in the secondary school curriculum is to:

- educate the youths for family living,
- educate the youth on their roles as future homemakers, intelligent consumers and producers of goods,
- educate the youth to live a well-rounded life in the home, community and nation.
- improve the services and goods used by the family and advance the conditions in the community, nation and the world.

Despite these laudable objectives of home economics, Badmus (1993) reported several criticism leveled against the subject since its inception. Among the criticisms, is that the methods adopted by its teachers are lifeless and unimaginable that the syllabus was antiquated and unscientific. These according to them have discouraged the interest, initiative and enthusiasm of some intelligent and male students. In order to overcome these criticisms and make home economics relevant in the scheme of things, Information and Communication Technology which holds a fascination for students should be encouraged.

### **Meaning and Concept of Information and Communication Technology (ICTs)**

Information are facts or details about something while Communications are methods by which it is delivered (as prints or on radio or television). Technology is the practical application of science or the art applying scientific knowledge to practical problems. According to national policy for Information Technology, FGN (2001), ICT is any equipment or interconnected system of equipment that is used in the automatic acquisition, storage, manipulation, management, control, display, switching and transmission of information. These include computer applications, internet and newsprints, radio, television and telephones.

In a more elaborate sense, Okpara (2004) saw ICT as the science of extracting, collating, storing, processing, utilizing and disseminating data. ICT material varies and examples include computer, compact discs, digital video discs, satellite communication, internet, telephone, radio, camera, electronic mails and so on (Aderogba, 2007). In teaching and learning, Ayelaagbe and Abidoye (2005) differentiated the wide range of ICTs into the following:

1. Information Technology: include computers which have become important in data processing
2. Telecommunication technologies: include telephone, radio, television, often done through the satellite
3. Networking technologies: include the internet, mobile telephone, voice over IP telephony (VOIP) satellite communications and other forms of communications.

### **ICT Tools/Materials Useful in the Teaching Home Economics**

Home Economics as a skill oriented subject has the potentials to equip individual with the basic skills and knowledge for self employment. In the light of this, the three main areas of Home economics (Home Management, Foods and Nutrition and Clothing and Textile) can be learnt by using ICT tools. For instance, radio, television, the web, search engines, cameras, video, e-mail, computer, CD-rom and DVD are all ICT tools. Amongst the tools mentioned, is the computer which has become indispensable in the world of ICTs. Any Home economics teacher who is computer literate should find the computer very useful in the course of teaching. The computer becomes a major tool of assessing information when it is connected to the internet. The internet is full of current and up to date information in all the areas of Home Economics.

### **Some Social Networks Found Useful in the Teaching of Home Economics Options**

ICT have become an integral and accepted part of everyday life for many people, most especially the use of social networks among youths. Its increasing importance gives a clear signal that in no distant time, it will become a functional requirement for employment in the world of work. This calls for a paradigm shift from the conventional approaches used for teaching Home Economics to the use of ICT tools. For instance;

### **Foods and Nutrition**

In the Foods and Nutrition lessons, the teacher can avail himself/herself with the following ICTs tools to teach the students:

- Imaging e.g. using digital camera to record practical lessons from stage to stage or a scanner to take cross sections of different types of products e.g. bread making or a digital microscope.

- Using the computer to show a flow chart of how a product is going to be made
- Find recipes from the web in the internet and also develop recipes from the internet.
- Using iPad to access recipes different from the traditional ones.
- Using the internet to perform nutritional analysis and comparing dietary information from different countries of the world.
- Using the hedonic scale to present the sensoring evaluation of foods during practical lessons.
- Use range of information channels such as face book, twitter, and drop box to share and get information on nutrition topics.
- Using computer mediated communication (one on one, one to many to many) e.g. email, surfing the internet.
- Using the spreadsheets to track the nutritional intake of people over time and students could write down suitable captions.
- For continuous assessment, teachers can make close procedure computer exercise, that is, leave spaces so that students can fill in gaps, make text boxes so that student do not have to re-space words. Missing words can be made available in movable text boxes at the bottom of sheet.

### **Clothing Textile**

- Use the computer to draft patterns suitable for different figures rather than traditional pattern drafting methods.
- Make students to use computers in the mixing of colours suitable for dyes
- Use sites like pattern Review and Burda style as communities and resources to teach techniques, access to other people who sew. They teach comprehensive sewing from novice to expert.
- YouTube is brimming with sewing ideas
- Use iPhone, iPad Touch application to help students with sewing classes
- My fashion review. is filled with fashion trends
- Skype is a community where clothing lessons can be shared and received.
- Use the blog to teach clothing

## Home Management

- Home management lessons such as budget can be taught using Google sheets to teach basic concept of a budget
- Use excel to teach budget
- Use interior design floor plan software to teach floor coverings
- Uses of Google calendar to teach reminder of recurring events in the home
- Using of Gmail for keeping contacts
- Using the computers to teach how to store household inventories such as family income, expenditure, receipts, menus and files.
- The use of computer as a means of relaxation as educational tools for family members such as playing of games.

## Benefits of ICTs in the Teaching and Learning of Home Economics in Secondary Schools in Nigeria

Many benefits have been ascribed to ICT. According to Nwosu (2003) the utilization of ICTs in education could lead to cost-effectiveness in learning, bridging the gap between teachers-students' ratio, and improve the overall quality of learning. However Bam and Orwig (1995) outlined the benefits of ICTs in education as follows.

1. **Multiple Sensory Deliveries:** ICTs in teaching home economics will provide multiple sensory channels, thereby allowing students with various learning preferences to assimilate and apply the knowledge.
2. **Increased Self expression and Active learning:** ICTs provide stimulating environments that encourage students' involvement in the learning process.
3. **Co-operation learning:** Introducing the new technologies into the learning environment has been shown to support the accepted student centered curriculum which encourage cooperative learning and to stimulate increased teacher/student interaction.
4. **Promoting Critical Thinking:** Both the structure and the use of technology could promote higher level of thinking.
5. **Enhanced Communication Skill:** The communication skills of students are enhanced when appropriate technologies are utilized in home economics lessons.
6. **Multicultural Education:** Telecommunications, internet, teleconferencing and telecommuting make it possible to expand classroom "walls" and to link students and international interactive exchanges.
7. **Individualization:** ICTs offer students broad and self paced learning by allowing them to progress at their own rate in a non threatening en

vironment. This is vital especially in home economics programmes where individualized assignment is highly encouraged.

8. **Motivation:** Motivating students is a constant challenge to home economics lessons. Multimedia instructions could inspire students and home economics teachers by making learning exciting, relevant and rewarding.

In addition, Hadley and Sheingold (1993) observed that ICT helps students to exercise greatest independence, share their expertise and provide mutual support, more profound is the use of GSM which are now very common among learners. They make it possible for learners to listen to radio transmission which could be highly educative on issues and events happening around them. GSM also perform different functions such as taking photographs and record events or issues which happen spontaneously. The information so obtained can become a resource material among learners in home economics.

### **Factors Militating Against Effective use of ICT in Teaching/Learning of Home Economics**

Although Hennessy and Bridley (2004) established that Schools worldwide are preoccupied with technology integration over the years, yet most schools in Nigeria have not been able to utilize ICTs due to the following problems:

1. **Teachers lack ICT skills:** Most home economics teachers lack proficiency in the use of ICTs, they prefer to use obsolete materials they were taught with and are reluctant to take off sometimes to acquire ICTs skills.
2. **Erratic and unstable power supply:** The epileptic nature of power supply in Nigeria has made it difficult to initialize computers. For instance, schools that purchase some computers are unable to operate high cost of alternative power generators. That hinders schools from utilizing such computers to the benefit of students.
3. **Limited access to Internet facilities:** This makes inter and intra networking exchange impossible in schools. According to Mundy and Sultan, (1999) only one of every 9,000 Africans outside South Africa have access to internet compared to 138 of the rest of the world.
4. **Lack of Adequate funds:** Subventions sent to schools are grossly inadequate to purchase ICTs equipment. Even the equipping of HEC laboratories has remained a major problem let alone purchasing ICTs materials for schools.
5. **Inadequate Trained Support Staff:** Lack of adequately trained educational technologists in schools has also hindered the deployment of ICT in home economics laboratories; such staff could complement the effort of home economics teachers with the use of ICTs.

## Way Forward

These are some of the factors which may lead to the improvement in the use of ICTs in teaching/learning of home economics in schools in Nigeria:

1. Curriculum for training of teachers must include basic ICTs/computer mastery
2. Teachers of home economics at all levels of education should avail themselves of opportunities available to acquire basic ICTs skills.
3. The promotion requirement of the teachers from one cadre to another should include computer literacy
4. Curriculum improvement effort should be encouraged by government to ensure successful integration of ICT into teaching/learning processes in Nigerian schools.

## Conclusion

This paper attempted to justify the need of ICTs in the effective teaching of home economics in the secondary schools. The world has become technology driven and for any discipline to be relevant must of necessity move with ICT. This implies that all stakeholders in education must work together to make ICT accessible to teachers and students in the teaching and learning of all school subjects including home economics in secondary schools in Nigeria.

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