Inculcating Information and Communication Technology into the Teaching of Agricultural Education in Nigeria’s Colleges of Education: Challenges of the Moment

By

DEDE IBRAHIM MUHAMMED
Department of Agriculture Education,
Kwara State College of Education (Technical),
Lafiagi

Abstract

Agricultural education is an integral part of vocational teacher education programme and capital intensive to run. It requires teachers quality assurance that is, teachers who are information and communication technology (ICT) compliant that are equally capable in handling computer and internet facilities for easy and effective full implementation of information and communication technology in the teaching of agricultural education in Nigeria colleges of education. Implementation of information and communication technology (ICT) also faced a lot of challenges in the area of funding, lack of motivation, curriculum structure, staff development among other possible solution such as adequate funding by the government, private individual and organizations, restructuring of the curriculum among others are recommended to accommodate the recent trend of educational development in the education industry.

Agriculture education is one of the components of vocation and technical education programmes that prepare an individual for larger in agriculture and also to be intelligent consumer of economic goods and services.

Agriculture education provides learners with sound academic knowledge and skills as well as ample opportunity to apply this knowledge through classroom activities, laboratory experiments, project participation and supervised agricultural experience. Agricultural education according to Osinem (2008) emphasizes skill development in all aspects of agric business such as planning, management, safety,
finance and leadership. In the opinion of the author it also furnishes the learners with the necessary communication and interpersonal skills as well as knowledge of technical agriculture to would be teachers at all levels.

**Concept of Agricultural Education**

Agricultural education could be defined as a process of imparting knowledge, skill and attitudes in agriculture to the learner at any level. Obibuaku (1983) described agricultural education as a form of training given in agriculture from primary school, through secondary and special school, to the university. Agricultural education is therefore, an important school programme that is offered at all levels of education ranging from home to the school and communication; implying that it can be formal, informal and non-formal. Osinem (2008) stated that agricultural education is a process of imparting agricultural knowledge, skills and attitudes to learners (young and adults) for the purpose of expanding agriculture activities.

The author went further to say that agricultural education can take place in primary, secondary schools, farm centres, colleges of agriculture and universities. Any meaningful change in agriculture can only be achieved through an efficient agricultural process which could be through formal and non-formal means under the guidance of a teacher who is better prepared through all forms of training. In his opinion Ejifor (2009), said that agricultural education is the transmission or communication of ideas, principles and beliefs about agriculture to a target group or audience with a view of bringing about change in the system or knowledge of agriculture and its operation. Okonze and Olaitan (2010), emphasized that agricultural education is a programme of study under vocational teacher education in Nigeria, according to the authors it is a programme designed preparing or equipping teachers with knowledge, skills and attitudes in teaching and technical areas of agriculture to enable them impart the same to students in school and colleges. Wikipedia (2009), stated that agricultural education is an instruction about crop production, livestock management, soil and water conservation among others. The author further stated that there are four major fields of agricultural education: elementary, secondary, college/university and general agricultural education.

Inheji, Ifeanyiewe and Olaitan (2010), quoted national on education (2004) which stated that primary education should afford every child aged six to eleven (6 – 11) the opportunity for developing manipulative skills in agriculture that would enable him/her function effectively in the society within the limit of the child’s capacity. According to the authors, the document indicated that prevocational programmes in the Junior secondary schools should provide students with entry level skills which are the basis for acquiring occupational skills for employment in later years.

The author further stated some objectives of agricultural education to include
i. Demonstrate desirable work ethic and habits
ii. Apply the basic agricultural competencies and background knowledge in agriculture and related occupations.
iii. Analyze entrepreneurial skills needed by individuals preparing to enter agriculture and related occupations.
iv. Acquire leadership and participatory skills necessary for the development of productive citizens in our democratic society.
v. Gain effective social and interpersonal communications skills
vi. Be aware of career opportunities in agriculture and set objectives.

In the context of paper agricultural education is therefore needed to prepare teachers to be competent in imparting knowledge, skills and attitude to students at various levels of education. Agriculture education covers the areas to teaching; research and public service out-reach programmes.

Teaching according to Osinem (2008), is the process of assisting a learner to acquire knowledge. The author opines that when a child learns what he has been taught, the teaching is said to have taken place. The author further defines teaching as to impart knowledge, to guide the studies or causes to know, to show and to direct. This implies that teaching involves imparting knowledge verbally through words and non verbally through action.

Teaching in the opinion of Gbadamosi (2006), can be conceptualized as a means of instruction which involves teachers guiding students to learn and acquire knowledge (through discovery, probing and examining activities) which they need to earn a living and live a useful and rewarding life after leaving school; it is a professional.

**Concept of Teaching Agricultural Education**

Teaching according to Ede and Olaitan (2010) is a body of action intended to induce learning through conscious and deliberate efforts by a matured or experienced person to impart knowledge, information and skills, attitudes, belief etc to an immature or less experienced person. From their contributions, teaching is a process of arranging situation in which the things to be learnt are brought to the attention of the learners, their interest developed, desired aroused conviction created/achieved, action promoted and satisfaction ensured. Teaching is systematic process of imparting desirable knowledge, value and skill to learners. Osinem (2008), contended that teaching involves guiding students to acquire knowledge. The author stressed that educators must continue to strive for excellence in their work by making continued effort to maintain and improve technology skills to ensure effective teaching in the area of vocational teacher education.

3
Teaching of agriculture education is content of this paper is the process of assisting the learners to acquire knowledge, skills and attitude in all the integral parts of agriculture such as crop, animals, soil, horticultural design etc. Teacher quality assurance is required for effective teaching of agricultural education.

Quality Assurance

Quality according to Inheji, Ifeanyiese and Olaitan (2010) is a distinguishing parameter or characteristic that brings out or expose the worth or goodness associated with the level of excellence in performance which can measured by established criteria and standard. The authors further said that the quality means the available of inputs, their adequacy and suitability for teaching manipulative skills in agricultural to students. This calls for the determination of the quality assurance as the available evidence on the quality of the input into the programmes as a judgment as to whether they are achieving the objectives of a planned programmes.

Quality assurance in the opinion of Olaitan, Amusa and Nwobo (2009) is the practice of checking the quality of goods or services rendered by an individual or company so that the standard will continue to be good. Therefore, quality assurance can be carried out through the assessment of the performance in teaching agricultural education courses to students in college of education of Nigeria.

Olajide (2007) stated that quality assurance is the process of determining quality; it is defined as both fitness for purpose and fitness. Fitness for purpose according to the author is related to university admission, is what university have set for themselves while fitness of purpose refers to their capacity to satisfy the national goals of their education. Okunze and Olaitan (2010) in their contribution stated that quality assurance is a proactive means of ensuring quality in any agricultural education programme

Quality assurance in agricultural education programme aimed at preventing quality of problems and ensures that the products of the system conform to the expected standard. The principal responsibility of quality assurance rests with the institutions themselves and the regulatory bodies. In the statement of Olajide (2007) it is in the interest of the institution to carry out periodic audit of their programmes to identify their strength and weakness, assessment of course and lecturers, textbooks, facilities, capacity development to make sure each one meets the need and quality of the service required in the programme. Quality of teaching is a function of teachers’ qualification, teaching environment and facilities, the school population and the effectiveness of the quality control mechanism. In terms of teaching environment and facilities which includes classrooms, laboratories and libraries where students learn, it is expected that
adequate seats, roofs that are not lacking, intact doors and windows and usable laboratory equipment will be available, contrarily to this expectation. (Ede and Olaitan 2010).

**Implementation of Information and Communication Technology (ICT) in Agricultural Education Curriculum**

Curriculum according to Offorma (2004) is an organized knowledge presented to learner in the school. It covers every element in the learning environment such as subject matter to be learnt, the students, the teacher and the physical environment. Curriculum implementation is a very important aspect of curriculum process implementation process for an educational programme. Ivowi (2004) defined curriculum implementation as the translation of theory into practice, or proposal into action. In his explanation he said that curriculum implementation is the process of putting all that have been planned as a curriculum document into practice in the classroom through the combined efforts of the teachers, learners, school administrators, parents as well as interaction with physical facilities, instructional materials, psychological and social environment. The author further enumerated the following purposes of curriculum implementation.

i. To translate the idea into a workable blue-print and to develop programmes for its successful implementation.

ii. To coordinate and monitor the implementation of those programmes developed under curriculum implementation.

iii. To advice on how to provide the required infrastructural facilities for a given programme.

iv. To create wide spread awareness of the programme in question.

v. To ensure that the programme being implementation is fully sustained by ensuring a continues reinforcement either in terms of personal materials or any technological development such as information and communication technology (ICT).

Information and Communication Technology according to Ayinor and Katung (2007) is the study of the technology used in handling information and aiding communication. It is a technology for processing information, especially information that leads itself algorithmic processing, with low level of human intervention. The author continued to say that information and communication technology is relevant and indispensable, since it has become essential factors in human existence and development.

Obeta (2008) reported that information and communication technology under school curriculum has increasing importance within the educational system, according to the author, information and communication technology is committed in helping men and women to develop skills and knowledge to pursue many opportunities in the fields
involving technology. Information and communication technology also enables students and teachers to access, share, analyse and present information gained from a variety of sources and in many different ways. As such the role of information and communication technology within school curriculum is not only to enhance the teaching and learning experience, but also to help them develop the skills essential to participate effectively by promoting the Nigerian educational system. Zaka (2009) confirmed that Microsoft Inc as an agency, agency, believes that information and communication technology (ICT) can be powerful catalyst in improving teaching and learning for all and that they should play part in broadening access to (ICT) and engaging by empowering students and teachers to see technology in creative and innovative ways.

Challenge facing implementation of information and communication technology (ICT) in agricultural education in Nigerian colleges of education. These are inadequate funding, lack of motivation, poor staff development, and inadequate trained ICT compliant teachers. It is quite acceptable that agricultural education is an integral part of vocational and technical education which is highly capital intensive and government hardly pay attention to its proper funding and therefore, the issue of inadequate funding arises.

Gbadamosi (2006) stated that one of the major challenges of information and communication technology (ICT) teacher education programme implementation is the inadequate funding. Poor funding is directly on the part of the government. Education is grossly under funded in Nigeria and this has affected many areas in education industry. Low level of funding has resulted into low level of provision of these facilities in our institutions of learning. The author continued to say that information and communication technology (ICT) equipment and accessories, soft and hard wares are costly. Investments in ICT educational service are also at a low level coupled with low level of budgetary allocation and poverty among Nigerians to produce ICT tools for private use. Few available computers in higher institutions can not serve all the students and teachers. In his opinion Okebukola (2007) stressed that those Nigerian public schools from primary to universities are not properly founded by the government. The author stress further that these were made known various budgetary allocations over years on education by education might seem to increase numerically over years but its marginal impacts has been declining because of fast increasing number of students in public schools and declining value of money which has been making it difficult and practically impossible to acquire all materials needed for public schools.

**Curriculum Structure:** The present curriculum used in all the levels of our educational system is deficient. It has not significantly changed since the British left
and handed them over to us. It has not done us good. The curriculum is so deficient to
the extent that our graduates can no longer fit into the employers demand, because it
has made the quality of graduate poor. Therefore, deficiencies discovered in the
curriculum due to its poor structuring has affected the implementation of information
and communication technology (ICT) in the teaching of agricultural education
negatively.

i. **Lack of Motivation:** this is a very important challenge facing the government
in the present dispensation in the area of information and communication
technology (ICT). Durosaro (2006) observed that teachers are not motivated in
the areas of salary, condition of service for serving teachers and scholarship
awards for their improvement. Mmadike (200) found that excess work load,
low morale, inadequate remuneration, unattractive prospect for promotion and
inadequate working condition are sources of job dissatisfaction among tertiary
institution teachers in Nigeria.

ii. **Poor Staff Development:** Re-training programme according to Usoro (2009) is
an important instrument for better standard of education. The author further
stressed that a teacher needs to retrained two to six times in his/her lifetime in
order to keep them abreast with changes in his/her profession. In the statement
of the authors, staff development is a process of improvement that embraces all
those activities that are geared towards the growth and improvement of skills,
knowledge ad attitude of personnel and that a teacher who is not currently in
tune with the modern trend of information and communication technology is
dangerous to the system. Therefore, staff development in terms of continuing
education appears rather very poor, haphazard, politicked and lack continuity.

iii. **Inadequate Trained ICT Compliant Teachers:** it is generally accepted that
as of today, large number of vocational and technical education teachers of
higher institutions of learning in Nigeria are non-ICT compliant. Usoro et al
(2009) stated that teachers training institutions should be equipped with
information and communication technology (ICT) to assist the teachers to learn
how information and communication is being used especially in the teaching
and learning processes.

**Conclusion**

Inculcating of information and communication technology in the teaching of
agricultural education in Nigeria’s colleges of education must begin proper with the
new teachers who are adequately equipped with the knowledge of information and
communication technology (ICT) compliant teachers on the basis of the new
technological development in teaching. Deficient areas of information and
communication technology (ICT) implementation as well as the quality assurance
of agricultural education teachers must adequately be addressed through the improvement for effective delivery of educational service in education industry.

**Recommendations**

The following are recommendations for full implementation of information and communication technology (ICT) in the teaching of agricultural education.

a. Government should release adequate funds because of the capital intensive nature of agricultural education being an integral part of vocational and technical education. However, private and philanthropic supports are very much necessary to complement the efforts of the government.

b. Motivation of the teachers becomes very much necessary. An improved welfare package will not only inspire and motivate serving teachers; it will also attract others to classroom. A situation where teachers are recruited only for accreditation exercises of courses in the nation’s higher institutions is not the best.

c. Government in collaboration with higher institutions should organize periodic retraining programmes, workshops and seminars for quality assurance of agricultural education teachers in the area of information and communication technology (ICT).

d. Restructuring of curriculum: this becomes very much necessary from primary to university level to meet the ever challenging dynamic world. Some courses in most of our higher institutions of learning need to be restructured, if not totally scrapped because they are no longer relevant to the recent trend. This could give way to proper or full implementation of information and communication technology.

e. Government at the three levels should provide special budget to fund the purchasing of the information and communication technology (ICT) equipment and training of agricultural education teacher in ICT so as to produce enough ICT compliant teachers for full and effective implementation in the teaching of agricultural education in Nigeria’s colleges of education.

**References**


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