

APPLICATION OF ICT IN TEACHING PRACTICE PRACTICUM FOR EFFECTIVE TEACHER EDUCATION PROGRAMME

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Abstract

The stress of this work is on the application of information and communication technology in teaching practice practicum for effective teacher education programme. Modernization has given birth to ICT which involves the use of technological tools in information gathering, storage, retrieval, dissemination and communication especially in teaching and learning. ICT is important ingredient in teaching practice practicum which is the hub of preparing teachers in the course of professionalization. Teaching practice practicum is a clinical approach towards equipping teachers in terms of skills and competencies so that they will be very effective in the normal classroom teaching-learning. This study is therefore approached from the perspective of explaining the meaning of ICT, skills in teaching practice practicum such as set induction, planned repetition, stimulus variation, questioning skills are highlighted. Also x-rayed is the meaning of teacher education programme and then improved ICT in teaching practice practicum for effective teacher education. It was recommended among others issues raised in the discourse that microteaching laboratories should be equipped with the state of the art ICT tools in training the present day teachers.

Keywords: Information and communication technology, teaching practice practicum, effective teacher, teacher education.

The quality of teachers in an educational system determines to a great extent, the quality of education in a nation because no educational system can rise above the quality of its teachers. Professional teachers in particular are crucial to the formulation and successful implementation of educational policies in any country. This probably explains why the federal government of Nigeria (FGN, 1998) stressed the need to accord teacher education a prominent place in educational planning. The policy further maintains that among other things, the mission of teacher education should be;

1. To provide teachers with the intellectual and professional background adequate for their assignment
2. To produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational system
3. To encourage further the spirit of enquiry and creativity in teachers.

However, teacher education refers to planned and designed change undertaken, to tackle deficiencies and needs with the conviction that substantial progress can be made in the development of teaching process through the application of Information and Communication Technology (ICT) in teaching practice practicum.

Information and communication technology has influenced all facets of human endeavour. ICT is the processing and maintenance of information and the use of all forms of computer communication, network and mobile technologies to mediate information. ICT, according to World Bank (2003) consists of hardware, software, network and media for collection, storage, processing, transmission and presentation of information. Communication technologies include all media employed in transmitting audio, video, closed circuit television, video tape recorder, video cassette recorder/player, (VTR) camera, microphone, television monitor, computer, multimedia (cable, satellite, fiber optics, wireless, radio, infra-red, blue-tooth, wifi). Network technologies include all

removable media, discs, flash drive, multimedia projectors, interactive white boards, media phones etc. information is not reserved for use in isolation but rather communicated among users. When ICT is applied to teaching practice practicum, there is the delivery and access to knowledge and will therefore, improve constructing CD-Roms, databases and video conferencing. ICT can be used in the teaching-learning process when it serves as a means to an end.

The application/use of ICT in teaching practice practicum help in:

1. promoting student intellectual qualities through higher order thinking, problem solving, improved communication skills and deep understanding of the learning tools.
2. promoting supportive, interactive teaching and learning environment by creating border tools for students especially those embarking for teaching practice.
3. using computer-generated graphics to illustrate relationship of all kinds especially dynamic process that cannot be illustrated by individual picture.
4. improving school attendance level and enabling the creation of a new and more effective curriculum
5. ensuring that more effective interactive learning centered and activity oriented teaching-learning approach.
6. empowering learners with ICT awareness and skills which are essential for success in contemporary knowledge economy.
7. increasing the quality of teaching through ICT facilities.
8. improving the quality of teaching through ICT facilities, knowledge and understanding beyond the classroom setting.
9. improving the quality of instruction.

What is Effective Teaching?

Teaching is a complex activity because it involves moulding the character of the child who, himself is a complex creature. According to Ajayi (1987), teaching is an activity which unites together processes such as instructing and training by the overall intention of getting pupils/ students acquire knowledge, skills and modes of conduct in a manner which involves understanding and an evaluation of the rationale underlying them. In the view of Ife (1995), teaching is a process by which a teacher guides the learners in the acquisition of knowledge, skills and attitudes. Teaching therefore, is a process that involves the interaction of the teacher, the learner and the learning task.

Teacher's effectiveness involves several dimensions. For the teacher to be effective therefore he has to develop in psychological and sociological dimensions to the understanding of his task. Alhassan (1991) was of the opinion that teacher's effectiveness can be looked at from four levels, academic preparation, teacher's personality, knowledge of the students characteristics and the teaching style. As for Afe (1995), teacher effectiveness is characterized by performance evaluation in teaching skill, rating of professional attitudes, success achieved in teaching techniques used and assessment of personal characteristics.

Principles of effective teaching which every teacher should endeavour to achieve include:

1. Understands and applies psychological readiness principle.
2. Provides a favourable success and failure ratio for the student.
3. Plans skillfully for an effective teaching-learning situation.
4. Individualizes instructions where appropriate.
5. Facilitates student motivation towards their academic and soil interest and achievement.
6. Facilitates their intellectual development
7. Facilitates their motor skill development
8. Use effective reinforcement techniques
9. States and assesses behavioural objectives effectively
10. Accurately interprets scores obtained on tests and uses the information to improve the condition of learning
11. Understands and applies other principles of learning

Application of ICT in Teaching Practice Practicum for Effective Teacher Education Programme

12. Establishes a democratic classroom atmosphere
13. Guides peer interaction effectively
14. Adjust social interactions/activities to group norms
15. Adapts classroom activities to the student who is a typical in terms of social skills
16. Facilitates development of moral character and moral behavior
17. Recognizes symptoms of poor adjustment
18. Reduces disabling levels of anxiety
19. Strengthens weak skill areas as an aid to adjustment
20. Use effective case study methods and employs referral techniques
21. Communicates information and suggestion to parents and colleagues about, the social, intellectual and emotional adjustment of his students/pupils.

Source: (WCCI, vol.4, October, 2003)

The Concept of Teacher Education

Teacher education is designed to prepare an individual to take up teaching as a profession. It is offered in Faculties of Education in the universities, College of Education or other related colleges like National Teachers Institute (NTI) and others. Teacher educators produce pre-service or in-service teachers to become professionals. Teacher educators are those who have acquired teaching certificates in the tertiary institutions and through interview, and experience are employed to teach trainee teachers. They also conduct research from time to time or engage on studies that concern teacher education for improvement of the system.

American commission in Joshi and Arora (2009) stated that the quality of a nation depends upon the quality of its citizens. The quality of its citizen depends not exclusively but in critical measure upon the quality of their education. The quality of their education depends more than any other single factor, upon the quality of their teachers (p.51). The national policy on education (2004) states that no education can rise above the quality of education given to the citizens of a nation which in turn depends on the quality of the teachers. Without teachers' professional development, teacher educators quality may not be maintained.

UNESCO (2002) postulated that teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. The achievement of assuming a leadership role in the transformation of education could be achieved through teacher educators. Learning new skills, developing new insights into pedagogy through research findings, development of new knowledge content and ensuring that the technological need of the hour of producing new breed of teachers who can apply micro-teaching constructively to improve the educational system as a whole and the teaching and learning process in particular is achieved. Teaching through the application of micro-teaching should be practiced as a service profession with the teacher guiding and directing collective learning activities in the classroom. The teacher will as this by motivating and arousing the learners' desire to learn, help them to establish goals and give them the stimulus and opportunity to ask questions so as to obtain information and propose possible solutions to problems. By the teacher's efforts, the learners are led to practice skills, draw inferences, acquire valuable habits/attitudes, analyze results and achieve other desirable outcomes. [Teacher education curriculum henceforth, should incorporate effective mastery of micro-teaching practical methods, skills, and special techniques of teaching with sound general knowledge of the subject matter (Iwu, & Nzeako, 2010)].

Concept of Teaching Practice

Teaching practice is an important component of becoming a teacher. It grants student teachers experience in the actual teaching and learning environment (Izuagba, 2003). During teaching practice, a student teacher is given the opportunity to try the art of teaching before actually getting into the real world of the teaching profession (Arikewuyo, 2006). Student teachers also know the value of teaching

practice and as remarked by Ikoya (1989), they perceive it as the crux of their preparation for the teaching profession since it provides for the real interface between students and membership of the profession. As a result, teaching practice creates a mixture of anticipation, anxiety, excitement and apprehension in the student teachers as they commence their teaching practice.

Menial (2004) asserted that the term teaching practice represents the range of experiences to which student teachers are exposed when they work in classroom and schools. Further, he argued that teaching practice is a challenging but important part of teacher training, especially in Colleges of Education, and Faculty of Education in the Universities. Menial (2004) equally noted that there has been a shift in the literature from the concept of teaching practice (associated with an apprenticeship teaching) to the concept of school experience training. Izuagba (2003) pointed that the notion of teaching practice is entrenched in experience-based learning initiated by social cognitive that is expressed in classroom conducive learning environment. Teaching practice is meant to provide for the authentic context within which student teachers are exposed to experience the complexities and richness of the reality of being a teacher. This process allows the student teacher the opportunity to establish whether the right career choice has been made or not.

Moreso, Shumba (2007) described teaching practice as an integral empowerment of teacher training. In order to achieve the standards required for qualified teacher status, a student teacher is required to do teaching practice in at least two schools. According to Perry (2004), teaching practice can be conducted in a number of forms depending on the institution. Some institutions send student teachers to go for teaching practice once a day each week, others do this over a semester, while others send student teachers in a two-to-six week blocks.

Practicing Teaching Skills

The skill of introducing the lesson may be defined as proficiency in the use of verbal and non-verbal behaviours, teaching materials and appropriate devices for making the pupils realize the need of studying the lesson by establishing positive and affective rapport with them. The skill involves the following components:

1. **Set induction** - the term Set refer to the establishment of rapport between students and the teacher to obtain immediate involvement in the lesson. Experience indicates a direct relationship between the effectiveness in establishing Set and effectiveness in the total lesson. If the teacher succeeds in creating a positive set, the likelihood of student involvement in the lesson will be enhanced. It is done within 5 minutes of the lesson. The way forward include use of a short story, utilizing previous knowledge and experiences of his pupils, use of appropriate devices/ techniques.
2. **Closure** - It is a necessary skill for the student teacher to enable him end the lesson appropriately. It is instructional closure when teacher summarizes the lesson for the learner while it is cognitive closure when the learner summarizes the lesson listing the main points.
3. **Stimulus Variation** - It shows the very level of teachers' liveliness and involves the use of must it be.
4. **Non-verbal communication** - It is communication without words achieved by a smile, a frown, an eye contact, nodding of the head (head movement), body motion, arm motion and so on.
5. **Reinforcement** - it is recreating and reinforcing the values outline in the lesson, reinstating and replanting back facts into the learners.
6. **Planned repetition** - Important emphasis on repeating of main ideas, concepts, or key facts in order to help the students over learn the material. There are simple repetition, spaced repetition, cumulative repetition and massed repetition.

7. **Questioning Skills** - Teacher asks questions to split momentarily and arrest dizziness on learners. They have higher order question, lower order question, probing question etc.
8. **Use of example and illustrations:** The art or judicious selection and proper presentation of suitable example in order to generate a concept, idea or principle with a view to its understanding and proper application. The component of the skill of illustrating with examples can be working out relevant examples, formulating interesting examples, making use of inductive-deductive approach.

ICT Tools Required into the Teaching and Learning Process

Ict Tools	Content Application
Dill practice	Provides opportunity for students to practice what they have learnt from other sources with the computer providing immediate feedback. This software programme will offer corrections and limits for students' improvement. The drill and practice software programme will offer corrections and limits for students improvement. The drill and practice software are motivators that allows students to interact with problems in a stimulating good students to interact with problems in a stimulating game like setting.
Tutorial software	Computer actually presents new information and provides instruction as well as the opportunity to practice and to understand. This software assists students to progress at his or her own pace.
Problem solving	This software allows students to develop higher order thinking skills through interaction with the computer and associated with technology. The package provides opportunities for cooperative and team work
Computer Managed Instruction (CMI)	This refers to the use of a computer to manage information about learners performance and learning resources options in order to prescribe and control individual lesson. CMI diagnose learning problems remediate the learners in those specific areas, monitor and report the students progress.
Computer Enhanced Learning (CEL)	This refers to using computer to bring additional dimensions to traditional teaching methods that may be practical without the aid of computer. CEL includes using the computer to create instructional materials, slide shows and video tapes, worksheets, text visuals, rewards, incentive games.
Web based instruction	The world wide web provides a cost effective, technology rich, and interactive medium for teaching and learning.
Print Technology	Print technology such as textbooks, workbooks, study guides and fax can be the sole teaching and learning tools used as a supplement to other technologies.
ICT Tool E-learning	e-learning involves the delivery and administration of learning opportunities and support via computer, networking and web based technology.
Integrated program	Every student learn differently, some students may be visual learner, auditory learners or learn best by studying own, most students learn best with a combination of these methods.
Virtual classroom	An electronic classroom consisting of offsite students (who could be in several institutions) where instructions involves the synchronous use of electronic learning tools such as video conferencing, online classrooms, white boards, chart rooms, document cameras, and so on. Interaction and collaboration is the major emphasis in virtual classroom.

Constraints to Application of ICT in Teaching Practice Practicum

Considerable efforts are made to promote the application of ICT in teacher education for the citizens of Nigeria. However, such efforts are only at the emerging approaches. Ibe-Bassey (2009) identified the following variables and constraints that can affect the use of ICT teacher education:

1. Infrastructural Access: Electricity, (epileptic and total lack). Overcrowding and unreliable internet access to connectivity, paucity of infrastructure.
2. Policy framework and implementation plans where emphasis is tailored towards development of skills than ICT application in pedagogical practices.
3. Human resource capacity: Shortage of technical experts and skills, teachers for our schools.
4. Lack of professional training
5. Advocacy leadership
6. Fiscal resources: lack of adequate funding and sometimes total dependence on donor system.
7. Students' denial of the use of ICTs.

Conclusion

Teaching practice is a critical topic in all teacher education programme, cultures and societies, but the use of ICT in teaching is limited to management (payment of school fee, e-payment). Technology is constantly growing and creating a need for effective content delivery in the teaching and learning process whereas application of ICTs in teacher education is still at the infancy level. It seems a rough road but there is light at the end of the tunnel if the government, teachers and the students are ready to face the challenges posed by the emergence of these new technologies in order to meet up with their counterpart and function effectively where they find themselves.

Recommendations

To enhance quality teaching and learning with the use of ICT, the following recommendations are made:

1. The government and philanthropist should join hands to build computer/ internet infrastructures, powered by constant electricity supply.
2. All staff and students should embark upon pedagogical skill training.
3. Recruitment of teachers with skills acquisition should be taken seriously without delay.
4. The government should not have total dependence on foreign donors.
5. Teachers who are fast in the use of ICT tools should challenge the students by allowing them to explore the internet in search of ideas that can help them construct their own understanding.
6. ICT should be used to reinforce the content of a topic by allowing students to participate.

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Application of ICT in Teaching Practice Practicum for Effective Teacher Education Programme

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