EXPERIENCES OF DISTANCE EDUCATION AND DEVELOPMENT IN AFRICA: A CASE STUDY OF THE NATIONAL OPEN UNIVERSITY OF NIGERIA

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ABSTRACT

The place of teacher education in the context of the overall development of any nation is extremely important. The emergence of open distance learning, with its particular characteristics and its usage in offering teacher education programmes, has created unique challenges for teacher education. This paper uses a historical-cum-descriptive approach to provide an overview of various attempts at using distance education in offering teacher education in Nigeria. It aims to focus attention on important aspects of teacher education such pedagogy, teaching practice, and curricular as well as programme administration, among others. The challenges that the National Open University of Nigeria experiences, as well as efforts to address these, are highlighted with the purpose of providing evidenced-based experiences from which other countries can learn.

Key words: open distance learning, pedagogy, teacher education, teacher effectiveness, teaching practice, teaching skills

INTRODUCTION

The global target of the year 2015 (namely the eradication of illiteracy, ignorance and poverty) calls for a radical result-oriented strategy for producing effective and efficient teachers as anticipated change agents. The choice of open distance learning (ODL) is seen as an answer to the challenge of training about sixty million unqualified teachers (UNESCO, 2001 as cited in Jegede 2002). The need to adopt or adapt a teaching mode such as ODL is also necessary when one considers the fact that the content of teacher education is truly diverse, and it has expanded beyond the confines or scope of any particular geopolitical entity.

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In Nigeria, the relevance of ODL for the provision of the required quantity and quality of teachers is not in doubt. Although the shortage of trained teachers cuts across all levels of the nation's educational system, the country's greatest need is for teachers at basic education levels. Ali (1997) reported that the number of university professors who have left the university system in Nigeria either due to retirement, brain drain, death, or other causes has continued to increase: from 273 professors in 1982 to 793 in 1995.

During the year 2000 (UNDP, 2001 as cited in Alan and shahjamal 2008; UNESCO, 2000; UNESCO, 2001as cited in Jegede 2002), the educational data revealed that the teaching force comprised 224 896 primary school teachers and 113 215 secondary school teachers compared to the total enrolment data of students of 133 000 and 96 000 both at primary and secondary school levels. During June 2013,it was obtained from Nigerian dailies that the governor of one of the states threatened to declare about 96 000 primary school teachers redundant, since according to him they were either not qualified, or qualified but not competent.

Teaching in Nigeria is fast becoming a female-dominated profession, and is becoming one of the least-preferred professions for young school leavers. ODL has become the choice of many adults, mostly women, who for economic reasons choose teaching rather than other professions as their first choice. This affects the training of the pre-service as well as in-service teachers already in the ODL system.

It could be disastrous for society at large to discard the acquisition of basic skills that student teachers need before they leave the colleges or universities where they receive training. Salawu, (1999) posits that trainers of teachers are expected to make use of best practices to support their students in learning essential skills, knowledge and attitudes.

Many countries make use of the opportunities that science and technology provide in the training of their professionals. However, this is not the case in the training of teachers in Nigeria. As the world constantly changes and thus affects educational practices, there is a dire demand for the use of better educational tools. In light of this, there is a need for Nigeria to provide the best form of training to teachers. There is truth in the statement that no educational practice can rise above the quality of its teachers. Therefore, in situations where the present training models are inadequate or deficient, these should be replaced with better, result-oriented methods.

In Nigeria the conventional lecture method has dominated in the training of teachers since the colonial era (Salawu, 1999). This mode is no longer considered entirely suitable in assisting student teachers to acquire complex teaching skills. The public associates the annual mass failure of students in almost all subjects in public examinations, especially the Senior Secondary Certificate Examination (SSCE) conducted by the National Examinations Council, to the manner in which teachers are trained. As teachers remain facilitators of learning, it can be assumed that they have a role in determining the success or failure of their learners (Okebubola, 2013). Adokiye, (2013) suggested that one of the roadblocks to harnessing the power of education in the pursuit of the Nigerian Vision 20:2020 is the quality and quantity of teachers. The entire system is understaffed and deprived of good teachers, which in turn depresses the quality of outcomes at all levels. Nigeria's vision 20:2020 is a roadmap focused to transform the country into one of the world's top twenty economies by the year 2020. This initiative was first mooted by the administration of Chief Olusegun Obasanjo (1999-2007), but it was the late President Umaru Musa Yar'adua led administration that set up the National Council on Vision 2020, in May 2009, to develop a blueprint for the vision in collaboration with the National Planning Commission (Igbuzor, 2010). According to Nigeria vision 20:2020 Economic Blueprint (2009).Due to compromised human resources, the goal of attaining Vision 20:2020 becomes impaired.

Teacher education programmes in Nigeria

According to Aleyideino (1996) teacher education is designed to groom those who teach, or would like to be involved in relevant professional services to schools, colleges and the ministries of education, as needed. Nwana (1996) also defines teacher education as the production of would-be-teachers for pre-primary, primary and secondary schools and colleges. Robinson and Latchen (2003) as cited in Dorado and Orero (2007) describe teacher education as encompassing the whole process of teacher preparation in terms of academic subjects, pedagogy, as well as personal development.

Adeoye and Salawu (2005) posit that teacher education has become a central issue of public concern across the globe as the ramifications of political, economic and social change impinge on educational systems. The Nigerian Federal Government recognises the importance of teacher education, as entrenched in the National Policy on Education of 2004; the main objective of teacher education is the production of highly competent and motivated teachers. The aim is to produce teachers who are

emotionally, intellectually, and professionally equipped for effective teaching of all subjects at all levels.

Teacher education in Nigeria is about 160 years old. Within this period, much change has taken place. Okobia (1985) noted that, throughout the developmental history of education in Nigeria, there had never been a clearly perceived, identified, planned and sustained pattern of teacher training education.

Different categories of teachers have emerged at all levels of the nation's school system, e.g. those who obtained Grades III, II, and I Certificates; or the Nigeria Certificate in Education (NCE); or the Postgraduate Diploma in Education (PGDE) (Obanewa,1986). The Grade III teacher education programme has been abolished and attempts are being made to phase out the Grade II certificate programme, as the NCE is now accepted as the minimum teaching qualification.

The global trend in teacher education calls for the teaching of foundation courses such as Psychology, History of Education, Educational Technology, Philosophy of Education, and Curriculum Development, with emphasis on practical teaching, in order to prepare teachers for teaching at primary and secondary schools. This practice corroborates the view of Fagbolu (1984) when he asserts that it is now universally accepted that teachers at whatever level should have a broad-based education in addition to a specialisation in a specific field of study.

The practical aspect of teacher preparation in Nigeria's universities and colleges of education takes the form of a short-term attachment, followed by longer-term attachments, to the schools of practice (Obanewa, 1986). The first encounter is a 12-week period in total, consisting of the six weeks of teaching practice during each of the second and third year of a four-year B.A./B.Sc. Ed./B.Ed. degree programme. This model applies to most of the colleges of education. The 12-week teaching practical for the second- and third-year students in the NCE programme is also divided into two- six-week per session. There is also, the 12-week single block approach. A third approach is one whole session of teaching practice, which is popularly known as the Ikere-Ekiti teaching practice model.It is so called because the it was originated by Ikere Ekiti College of Education,Nigeria.

Diverse opinions have been voiced regarding the organisation of both the short- and long-term teaching practice exercises in Nigeria. Obanya (1984) lists issues associated with short-term teaching practice:

- The period of practice is too short to enable the trainee teacher to practice anything.
- Due to the large number of students involved in practice teaching, college/ university supervisors cannot supervise all.
- Permanent teachers seem not to realise their roles relating to the student teachers allocated to their care.
- Supervision of teaching practicals is not at all adequate, as supervisors seem more interested in students' scores, showing little concern for interpersonal discussions at the end of a teaching period. It is not uncommon for supervisors to assess student teachers' performance by merely reading through the prepared notes of lessons, and thus opportunities for professional growth are lost.

DEFINING OPEN DISTANCE LEARNING

ODL is a self-paced learning process, in which the student dictates his or her own time and place of learning (Chandler, 1991). Open education implies freedom from formal restrictions and the rigidity of the conventional face-to-face mode. It also differs as to the teaching media, space and time, course contents, and in some cases, course objectives. Greenberg (1998) as cited in Tshibalo (2007) describes distance education as a planned teaching and learning experience that uses a wide spectrum of technologies to reach learners and certify learning. Teaster and Blieszer (1999) as cited in Rashid and Rashid, (2012) posit that the term 'distance education' has been applied to many institutional methods. However, the primary distinction is that the teacher and the learner are separated in space and time. The term ODL is therefore used when addressing a whole range of related forms of teaching and learning, which focus on openness concerning access, organisation, and methods, as well as flexibility in delivery and communication patterns, and the use of various technologies in support of learning.

OPEN AND DISTANCE LEARNING (ODL) AND TEACHER EDUCATION IN NIGERIA

Teacher education in Nigeria evolved in about 1842, due to the work of western missionaries. Since then, Nigerian teacher education has undergone much change. Initially, the curriculum comprised mainly religion-based learning, English, and

arithmetic, using a conventional face-to-face mode. Later, the paradigm shifted to reflect the needs of the society. This shift has allowed for a diverse range of teachers and outcomes. In all of the categories, the preparation programmes that are conducted (through a conventional mode at all levels of teacher education) are triadic (Salawu & Aniemeka, 1992 as cited in Adeoye and Salawu, 2005): an academic programme, a general studies programme and a practice teaching programme. ODL at all the institutions effectively serves three broad categories of teacher education and training: (i) initial training of would be teachers (pre-service), (ii) continuing professional development (in-service training), and (iii) and curriculum reform.

During the last thirty years, the teacher education programme has witnessed many changes in terms of instructional delivery mode in the institutions responsible for teacher training:

- The Correspondence and Open Studies Unit (COSU) of the University of Lagos was established in 1974. It later changed to the Correspondence and Open Studies Institute (COSI) and is currently known as the Distance Learning Institute. This was the first attempt in establishing a distance education unit as part of a university in Nigeria. Initially it offered teacher training in Science education at first-degree level in Biology, Chemistry, Mathematics, Physics, as well as the Postgraduate Diploma in Education (PGDE).

- With the support of UNESCO, the National Teachers' Institute (NTI) started as a distance education organisation in 1976. It began by training Grade 2 Teachers (TC.II). In 1990, the Nigeria Certificate in Education (NCE) programme was introduced, when the expectation of a minimum teaching certificate changed. The institute also introduced the PGDE in 2005.

- Ahmadu Bello University (ABU) also showed interest in distance teaching for Grades 2 and 3 teachers, with a view of helping them to qualify for the next higher grade in teaching through an arrangement known as the Teachers-in-Service Education Programme (TISEP).

- TISEP also provided distance education courses, which culminated in the awarding of the Nigeria Certificate in Education (NCE).

- The concerns of ABU regarding distance education at the tertiary level were articulated in November 1972, when it established a 'university of the air' programme for teachers in secondary schools and teacher training colleges.

- The external degree programme of the University of Ibadan, which commenced in 1979, recently changed over to the Distance Learning Institute. The programme was designed to provide in-service training for NCE holders, in order for them to become degree holders in education.
- The resuscitated National Open University of Nigeria (NOUN), a strictly ODL institution, has a school of education with the mandate to provide pre-service and in-service training of teachers.
- Besides the institutions previously mentioned as involved in the training of teachers through distance learning modes in Nigeria, there are other universities that also engage in training of teachers through various forms of distance learning programmes.

The use of ODL for teacher education has achieved success in a number of ways:

- Providing cost-effective teacher education and training
- Reaching remote and rural teachers and widening their access to learning opportunities and resources
- Providing large-scale education and training (initial and continuing) within a shorter time span than conventional face-to-face training
- Providing an affordable alternative to 'off-the-job' residential models of in-service training for either initial training or continuing professional development
- Supporting school-based programmes of initial teacher training
- Providing a route for unqualified graduate teachers to gain the required teaching qualifications while working, i.e. simultaneously upgrading their qualifications

ICT AND TEACHER EDUCATION IN NIGERIA

ICT refers to a whole range of information and communication technologies involved in information processing and electronic communications (Salawu, 1999). The use of ICT includes radio, television, videos, computers, sensors, interface boxes, email, satellite connections, the internet, and software and materials that teachers can employ for teaching and learning. In many countries, educational planners and policy makers are faced with the dilemma of how to improve the quality of education as a response to the challenges of the advanced use of ICT, as well as developments in science and technology that have caused the incorporation

of new concepts and techniques into the teacher education curriculum. Technology is changing the instructional process (Kosakowski, cited in Charakupa, 2002). Furthermore, teaching and learning in an online environment is different from traditional classroom settings. Kosakowski, cited in Charakupa, 2002 posits that online education allows increased flexibility in scheduling and location matters. It also allows increased frequency of interaction between students and instructors. Furthermore, email enhances meaningful person-to-person discussion with students about their academic work.

Ajayi (2001) proposes that new ICT facilities could allow teachers and lecturers to move into the roles of guides and facilitators, assisting students to gain the skills required to acquire and utilise knowledge available in various forms all over the world. According to UNESCO (2002) teacher education institutions may either assume a leadership role in transforming education, or be left behind in the swirl of rapid technological change. Some advantages of infusing ICT into teacher education Nigeria include the following:

- Facilitating an increase in qualified teacher creation, especially in disciplines where there are insufficient teachers, i.e. Mathematics, Science, English language

- Enhancing the quality of teacher education by exposing pre-service and in-service teachers to resources and information beyond their immediate horizon

- Limiting or eliminating the requirement for building large classrooms, laboratories and libraries

- Enabling easy access to institutions responsible for teacher education, such as the National Teachers' Institute (NTI), colleges of education, faculties or institutes of education in universities, and the School of Education at the National Open University of Nigeria

- Enhancing easy handling of large student populations

- Allowing students easy access to information in ODL programmes

- Simplifying the task of teachers/lecturers/facilitators, while the scope of interaction with materials is broadened

USE OF OPEN AND DISTANCE LEARNING IN TEACHER EDUCATION IN OTHER COUNTRIES

ODL for teacher education is widely used around the world, in small and large countries, and in a variety of contexts. In Latin America, some of the largest distance education programmes are for teacher education (Chacon, 1999 as cited in zondiros, 2008). Two thirds of tertiary institutions that offer distance education in Egypt also provide teacher education. Many countries with large populations, such as Bangladesh, Brazil, China, India, Indonesia, Mexico, and Pakistan, make use of open and distance learning. Brazil, China, and Indonesia all have large-scale programmes for distance education teacher training.

India has a wide variety of ODL programmes for teachers, and Pakistan and Bangladesh train teachers through their open universities. Egypt has established a video-conferencing system to provide in-service teacher education to more teachers. However, in Africa there is still much scope and need for the further use of ODL. Currently there are more than 140 public and private institutions that offer distance education programmes. More than half of these institutions offer teacher training (World Bank, 2001).

Some of the least populated countries embrace distance learning as well. Mongolia has used ODL to reach teachers scattered across large distances (Robinson, 2001) while Canada employs ODL for its unpopulated areas (Burpee & Wilson, 1995). In industrialised countries such as Great Britain and the United States of America, a wide range of education programmes are available through distance education. With the integration of ICT in schools, teacher education institutions are expanding their provision and promotion of the use of ODL in contexts where it was previously seldom used for teacher education.

TEACHER EDUCATION PRACTICE: THE NATIONAL OPEN UNIVERSITY OF NIGERIA MODEL

At the National Open University of Nigeria, the School of Education is one of the five academic schools within the University. The training of student teachers is divided into three major areas: content, pedagogy and practical teaching. In order to ensure production of quality teachers, certain precautionary steps are taken:

- Preparation of Outlines Programme Proposal (OPP) and Detailed Programme Proposal (DPP): these are in line with the National Universities Commission Benchmarks for senate consideration and approval.

- Development of course materials: course materials form one of the available means through which students' access the content of the courses for which they register. In order to ensure quality course materials, specialists engage in the development of courseware. In addition, editing is performed at three levels. Firstly, a specialist is engaged in editing the material. Secondly, outsourced editors, as well as an in-house editor, are ensured. Thereafter, a competent editorial team, comprising subject and language experts employed on a permanent basis, provide the final editing work for each of the courses under development. The courseware is developed with utmost regard for open and distance learning courseware tradition, using a modular approach, with consideration for the specific attributes of distance learners. The adoption of a team approach ensures the integration of the expertise of subject experts, instructional designers, editors, and graphic artists.

Admission requirements for the National Open University of Nigeria programmes

Criteria for admission into any of the twelve academic programmes at undergraduate level in the school are the holding of a:

- B.A. Ed. Early Childhood Education
- B.A. Ed. English
- B.A. Ed. French
- B.A. Ed. Primary Education
- B.Sc. Ed. Biology
- B.Sc. Ed. Chemistry
- B.Sc. Ed. Business Education
- B.Sc. Ed. Agricultural Science
- B.Sc. Ed. Mathematics
- B.Sc. Ed. Computer Science
- B.Sc. Ed. Integrated Science
- B.Sc. Ed. Physics

These programmes are based on criteria set by the National Universities Commission (NUC) and approved by the university senate. Candidates are expected to have acquired a minimum entry qualification of five credits at two sittings, or to hold a National Certificate in Education (NCE) with a minimum of five points.

Admissions are processed online, with the end product being a printed letter of admission. A follow-up screening of credentials is performed at the candidate's study centre of choice, where full-time student counsellors attend to prospective candidates. The candidates are judged according to merit and the admission procedures continue, which include the payment of required fees and collection of course material at the study centre, where students also receive course facilitation. During the training programme, students take part in continuous assessments, also known as computer-based assignments, using the e-exam platform. They are expected to write four such tests, of which the best three results are recorded.

Semester examinations

At the end of each semester, students write end-of-semester-examinations. All students, except those at 200 level and above, write pen-and-paper examinations (the one hundred (100) and two hundred (200) level students write e-exams). All examination questions from levels four hundred (400) to eight hundred (800) are subjected to external moderation. Experts from other universities are tasked with these responsibilities, as well as post-assessment moderation of the students' final scores.

Teaching practice

Measures of quality assurance ensure the prevention of undue interference due to distance during teaching practice. The Dean is the chairperson of the Teaching Practice Committee. The committee maintains a close and effective communication link with the study centre on issues relating to teaching practice. Students on the 300 to 400 levels, as well as postgraduate students, are allocated to schools of practice. Students who are teachers are not dislocated from their schools. The School of Education provides students with a disc containing information on teaching skills before teaching practice.

Working and learning

Comprehensive reports from external examiners and moderation reports of students' scores are scrutinised and acted upon.

The internet and mobile phones assist greatly in the provision of information to staff and students. The teaching practical lasts for a period of six weeks each at the three hundred (300) and four hundred (400) levels for undergraduates, while it lasts for twelve weeks for the postgraduate diploma students.

In order to prepare the students for teaching practice, the school prepares a teaching practice manual and makes it available online for students and the supervisor to read. At least two experienced specialists drawn from relevant tertiary institutions supervise each of the student teachers. Students have to turn in at least two scores. The average score is used as the student's teaching practice score.

Handling of projects

Project writing is a prerequisite in the training of student teachers. An effort is made to ensure the sanctity of the exercise, and qualified personnel supervise the projects. It is compulsory for the study centre directors to forward the names, as well the qualifications of each of the prospective project supervisors, to the teaching practice headquarters. The teaching practice committee provides approval for the list and the responsibilities of the supervisory personnel are made clear. Approved topics are forwarded to the headquarters for further clarification and final approval before the students commence on their project work. The bound copies of the projects are submitted to the school and subsequently undergo external assessment. However, the school is currently on the verge of introducing online project supervision.

Handling of Science practicals

In order to ensure quality of content delivery to Science education students, a memorandum of understanding exists between the university and other tertiary institutions with model Science laboratories. The selection of such institutions is based on the recommendation of an expert team from the university. In order to ensure effective handling of practical scientific courses, the university is considering the use of virtual laboratories for practical experiences. Arrangement for this will soon commence.

CHALLENGES

There are many challenges that the School of Education is confronted with when providing quality teacher education through distance learning:

- Assessment of the course materials: students are the direct beneficiaries of course content and their observations are valuable to the university. However, not many students provide such feedback.
- Production of teaching skills on video: as distance students undertake teaching practice in schools everywhere, micro-teaching laboratories at the 47 study centres would be ideal, but not feasible in terms of financial implications. The gap can be bridged by professionally packaged instructions for teaching skills being made available to the students. However, finding experts who have the time and inclination for such an exercise is a big challenge.
- Project supervision: the challenge of online supervision in a country that cannot guarantee a 24-hour uninterrupted electrical power supply is a major hindrance. In addition, the problem of plagiarism on the part of the students is also a problem. With the intervention of software packages designed as anti-plagiarism tools, this problem could be overcome. Over and above this issue, many academics who are computer literate still lack the skills needed for editing.
- Online facilitation: financial challenges have made online facilitation attractive to the university. The university is committed to full implementation of online facilitation. However, erratic power supply, low levels of computer literacy in course facilitators, and demands from students for synchronous e-learning, etc., are challenges still to be addressed.
- Virtual laboratory: when fully implemented, the Science programme students will be provided with the unique opportunity of not only hearing, but also participating in virtual laboratory experiences. The virtual laboratory has been in use at some conventional universities in Nigeria, namely Obafemi Awolowo University, Ife-Ife, and Lagos State University. As NOUN student-teachers are located in each of the 47 study centres across the country, the University has many challenges in terms of cost, maintenance, capacity building, and a host of other implications, before it can provide effective and meaningful laboratory experiences.

CONCLUSION

Teacher education in Nigeria has come of age. It has progressed from its rudimentary approach, now employing the modern methods of distance education in the training of teachers at all levels. Nonetheless, in order for distance education to be a reliable instrument for producing quality teachers for the country, many issues still need to be addressed.

RECOMMENDATIONS

Based on the information provided on the historical development of distance education, the following solutions are recommended:

- The Nigerian Federal Government should encourage young men and women with academic potential to consider teaching as a profession.
- Teacher education should be better funded, to enable the country to have the kind of teachers it deserves, in order to meet the expected outcomes of Vision 20:2020.
- The two purely distance learning institutions in the country in particular, and other dual mode institutions in general, should work together to adapt the training of teachers, moving away from the traditional approach to the modern day high-tech curriculum integration approach, taking into account pedagogical and practical teaching aspects required by the profession.
- Online project supervision is viable not only in teacher education, but also in other disciplines. Support should be provided for this endeavour.
- NOUN, as a single-mode tertiary institution that provides highly accessible and enhanced quality education, anchored in social justice, equity, and national cohesion, should be adequately funded to serve the country as required.
- Mass media, such as television and radio, should be used to provide additional teacher education content to students.
- The deans of faculties and schools of education are encouraged to oversee the integration of the products of international organisations, for improving teaching as a profession. An example is "Tuning Africa" a project funded by African Union (AU) which is aimed at generating specific and generic competences in teaching.

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