Open Education Resources and Teacher Professional Development in Nigeria:
Prospects and Challenges

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Abstract
Recently, Open Educational Resources (OER) have gained increased attention for their potential and promise to obviate demographic, economic, and geographic educational boundaries and to promote lifelong learning and personalized learning. The rapid growth of OER provides new opportunities for teaching and learning, at the same time, they challenge established views about teaching and learning practices in higher education. The challenge is to ensure a well-prepared, engaged, and committed corps of teachers in sufficient numbers, whilst working within budgetary and infrastructure constraints. In developing countries this challenge is amplified by the significant numbers of un and under-qualified teachers; these teachers urgently need access to professional development opportunities. Across sub-Saharan Africa the minimum level of qualification required for teachers varies, but these standards are generally lower in sub-Saharan Africa than in other regions. Even so only four countries report all teachers meeting their requirements (UNESCO, 2006). This paper provides the background to the current development of and future trends around OER aimed at adding to our understanding. The challenges to teacher educators in sub-Saharan Africa are acute. This paper describes how the Teacher Education in Sub-Saharan Africa (TESSA) consortium is working within institutional and national policy systems to support school-based teacher professional development designed and produced a bank of open educational resources (OERs) to guide teachers’ classroom practices in school-based teacher education. The paper concludes by outlining success factors for the integration of OERs: accessibility, adequate resources, support for teachers, accommodation of local cultural and institutional practices, and sustainable funding.

INTRODUCTION
Education is critical to many development initiatives. But, at the same time, there is widespread recognition that there are enormous global challenges facing the education sector. Foremost amongst these is the severe shortage of teachers in countries where they are most needed; to meet the challenges of the Education for All (EFA) goals, somewhere between 15 and 35 million new teachers are required globally by 2015. In Africa, south of the Sahara alone, it is estimated that approximately 4 million additional teachers will be needed to fill both new posts and vacancies (to deliver a complete course of primary schooling for all children); this need is due to attrition caused in particular by the effects of HIV/AIDS and the migration of trained teachers into other sectors of the economy and other countries outside of the region.

Teachers Education and professionalism
Professional teacher training simply means teacher education and continued learning. Fafunwa (1985) viewed teacher education as the teaching and training experiences provided not only within teacher institutions but also outside them with the basic aim of preparing and grooming potential teachers for teaching activities. Teacher training programme is generally seen as having context and composed of goals and objectives, input, process, evaluation and output (Kanu, 1992). Also, Harris (1980) viewed teacher education as “any planned programme of learning opportunities afforded staff members the purposes of improving the performance of an individual in already assigned position” (p.18). While Fullan (1995) conceived teacher professional development as “the sum total of formal and informal learning pursued and experienced by the teacher in a compelling learning environment under conditions of complexity and dynamic change” (p.265). A common underpinning assertion of the above definitions is continuing learning process, by which serving teachers acquire the knowledge, skills and values to sustain the desired spark of intellectual vitality, which will improve the quality of teaching and students’ learning outcomes (Fullan, 1995). The National Teacher Education Policy (2009) contains the latest articulation of the Vision, Goal and Objectives of Teacher Education in Nigeria. Section 7.1 of the Policy states that the Vision of Teacher Education in Nigeria is to:

- Produce quality, highly skilled, knowledgeable and creative teachers based on explicit performance standards through pre-service and in-service programmes who are able to raise a generation of students who can compete globally.

According to Anho (2011), teachers’ education is the process which nurtures prospective teachers and updates qualified teachers’ knowledge and skills in the form of continuous professional development. Teachers’ education revolves around the policies and procedures designed to equip prospective teachers with the knowledge, attitude, behavior and skills required in the performance of...
effective duties in the classrooms, and in other social gatherings including churches. According to Fareo (2013) Teachers’ education is often divided into three stages namely:
(a) Initial teacher training;
(b) The induction process involving the training and supports of the trainees during the first few years of teaching or the first year in a particular school; and
(c) Teacher development or continuing performing development and intensive process for practicing teachers.

What is School-Based Teacher Development?

SbTD is an approach to in-service teacher education using carefully prepared instructional materials for training, self-learning, and development of enabling skills for active learning and reflective practice. It involves Continuing Professional Development of teachers while on the job, providing teacher mentoring and supervisory support, and cluster meetings to handle challenges faced by the teachers. SbTD seeks to provide a solution to enhanced professional practice that will result in improved performance of learners in schools.

Objectives of SbTD

The SbTD programme will:
- Provide the teacher with self-learning modules and training packages/teaching resources that will support his/her school-based professional development;
- Adopt modalities for the delivery of the programme which ensures cost-effective systems of in-service teacher education;
- Ensure coherence and consistency in the delivery of in-service teacher education;
- Facilitate the development of a national teacher competency framework based on the Nigerian model Basic Education teacher;
- Develop a framework for gender sensitive In-Service Training (INSET) provision.

The school-based teacher mentoring and professional support program contracted a team of facilitators/mentors’ from institutes and colleges of education and education faculty at universities within the state who would work with clusters of school in selected LGEAs. The facilitators worked with school supervisors and school principals to set up programs of intensive classroom and school-base support for teachers from a cluster of nearby schools. Each term the team of facilitators moved to another cluster of school in LGEA for similar teacher mentoring whilst maintaining some support for the school supervisors and school in developing one of the three major themes.

Result and lesson from the Experience of the school-based Teacher professional support program

An efficient model for a school-base teacher professional development system was developed. The system actively involved all key groups responsible for school quality in the local government. It involved teachers, school principals, parent, school supervisor, local government education and staff of the colleges and institution of education from within the state. It put into practice a cycle of activities base on:
- Reflection (on classroom practice with mentors);
- Action (peer teaching lesson with mentors);
- Reflection and development (of activities and materials with mentors and other teachers at school); and
- Action (developing methods, materials and lesson plans with other teachers at school cluster workshops; and then implementing new ideals).

Facilitators/mentors organized a yearlong programme of activities, with intensive support during one term in a cluster of schools and then repeating the cycle of activities each term in a new cluster of schools. Facilitators provided the technical support to schools and transfer knowledge and skills to school supervisors and teachers.

Open Education Resources

Bissell (2009) described OER as —digitized materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning and research‖ (97). D’Antoni (2009) cited the William and Flora Hewlett Foundation, a key donor for OER as stating that OER are —resources that reside in the public domain or have been released under an intellectual property license that permits
their free use or re-purposing by others‖ (p. 4). An OER may be an entire course, a complete book, or a more granular piece, such as a single learning object (Downes, 2007).

The challenge is to ensure a well-prepared, engaged, and committed corps of teachers in sufficient numbers, whilst working within budgetary and infrastructure constraints. In developing countries this challenge is amplified by the significant numbers of un- and under-qualified teachers; these teachers urgently need access to professional development opportunities. Across sub-Saharan Africa the minimum level of qualification required for teachers varies, but these standards are generally lower in sub-Saharan Africa than in other regions. Despite the urgency created by these challenges, Kirk and Dembélé (2007, p. 1) caution that, “Short-term responses to teacher shortages can ensure that every classroom has a teacher, but raises concerns about the impact on the quality of teaching and learning.”

Key proponents of this model in the TESSA consortium have been the National Teachers’ Institute (Nigeria) The National Commission for Colleges of Education in Nigeria has created similar books based on TESSA materials, one for each area of the primary curriculum. Each book links 10 classroom activities alongside questions to prompt teacher experimentation and reflection. These books are to be used with all pre-service teachers across Nigeria. In both instances there were previously no resources to support the student teachers’ whilst on teaching practice and the books provide a structure and framework for skills development.

The TESSA consortium
The consortium includes universities in 9 Sub-Saharan countries, namely:
- Ghana : Cape Coast and Winneba universities.
- Kenya: Egerton University.
- Nigeria: National Teachers Institute, Kaduna.
- Rwanda : Kigali Institute of Education
- Sudan : Open University of Sudan
- South Africa : University of Fort Hare, UNISA and the University of Pretoria.
- Tanzania: Open University of Tanzania
- Uganda: Kyambogo University, Makerere University.
- Zambia: University of Zambia

The other consortium members are the Commonwealth of Learning, the BBC World Service Trust, the African Virtual University (AVU) and the OU UK.

The National Teachers’ Institute
The National Teachers’ Institute was mandated by Act No 7 of 1978 to organize programs for upgrading and updating practicing teachers at all levels, a task, which it has been engaged in since its establishment. In Nigeria, unlike other countries, the re-training of teachers has not received the desired attention from Local, State and Federal Government. There has not been any systematic attention to update regularly the knowledge and skills of teachers in the light of the changes in curriculum and the wider society. This neglect has in turn affected the quality of teaching in schools. It is in recognition of this that the Federal Government has under the Millennium Development Goals Project, directed the institute to retrain teachers in Nigeria.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Level</th>
<th>Approx. students on Annual Duration of</th>
<th>Duration of Programme</th>
<th>Method of accessing TESSA</th>
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<tbody>
<tr>
<td>1. NCE (DLS) – upgrading TCII holders to the minimum qualification of NCE</td>
<td>Primary schoolteachers with less than the NCE</td>
<td>80,000</td>
<td>4 years</td>
<td>TESSA integrated course books &amp; TESSA website</td>
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2. Nationwide Capacity Building workshops for primary schoolteachers on innovative techniques of teaching the four core subjects: English, Maths, Basic Science and Social Studies funded from the MDGs project

| Public primary schoolteachers and head teachers | 2006 | 143,140 |
|                                               | 2008 | 157,566 |
|                                               | 2009 | 115,415 |
|                                               | 2010 | 140,000 |
| 1 week                                        |      | TESSA integrated manuals |

3. CPD Teacher Programme for States on demand for all categories of teachers in primary schools

| Primary and junior secondary schoolteachers | 5,000 | 1 week |
|                                            |      | TESSA integrated manuals |

4. Federal teachers scheme induction workshop

| College of Education graduates taking up first-time appointments | 2009 | 45,000 |
|                                                                | 2010 | 28,000 target |
| 1 week                                                         |      | TESSA integrated manuals |

Source Yaya(2012)

**Benefits of TESSA**

The case studies all testify that TESSA OERs provide much needed materials to support teachers in the classroom; material that mediates the textbook and guides teachers to develop skills and behaviours they have encountered in theory sessions. The accounts here are qualitative personal views from TESSA champions but these experienced educators are acutely realistic about the challenges of achieving sustainable change. Analysis of the accounts suggests that benefits could be grouped as:

**Benefits to teacher educators:** The personal benefits reported by many of the writers have been considerable: exposure to a range of ideas and practices at both TESSA events (including visits to other sites) and international conferences; peer support for problem solving and personal activity such as research writing or presenting; and a wider understanding of their role.

**Benefits to institutions:** In some of the case studies we learn of challenge and disruption to current ways of thinking and operating; at the OUT the move towards assessment through portfolios rather than exclusive reliance on examinations has been given added impetus through engagement with TESSA.

**Benefits in schools and classrooms:** Achieving improved pupil learning is at the heart of TESSA but establishing a clear link between TESSA use and pupil attainment with any certainty is fraught with difficulty – a multitude of factors influence change in the classroom. However, there is plenty of evidence here that teachers recognise and accept, sometimes over time, that the approaches, ideas and activities within the TESSA OERs offer a ‘professionalism’ that works for them.
Challenges
Access to TESSA OERs remains deeply problematic. The aspirations for teacher interaction through the web, articulated in the planning documents of 2005, now look wildly optimistic; most teachers in sub-Saharan Africa remain without easy access to the internet other than through occasional visits to cybercafés. Connectivity is unreliable and printing expensive. Further, inadequate and/or insufficient training in the ICT skills necessary to navigate the website successfully are also seen as challenges to be overcome. Even in many tertiary education institutions, infrastructure and connectivity is still limited and some of the TESSA Coordinators writing here do not possess either their own PC/laptop or access to the internet from their desk. To date, efforts to engage teachers beyond those registered on formal programmes have shown limited success. The reasons for this are complex; for some teachers there is no perceived ‘problem’ with their current practice; for others the TESSA OERs originate from an unfamiliar source and so they feel little ownership of the materials; and for some the materials are limited in their relevance as they are not sufficiently closely linked to the pupil curriculum or able to be shared directly with pupils.

Concluding Remarks
In this paper our interest is on SBTD within the school and we use the term SBTD to focus on that more informal, more frequent and more regular ‘on the job’ professional development in school which can occur as part of the everyday working lives of teachers. A key premise in this paper is that it is a long-term, coordinated and sustained focus on SBTD which is key to improving the quality of classroom pedagogy.

The starting point for TESSA is recognition that pupils’ achievements in schools are heavily influenced by the knowledge, skills, behaviour and values of their teachers. The diversity of implementation models and mode of use throughout the TESSA partner institutions is a reflection of the everyday realities of practice within these partner institutions and the schools they serve; the motivations, priorities and capacity of individuals and systems are all factors in the plans and activities reported here – sometimes considered explicitly, in other cases having an implicit or tacit presence. There is need for partnerships, co-production and sharing, and distributed management and control. As the TESSA experience is beginning to reveal, the possibilities and potential for harnessing OERs in teacher education are immense and offer an innovative platform to support teacher learning, particularly where local educational resources are scarce. TESSA attempts to bring teacher training nearer to the point of delivery – school classrooms.

References


