TESSA: Open Educational Resources for Teacher Education in Africa

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Introduction

Technology now offers us a plethora of tools, resources (including Open Educational Resources) and structures to support educational activities. But the value of the technologies to enhance these activities depends on our ability, as educators, to identify the tools and structures which best support our purposes and the needs of learners.

The issues facing teacher educators across Sub Saharan Africa are highly challenging: an additional four million teachers are required to meet the EFA goal of universal primary education by 2015; a large proportion of existing teachers have experienced little or no training; teacher supply is severely effected by both teacher migration and HIV / AIDs; and the inappropriate nature of many current teacher education programmes - focussed on theory with little emphasis on the development of teaching practices. (UNESCO 2008 etc).

It seems unlikely that it will be possible to meet these needs, at the scale of expansion required, without exploiting new learning technologies. The motivations to harness these tools are huge and at the same time we are beginning to see the installation of ICT policies across the region. (ICT Africa report 2008). Working across nine sub-Saharan African countries the TESSA consortium has been exploring how a mix of contemporary technological developments can be brought together to support the construction of new teacher education programmes and enhance existing courses; increasing connectivity, interactive web tools and OERs. TESSA has created an extensive OER environment dedicated to school-based teacher education, supporting an international community of teacher educators in adapting, refining and improving teaching materials through use and re-use.

The TESSA session will offer narrative and analytical comment on our progress and future thinking in the different aspects of the programme outlined below, paying attention to 'key lessons learnt' that might be of value to others undertaking similar initiatives.

TESSA Structure

TESSA is a consortium of eighteen organisations -   higher education institutions from nine countries in Sub- Saharan Africa together with international organisations including the BBC World Service Trust, the Commonwealth of Learning and the Open University, UK. Beginning in 2005 the first phase of TESSA activity has been characterised by the following modes of working:
 -   contribution of all consortium members to policy through the 'Partner Advisory Council';

-   differentiated participation by consortium members in four strands of TESSA activity: research
                    curriculum (creation of the TESSA materials both text and audio);
                    technology (development of the TESSA web environment);
                    implementation.
-   regular consortium communication through email, face-to-face meetings and workshops around the region.

Thus whilst all consortium members have contributed to the strategic direction of TESSA developments, smaller groups have focussed on developing areas of work within each strand. Within the curriculum strand, for example, media activity was lead by the BBCWST and included production of a series of audio materials. Work within each strand has not occurred in isolation; strands have been intertwined, supporting and learning from each other. All development has been informed and shaped by feedback from a series of development testing workshops (the first at eLearning Africa in Addis Ababa in 2006) and user testing involving both teacher educators and teachers.

We would suggest that TESSA is distinguished from many other OER initiatives by the emphasis and resource devoted to implementation. (Atkins et al 2007) From the beginning all consortium members engaged in teacher education have given much attention to planning how the TESSA OERs would be used; both their integration into existing courses and organisation into learning pathways for new courses.

At the end of this first phase much consideration is being given to the future structure and organisation of the consortium as it expands.

Technology: TESSA Web development

TESSA provides a wealth of original OERs in different formats to support teacher development in the core curriculum areas of literacy, numeracy, science, life skills and the social studies and arts. Written by teacher educators from across the region, the materials are available from the TESSA website www.tessafrica.net.

OERs have the potential to play a pivotal role in democratising access to knowledge in ways that have a special relevance to education systems in developing countries. In addition the philosophy of OERs enables institutions to contribute more fully to the global arena as producers of knowledge; (Smith & Casserly, 2006). For TESSA the use of OERs have several advantages,easy access to materials in different formats to be assembled into learning pathways and the ability to enhance, adapt and modify materials for local environments and purpose.   Through the design of the OERs institutions can be supported in moving from traditional teacher-led methods of teaching to more democratic, learner-centred models. (Atkins et al., 2007; Geser, 2007; UNESCO, 2007)

To date there have been few OER projects in Africa (Atkins et al 2007) and the development of such an extensive OER web environment posed a number of challenges for the consortium. Issues around connectivity (both bandwidth and access), availability of peripherals such as printers, and the skills of users have been noted in earlier accounts of TESSA (see for example Connolly et al 2007). As

TESSA website development proceeded further issues emerged, we have found it helpful to conceptualised these as a series of tensions:

global v local: The creation of an online environment with relevance across the region and local application.

web v print: Ensuring that materials were attractive and appropriate in online and printed formats.

immediate use v adaptation: Supporting the immediate use of the materials in classrooms and the adapt and share philosophy of OERs.

Screen shot of TESSA homepage

Three key features of the TESSA web design and build solution (using open source technology) may, we suggest, have particular relevance for similar programmes:

- organisation of the user experience through country homepages with associated Forums and contextualised materials;

- a 'document transformation' tool to render each text OER as html, pdf and 'word' for immediate use in different modes (recognising that connectivity for teachers is still extremely limited and many will encounter the materials in print form). Almost uniquely amongst OER initiatives considerable attention has been devoted to developing a professionally designed template for the print materials.

- TESSA Share – an area for sharing amended or additional content as collections of files ,'baskets', in a wide range of formats.

Curriculum: TESSA materials development

TESSA materials comprise an extensive bank of 750 original study units, each with activities, case studies and supporting resources to support school based teacher development. The materials are centred around teachers' classroom practices, integrating theory and practice to support the development of pedagogic skills and strategies. The study units are written in a highly structured template to facilitate localisation and adaptation; current the materials are available in 10 'country – specific' versions including versions in Arabic, French and Kiswahili. (For a detailed explanation of the study unit structure and localisation process see Connolly et al 2007)

We suggest TESSA is also distinguished by its exploration of the use of OER audio materials capable of being used in a variety of formats and learning situations; initially we have created thirty original short audio dramas, each no more than 5 minutes. Using characters from a popular West African radio drama series, these mini-dramas each centre on a critical incident in the school, classroom or local community involving teachers, pupils and parents. The clips are accompanied by questions and observations to stimulate teacher discussion and reflection.

Implementation of TESSA

In TESSA the project design has allowed us to look in detail at adoption of the OERs for different environments and identification of learning pathways through the materials. This learning design approach has facilitated the construction of courses through selection and assembly of study units in sequences of different length and composition for particular purpose. (Learning design reference….

Across the consortium a number of different models of TESSA OERs use can be identified in both pre-service and in-service programmes, examples include:
- integration into teachers' 'practicum' in Sudan;
- incorporation into 'new curricula ' for teacher education in Nigeria;
- dissemination through ICT initiatives in Ghana;
- construction of individual student learning pathways in South Africa and Uganda

Feedback from teacher educators and teachers has been positive; As Mavis, a South African teacher participating in TESSA materials development commented "through the TESSA materials I have learnt methods that give me the inspiration, confidence and skills to be the teacher I have always wanted to be".

Moving Forward

TESSA has developed the largest teacher education OER environment in Sub-Saharan Africa. The study-units are being incorporated into teacher education programmes across Sub-Saharan Africa and nearly half a million teachers will be trained on these programmes in the coming year. The consortium plans to expand and is identifying a number of areas for futher development and research – enhancing integration with other OERs, support for communities of TESSA users and assessment.