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SPECIAL ISSUE
Study Results of the
Africa-Asia University Dialogue for
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Second Phase

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Foreword

This issue of the Journal of International Cooperation in Education is a collection of selected papers that have been produced by a three-year research project conducted under the framework of the "Africa-Asia University Dialogue for Educational Development" ("A-A Dialogue") network.

The "A-A Dialogue" network is an international network of African and Asian universities, which has been existing since 2004 when Phase I of the network project was started. Phase I was conducted in cooperation with the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations University (UNU), and the Japan International Cooperation Agency (JICA) with the Center for the Study of International Cooperation in Education (CICE), Hiroshima University, Japan functioning as the secretariat. The nature of this initial stage (Phase I) was a joint research endeavor by African and Asian universities to contribute to achieving the international commitment of "Education for All" (EFA) particularly in Africa.

This Phase was successfully completed, having borne fruit of more than fifteen research papers striving for possible solutions to various issues concerning EFA. They appeared in the two issues of the CICE journal (Vol. 11 No. 3 and Vol. 12 No. 1. Please refer to http://home.hiroshima-u.ac.jp/cice/e-publications/). This successful undertaking continued into Phase II which was officially embarked upon in June 2009 with twenty eight (28) member universities, sixteen (16) from Africa and twelve (12) from Asia, after a preparatory period in 2008. This Phase II was also successfully completed in June 2012.

One of the major activities of Phase II was comparative research. While in Phase I research collaboration had focused more on issues related to EFA according to individual countries' concerns, in this Phase comparative studies were pursuit in three broad areas of educational development; equity and gender, quality of education and educational policy, and teacher professional development. These three themes were selected by participating universities themselves considering their research interests, educational issues their countries were faced with, international concerns, etc. And then each member university created one or more study team(s) on a research theme selected from among the three above. The papers presented in this issue are selected products of this research project, which of course have been reviewed by referees. Other papers produced by the research project will also appear in the publication series of CICE soon.

Let me take this opportunity to reiterate our special appreciation to not only the authors of the twelve (12) papers that appear in this volume but also all researchers involved in the research projects for their great academic contributions. I do hope this joint research endeavor will further flourish.

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SPECIAL ISSUE

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Beginning Teachers' Professional Identity Formation in Early Science Mathematics and Technology Teaching: What Develops?

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Abstract

This article is about professional teacher identity (PTI) formation of two foundation phase (pre-primary and primary level) teachers in their first year of teaching early science mathematics and technology (SMT) in two different schools. The study used a qualitative research approach involving phenomenology and case study method to illuminate factors that influence beginning teachers' professional identity formation. Data was generated from different sources for the purpose of triangulation, which included visual and written narratives, observations and interviews. The article concludes by noting the complexity of the 'makings' of teachers, and how identity formation is connected to individual life histories, the quality of initial teacher education, school context as well as national context. These factors emerge as strong determinants of the kind of professional teacher identities, which the two novice teachers develop in their first year of SMT teaching, and the kind of teachers they aspire to become.

Introduction

This article is based on personal histories, professional educational studies, teachers' workplace, interviews and classroom observations of two female South African foundation phase (pre-primary and primay grade levels) teachers' identity formation in their first year of teaching early science, mathematics and technology (SMT).

Beginning to teach is a particular and complex stage of professional teacher identity (PTI) development (Avalos, 2011; Cherubini, 2009; Hobson, Ashby, Malderez & Tomlinson, 2009). The high levels of attrition surrounding beginning teachers worldwide, have been well documented (Avalos, 2011; Cherian & Daniel, 2008). While existing literature suggests that teacher effectiveness improves sharply after the first few years of entering the profession, research shows that many beginning teachers abandon the profession prior to attaining this level of expertise in any appreciable way (Fantilli & Mc Dougall, 2009). In light of the wealth of evidence that links high performing students to capable and well prepared teachers, the preparation and retention of quality teachers in the system has become a matter of education reform policy worldwide (OECD, 2005).

One way to address the challenge of teacher quality is through the development of positive professional teacher identity (Day & Gu, 2010); and it is a process that

starts during professional studies and is continued during the lifetime of the teacher as a practitioner (Osgood, 2006). For Samuel (2008), a positive PTI is one in which the teacher is viewed as 'an agent of change' willing and able to accommodate and respond to curriculum reform.

Background

In South Africa there is a paucity of discourse and research into Early Childhood Phase (ECP: 3-5 years) and Foundation-Phase (FP: 5-9 years) teacher education. The poor historical status of this sector of the education system, particularly in respect of the comparatively few African candidates, who opt for a teaching career in early childhood education and foundation phase has been of national concern (Council on Higher Education (CHE, 2010; DoE, 2007). Additionally, the growing body of literature surrounding the benefits to children of early exposure to science, mathematics and technology (Eshach & Fried, 2005; Gillard, 2008; Ginsburg & Golbeck, 2004; Saracho & Spodek, 2009) is void of the South African context. Science, mathematics and technology in early years remain a neglected area of study.

Since 1994, curriculum reform in the new South Africa, has had far reaching implications for early childhood phase and foundation phase teacher education. The National Education Department in the quest to improve the quality and status of ECP & FP teachers introduced a four year Bachelor of Education (ECE & FP) degree programme full time, to be offered only by universities. The main educational focus at pre-primary and primary education is the acquisition of basic educational skills, knowledge and values as prerequisites for further education and training. The FP curriculum emphasises problem-solving skills and competencies grounded in inquiry based education (DoE, 2003). Eight learning areas namely, language, mathematics, science, technology, life orientation, economic and management, sciences and arts and culture make up the FP curriculum, and they are grouped into three learning programmes of literacy, numeracy and life skills. According to the Council on Higher Education (2010) the aims of the B.Ed FP teacher education qualification, are to integrate academic components of the programme, notably, the three learning programmes with work-based (school) learning; to develop student teachers as reflective practitioners and to enhance professional competence through inquiry and reflection. The teacher education programme to which the two beginning teachers were exposed prepared them as ECP and FP teachers specialising in early SMT content, pedagogy and pedagogical content knowledge. The learning area of mathematics forms the core of the numeracy programme, while science and technology learning areas are integrated into all three learning programmes (DoE, 2003).

In recent years, various studies (Bosman, 2006; Botha, Maree & de Witt, 2005; Van Heerden, 2005) have shown that South Africa's foundation phase teachers remain uncertain as to how to implement inquiry-based teaching using an integrated SMT curriculum. Part of the problem is that the national curriculum lacks adequate specification

of the content knowledge to be taught in the learning areas (Hoadley et al., 2010) and so there has been uncertainty about how much science and technology should be included at foundation phase. Because of this lack of clarity FP teachers have begun to question the place of science and technology in foundation phase level curriculum. Without this belief in the inclusion of science and technology, Akerson, Buzzelli, and Eastwood (2010) and Furtak (2005) contend, that such teachers tend to avoid or neglect teaching those two subjects in the curriculum. For this reason, this study focused on how first year beginning teachers sustain (retain), their initial teacher identity in the context of teaching early SMT, and the factors that influence the process.

Context

With the implementation of the new reform-based ECE & FP education curriculum in South Africa, many FP teachers are having to adapt to a range of teaching strategies and roles different from traditional ones (DoE, 2007). The identity formation of beginning ECP and FP teachers, who themselves as student teachers, enter institutions of higher learning with limited academic credentials, and confidence in SMT, (DoE, 2005) is yet to attract researchers' interest. The question that is asked, is whether the initial teacher education programme is adequately preparing FP teachers to fulfill their new professional roles.

The kind of teacher envisaged by the institution's Education Faculty, in which the two teachers successfully completed their 4 year B.Ed programme is described as 'reform-minded teacher'. According to the philosophy, which underpins that institution's foundation phase teacher education programme, a reform-minded teacher is expected to become the nucleus of reform and transformation in implementing South Africa's new national curriculum in any given work place. Our research interest was with exploring how these two first year 'reform-minded' FP teachers sustain (retain) their initial teacher identity or develop new professional identity in the context of teaching SMT in their different schools. In this study, sustainability is about the relative stability (retention) or otherwise of the beginning teacher's initial professional identity development (as a result of the initial teacher education programme) in the work place.

Objective of the Study

The objective of the study was to investigate how two beginning teachers in their first year of teaching SMT in the early years, form their professional teacher identity in different school settings, and the internal and external factors that influence the process.

The study addressed the following research questions: what internal and external factors if any, contribute to professional teacher identity (PTI) formation in the context of teaching SMT in the early years? How do these factors affect their PTI formation in SMT teaching and in different school contexts?

Theoretical Approach and Central Concepts

Professional Teacher Identity: Assumptions Made

Identity is a complex construct, yet extremely important if we wish to understand the practice of teaching as a profession. Teacher education is essentially about developing professional teacher identity. However, even when pre-service teachers have been exposed to the same programme, there still remains in a large measure of variability what individuals have, and do; and not only in just how they teach, but also how they view themselves as teachers in teaching a given subject (Flores & Day, 2006). For this reason, PTI is seen as a complex and on-going process and has emerged especially in teacher education as a subfield of identity theory (Beijaard, Meijer & Verloop, 2004). Identity has thus far been defined in as many ways as there are researchers and practitioners in the field (Gee, 2001). A sampling of these definitions offers us an insight into the different ways the construct is understood and used. However, as Luehmann (2007) has stated they do share some common features as follows :

- *Identity is socially constituted, i.e*. based on the socialization or interactions with others.
- *Identity is constantly being formed and reformed*, though the change process for one's core identities is long term and labour intensive.
- *Identity is considered by most to be multifarious, i.e.* consisting of a number of interrelated ways one is recognized as a certain kind of person.
- *Identity is constituted in interpretations and narrations of experiences*.

Suffice it to say that our view of identity stems broadly from a socio-cultural perspective in which a person's identity is shaped through interactive everyday activities, and is constituted and mediated in interpretations and narrations of lived experiences. For this study, we assumed that the two teachers have an initially formed teacher identity as 'reform-minded' FP teachers (consistent with the philosophy of their teacher education programme) when they successfully completed the programme, and that this identity is either sustained (i.e. relatively stable) modified or changed (relatively unstable) during their first year of teaching as a result of personal and contextual factors including the work environment.

The process of becoming a reform-minded teacher is of necessity complex and takes a long time to accomplish (Day, 2008). Because of that, beginning teachers may or may not necessarily define themselves as professionals who can automatically implement reform. For this study, we therefore defined professional teacher identity in early SMT teaching as an amalgam of 'technical' knowledge (SMT content knowledge, pedagogical knowledge and pedagogical content knowledge); beliefs and understanding about the nature of early SMT, and how they (early SMT) should be taught and learned by children; knowledge of the FP curriculum goals and how all of these categories of knowledge and

beliefs, mediate practice in a given learning environment. The notion of amalgam implies that each of those knowledge categories can stand on their own or in unison to constitute professional teacher identity.

Beginning Teachers

Although most beginning teachers are idealistic and positive about their entry into the profession, they enter the new teaching situation with a sense of 'self' and the variety of roles they feel that they have to play as teachers. This sense of 'self' as teacher has largely been shaped by previous and current history (Cieslik, 2006; Day, Kington, Stobart & Sammons, 2006). Despite the initial enthusiasm, many researchers (Flores & Day, 2006; Keys, 2007; Whitelaw, 2007) have emphasized the reality shock new teachers experience as they first take on their roles as school teachers. How such conflicting emotions and teaching dilemmas are often resolved entails as Maclure (1993, p.313) indicated a 'continuing site of struggle' within the school community of practice, notably the teacher's workplace (Jurasaite-Harbison & Rex, 2010; Reynolds, 1996; Whitelaw, 2007). The upshot is that teacher identity formation is not only influenced by personal and professional issues but also by social response.

The Study's Conceptual Framework

The study used a learning identity framework to collect and analyse data. The framework was premised on the assumption that professional identity formation and the process of learning are closely linked (Billett & Somerville, 2004; Cieslik, 2006), as they are both influenced by factors internal and external to the individual (Egan, 2004; Smith, 2007). Within the study's identity framework, the external factors which the literature suggests are likely to influence teacher identity formation, include the national curriculum, national educational reform publications, public expectations, and school culture (Jansen, 2003; Jita & Vandeyar, 2006; Onwu & Mogari, 2004). The other factors internal to the novice teacher as suggested, include knowledge of curriculum goals and their classroom interpretation, pre-teaching identity, educational background, and beliefs and values of what it means to be a foundation phase SMT teacher (Day, Kington, Stobart & Sammons, 2006). These internal and external factors as summarised in Table 1 below, were used for instrument development and the identification of emergent themes in the data analysis.

Table 1. Identified factors affecting PTI formation

External Factors	Internal Factors
Initial teacher education programme	SMT Curriculum knowledge-its goals and interpretation in practice
National SMT Curriculum – implementation guideline documents	Understanding of the nature of early SMT and how children learn
School Context, its culture, and ethos within community of practice	Self-beliefs and values about being a 'reform-minded' SMT teacher
Nature of institutional school support	Personal history relating to SMT education

The Methodology

The study used a qualitative research approach involving phenomenology and the case study method (Casey, 2007; Cohen, Manion & Morrison, 2000) within an interpretive paradigm to investigate the lived school experiences of the two teachers for over a period of 10 months. Data was generated from a combination of sources for triangulation. These sources ranged from teacher visual narratives (in the form of photo collages assembled to express visual aspects of the teacher's practice in SMT teaching) and written narratives, open-ended and semi-structured interviews, to specific classroom observations. The two teachers' teaching portfolios, and reflective journals were also used as data source. Inductive analysis strategies were used to interpret the wealth of data generated from the teachers' descriptions and 'meaning', and to reduce the data to central emerging themes as reported here.

Main Findings

In line with the research methodology, the teachers' voices are in quotes and in italics as taken verbatim from the protocols. The main findings are presented in brief constructed narratives according to the following main influences, which impact on the two teachers' professional identity formation. These include: (i) personal history in SMT; (ii) initial teacher education; (iii) school context experience; (iv) SMT curriculum implementation; (v) SMT teaching; (vi) institutional support; (vii) classroom practice.

Acronyms used for data sources in the text: Narrative reflection 1 (NR1); Narrative reflection 2 (NR2); Interview 1 (In1); Interview 2 (In2); Observational reflection (OR).

The two teachers are identified by pseudonyms and treated as separate cases.

I *The Case of Nontombi*

Nontombi taught a grade one class of 42 learners in their local mother tongue, Tswana. Most children came from single parent households in an area of high unemployment. Parental support and involvement in school was low. Learner absenteeism was rife. The school physical environment, although poorly resourced, was welcoming and safe.

Personal history in SMT: Nontombi entered university with negative attitude, limited knowledge and uninformed beliefs about science, mathematics and technology (SMT), which had been shaped by her school experiences. She "*did science and maths in matric*, (Grade 12) *but no exposure to technology. I did not enjoy the subjects mathematics and science at school*" (In1).

Teacher education programme: Nontombi's initial dislike and negative perception of mathematics and science gradually changed during her university studies. She attributed this gradual transformation to her university education experiences. She described the process as one whose "*emotions* (when she first appeared before her class) *went initially from feeling like I was thrown into the deep end ... and that I had to sink or swim….. toward feeling* (later in the year) *more confident and positive...*" (In1). "*University learning helps you know that you can be confident to innovate in your teaching style ... and to apply new ways of teaching and adapt your techniques to grow as a teacher*" (NR1).

Her university education is instrumental in helping her to construct her PTI. She explained: "*in my first year at university I used to think that science is about test tubes and white overalls but science is all around us. Technology is the same. I did not know anything about technology before I came to university.*"

"*it* (university teacher education) *changed the way I used to think about maths, science and technology ... During my years at university I realised that maths can be made interesting and can be learnt and taught in a different way*" (In1). "*I learned that science can be approached in different ways ... the teacher can use lots of different environments as areas for discovery and for exploring and investigating and thinking in scientific terms- technology is the same —*" (In1). "S*cience at foundation phase level is about investigating and that is our primary focus in this phase*" (NR1).

Pre-service teacher education seemed to have laid a good foundation and positively influenced the way she now taught: "*The resources we used at University and the knowledge we acquired there form a reference point to remind one of strategies to use when teaching for example using what was learned as a basis for more reflective teaching such as knowing the learner's zone of proximal development and moving him or her from the known to the unknown*" (NR1). The narrative reflects the application of a constructivist theory (Vygotsky) of learning to her teaching.

School Experience as a First Year SMT Teacher

School context: In this her first year of teaching Nontombi felt that the transition from being a university student teacher to one of managing her own classroom was one of initial shock: "*My emotions went from feeling like I was thrown into the deep end ... towards feeling that as a new teacher I needed to work hard to make schooling a meaningful experience for each learner*" (In1).
The situation at school was however difficult, because of the poor conditions of the school's physical facilities. "*Learners are from a poor socio-economic background. They sometimes miss a few days of school. This* (absenteeism) *affects their progress. So the learner ends up not knowing the subject. That is a huge problem for us*" (In2). The children's education was frequently interrupted by pupil absenteeism.

Feelings of anxiety emerged in Nontombi's account of her initial experiences. We observed that the situation initially made her to feel unprepared to handle the role required of a teacher, but later she responded to the challenge and adjusted accordingly. She introduced creative activities to interest and actively engage the children. The comments which follow reflect her teaching philosophy and relationship with her pupils. "*As my learners got to acquire new knowledge I felt better about what I was doing and more confident…everyday is important in a child's learning, time should be fully utilised and children should learn something new at school every day*" (In2).

Curriculum interpretation and implementation: Nontombi like her other counterpart had the freedom to interpret and implement the curriculum in line with her own teaching philosophy. When she first started, she found the new curriculum difficult to interpret according to the recommended protocols in the 'Foundations for Learning' document. She felt that the document was particularly unhelpful. "*We have been using The Foundations for Learning Campaign files as directed by the DoE (Dept. Of Education) and these I found very confusing*" (NR1) because "*The curriculum changes every year. This is disconcerting. You find something that works and the next year you are made to readjust because of something else*" (In2). Nontombi's criticism of the changes reflected in a way a loss of a sense of herself as a SMT teacher. She did not seem to be on top of things, because the frequent changes and the little attention given to science and technology in the school time table gave rise to new teaching dilemmas and the destabilization of otherwise comfort zone requiring some mental adjustments, a far cry from what she was used to. The reluctance to entertain the curriculum changes could also reflect the amount of effort needed to justify herself as a SMT teacher.

Teaching SMT: Mathematics was regarded as the foundational subject at the school and had a prominent place in the curriculum. "*Maths is a priority subject here*" (In1). "*I think my children love mathematics because they see I love it*" (In1). She is positive about teaching mathematics to her children. But while mathematics or numeracy was regarded

as the main focus of teaching in her school, the school curriculum made no adequate provision for science and technology teaching. For her, this was unacceptable: "*Learners should know science and I wish I could do more. The factors that caused me not to teach science and technology are lack of time and I haven't had the opportunity. We* [other staff members] *plan the FP subjects together and science is not a priority subject because it does not count for marks*" (In1) "*...so there is very little time allocated to teach science .....*" (NR2). The dilemma she faced was that science and technology at that level were somewhat neglected, especially technology, because they "*don't count for marks*" (i.e. not tested).

Nontombi's uneasiness about the school's position on science & technology teaching had its positive side. It led to her growth as a resourceful teacher. She demonstrated initiative and resourcefulness by planning integrated S & T lessons around real life situations, an approach that is consistent with the intentions of the foundation phase curriculum. "*Science and technology are now taught integrated with life skills and language*" (In2). In our observations (NR1) however, there was no evidence that technology was consistently and systematically integrated into her lessons. Technology was essentially silent.

Nontombi simply did not find the integration of mathematics, science and technology into the three programmes easy at all. With mathematics it was a little more straightforward she explained: "*You can do maths on its own…but to integrate science and technology into other subjects… this is difficult*" (In2). Her commitment to becoming an effective reform driven SMT teacher was shaken when she learnt that the curriculum was about to be revised: "*I heard that science and technology are being removed from the curriculum and I am against this removal. The subjects are essential for the development of the child*"; "*...The curriculum changes every year. There is a lack of consistency*" (In2). The change if it occurs is likely to result in new situations, and perhaps destabilisation of personally embedded views requiring new interpretations and adjustments that could impact on her PTI development.

Institutional support: Professional identity implies both person and the work environment. Nontombi's 'painful beginnings' involving initially conflicting perspectives and emotions of what to teach and how to teach her young learners, were largely alleviated by the support she received from her senior colleagues at school. As a new teacher in unfamiliar territory "*I experienced a lot of support from my fellow teachers and my seniors*" (OR). The supportive atmosphere at school helped to cushion her worries, and led to feelings of self-worth. The existing school culture contributed to positive experiences in her understanding of her professional identity as a SMT teacher. As we later observed, over the months, she increasingly became more comfortable and forth-coming in discussing her teaching ideas and views with her more experienced colleagues in their team work. She explained that "*through my enthusiasm I am able to do things…. and have grown in the past few months from being a 100% theoretical teacher to being*

one with some experience; I have seen how what I have learnt can be implemented in the classroom" (In2). Her senior colleagues agreed with those sentiments.

Classroom practice: Nontombi adapted the curriculum in a way that suited her own beliefs about the nature of mathematics and science (technology not as prominently) and how they should be taught at that level. She positioned herself alongside the children in her class in such a way as to see herself as co-discoverer, in which she and the children together explored concepts through guided discovery (as we observed). As a result of her improved knowledge of her children she adjusted her teaching to reflect the children's developmental level: "*I adjusted my teaching approach to the practical situation at school. I still have the same attitude and beliefs about the subjects (SMT). But I have learnt specific information about the school, who my learners are and how to teach them*"

"*Continuous interactions between the learners and myself in the teaching and learning situation and their reactions and mine to the daily happenings in the class help me reflect and fine-tune how I teach for lesson improvement*" (OR). For example, "*With each planned mathematics lesson, using a weekly planner I write how each aspect of a given concept is going to be dealt with and then I play it out in my head. At the time of execution I observe how the learners react ...and this reaction sometimes indicates to me what I should do in a different way and how differently*" (NR1). Her positive belief about reflective feedback in her teaching constitutes part of her identity: "*I am positive about my teaching. I feel that I am making a difference*" (In1) and "*I believe that my identity is strong enough for me to be successful and to become an even better teacher. I want more knowledge; I have a passion for children and I want to be there for them*" (In2).

For Nontombi, teaching goes far beyond mere instruction but also to include the socialization and wellbeing of her children. She overcame an initial period of uncertainty but her belief and commitment to making a difference in the lives of her learners coupled with the support of her colleagues were positive mediating influences that grew and sustained her identity formation.

II *The Case of Anne-Marie*

Anne-Marie taught a reception year (Grade R) class of 33 children in English. The children came from different countries, with diverse cultural and language backgrounds. The school was well resourced and provided a safe learning environment.

Personal history in MST: At school, Anne-Marie had limited exposure to mathematics and science but none in technology. Her experience of school mathematics and science was not particularly memorable so she ended up "*not liking…maths at school, because the teacher could not make it attractive for me. I found mathematics and science boring*" (In1). This early experience did not necessarily impact negatively in shaping her pre-teacher identity because she always believed that to become a successful teacher is a process of lifelong learning,: "*of on-going experiences ....but with different responses to various*

learning situations" (In1).

Teacher education programme: Anne-Marie's earlier perception of mathematics and science gradually changed during her university studies, when she "*... realised that mathematics and science can be interesting*" (In1). However during her teaching practice she "*unfortunately....learnt very little about science and technology from my (her) mentor teachers at school*" (NR1). Nevertheless, the theoretical and practical knowledge acquired during her university training programme was of great help in her first year of teaching: "*I learned so much during my four years at university*" *(OR)* "*...the knowledge acquired during my studies provides me with the background knowledge for my lessons*" (In1). In the course of planning her lessons she did at some point wonder "*if all the theory we learnt at university will work in practice*" (In1). Surprisingly she was happy to admit that "*Theory provided a necessary foundation for me in what lies ahead as a teacher*" (In2). "*I tried new things with my children to see what can work, and what will not, but also to see where I can adjust my activities*" (OR). Her background knowledge made her want to innovate. Her pre-service education seemed to have had a positive influence on the way she approached her teaching and the willingness to try things out as an innovative teacher. It was also instrumental in helping her to develop and shape her professional identity as ECE & FP teacher of SMT.

School Experience as a First Year SMT ECE Teacher

School context: Becoming a professional teacher in her first teaching position was for Anne-Marie one that elicited as she put it "*creative energy and enthusiasm. I was excited to teach*" (In1). For her it meant following a developmental path with a number of challenges. Transiting from being a student teacher to the reality of a classroom was a rude shock for Anne-Marie since "*you only realise what happens in a classroom when you stand all alone on your own*" (In2). The situation at school was difficult at first because of lack of institutional support: "*...the principal opposed everything I proposed*" and "*...this had a devastating effect on me*", "*... one can only stand up for oneself up to a point, especially if she was the principal as well*" (In2). Soon afterwards the principal left the school and the situation changed. "*I was lucky enough not to have a whole year of that situation*". With the principal's departure: "*... I have much more freedom and can set up the classroom the way I want to*" (In2). Anne-Marie's initial desire to develop a new professional identity as a "*creative teacher*" was from the onset a struggle within the context of her practice. This was essentially because of the mismatch between her beliefs reflected in the way she wanted to teach the new curriculum, and the principal's perspectives of what was expected of a beginning novice teacher. There was a conflict. For Anne-Marie, her role as a beginning early years teacher was all about who she wanted to become as a ECE & FP SMT teacher. It went beyond an answer to the question of 'Who am I now after my teacher education and training?' Towards the end of her first year of

teaching she still felt that "*everyday brings a new challenge that I can learn from*" (NR2). Professional identity development for her was something dynamic, an ongoing process of personal development alongside issues of her work environment.

Curriculum interpretation and implementation: Because of the '*freedom*' she felt following the principal's departure, Anne-Marie created the intellectual and social space she needed to implement the curriculum in line with her teaching philosophy. She went about "*thinking of creative activities in which to get the children actively engaged and interested*" (OR). During an informal visit to her ECE class she was observed to present an Art lesson in which SMT ideas were creatively integrated into the lesson. Each child designed and engraved his or her own geometric shape on a Styrofoam tile, and produced at least four different images using the concept of symmetry. Her teaching approach favoured integration of early SMT concepts into the three learning programmes.

Teaching SMT: Anne-Marie regarded the integration of early SMT into her programme as important focal points in her teaching: "*... mathematics is the foundation subject for us*" But "*I integrate and apply mathematics, science and technology concepts in my structured lessons*" (In1). To illustrate, she narrated that "*a parent brought a box full of silk worms*" to her class: "*I let the children design and build a house for the worms as part of an investigation. I started the project with a story about Sally Silkworm who lost her house in a fire. Learners were then divided into groups and they could choose materials with which to build the house*" (NR2). She planned an integrated SMT lesson around a real-life problem ('*the loss of habitat*') in which the children had to design an appropriate habitat for the displaced silkworms. She and the children also "*had to identify the right leaves (mulberry) to feed the worms*" (In2). She "*... started a small garden*" *and* "*a wormery*" in which the children brought "*potato peels and other materials for the worm garden*" (NR2). For her, the transition from "*theory*" to doing practical activities with her children was as a result of giving practical expression to her teaching philosophy. "*I have a nature corner in my classroom where beans sprout and silkworms spin cocoons and shapes. We have birds, fish and a vegetable garden.. the children explore*" (NR2). During one of our informal visits the children happily described how they and their teachers organized the planting of the vegetables in the garden. Her teaching philosophy encouraged children's experiential learning through guided discovery, as an aspect of the cognitive dimension of her PTI formation.

Institutional support: Anne-Marie found in-house support for her ideas and worked closely with other teachers who held similar views about SMT teaching at pre-primary level. She described the collegiality that existed among them. She and her "*... colleagues plan and work together... One of my colleagues is an experienced teacher and she supports me very well*" (In2) ... "*I have support for my ideas on teaching at pre-primary school level because my colleagues feel exactly the same about how to teach children at*

that age" (In1). Her developing professional identity as a pre-primary school teacher who wants to become a successful ECE SMT teacher was further reinforced by the support she received from her peers in her workplace.

Classroom practice: Anne-Marie adapted her classroom teaching in a way that suited what she believed was important to her as a ECP SMT teacher and to her pupils too. "*I try to make the MST subjects interesting so that my children will realise the subjects are worthwhile and important*" (In1). She averred that "*... one should have a passion for teaching*" (In1) and "*I have a passion for children*" (In2), "*... my identity as a teacher is strong enough for me to be successful and to become a better teacher*" (In2). She valued and enjoyed her current teaching experience because she saw her children from different countries happy to learn together, insisting that "*Classroom experience means more than theory*" (OR) and "*I would not change my work or my school for anything. Many children in my class come from all over Africa and others even from abroad ...which makes my work interesting and enjoyable*" (NR1). Her workplace experience had reinforced her pre-identity 'image' of a reform-minded teacher, and she honestly believed that she is "*a good teacher because my children are happy, I am happy, and we enjoy learning together*" (OR).

Like Nontombi, caring for her children, was a crucial feature in understanding her role as a ECP SMT teacher. She used 'hands-on' experiences and out-of-classroom activities to engage her young children in fun lessons: "*Not only did I enjoy the lesson.... my children enjoyed the lesson....The children enjoy science because they think it is magic and they are fascinated and they think and wonder about what they experience. When we went to the Willem Prinsloo Museum they observed candle making, which is a scientific process and they learnt something more!*" (NR2). For her, the personal touch was important.

Anne-Marie's positive experiences with her children and colleagues gave her a broad understanding and appreciation of what her professional role as a SMT teacher at ECP & FP ought to be and how it should be sustained. In her case, the more central an identity is, the less easy it is to change or lose that identity.

Summary

In summary, both teachers entered the university with limited academic credentials, interests and confidence in SMT. Although placed in vastly different school contexts the two case teachers found the transition from student teacher to beginning teacher to be mostly an unstable period of coping and survival. When teaching dilemmas or conflicting emotions occurred, adjustments were necessarily made, but usually in ways that suited their own beliefs, knowledge and understanding about the nature of early mathematics and science (technology not as prominently) and how they should be taught to children at that FP level. Their limited school SMT background did not appear to have had any negative impact on their future performance as foundation phase SMT teachers. Instead their

'technical knowledge' about SMT teaching and learning as a result of university teacher training, represented an important component of their PTI. Overall, the similarity in the identity profile of the two FP SMT teachers was characterised by a cognitive dimension of SMT knowledge for teaching children in the early years, reflective practice and resourcefulness. These findings do imply that the quality of the initial teacher professional development programme is thus crucial for the kind of PTI initially formed and whether it is sustained or changed in any given school setting or workplace. Hence the results of the study have relevance for the importance of quality assurance of teacher education and training programmes. Additionally, in-school support and self-belief were particularly important for positive PTI development.

Conclusion

In conclusion, the study has highlighted the complexity of professional identity formation and sustainability, which the two foundation phase teachers develop in their first year of SMT teaching and how this is connected to their personal and professional histories, the quality of teacher education and training, alongside issues of school context as well as national context. These key factors emerge as strong determinants of the kinds and the relative stability of professional identities which the two teachers developed in their first year of teaching, and thus the kind of teachers they hope to become. The construction of personal narratives in the identity formation of South African early years SMT teachers, has contributed to literature in the field. The findings are consistent first, with what extant literature has to say about the development of teacher identity (Søreide, 2005; Watson, 2006), and secondly the conceptual framework used provides a useful tool for further engaging in a detailed knowledge and understanding of the complexity of the 'makings' of teachers and how this is connected to the quality of initial teacher education, school context and national context. Also the findings provide some insight into the crucial role of how teachers' beliefs can influence their practice both positively and negatively. Significant in the study is the recognition of teachers' workplace, the school culture specifically and how it impacts on professional identity formation.

Finally, the methodology and results of the study have certain implications for future research. The internal and external factors used for the learning identity framework provide a useful tool that can be used to inform and design larger quantitative studies especially of instrument development for PTI profiling and comparisons. The schools in which the beginning teachers found themselves indicated that schools did not always welcome novice teachers as part of the school community of practice. More research is needed on how schools could give beginning teachers more support and be more receptive to the new ideas they may bring to classroom. Specifically, more evidence-based studies are needed in teacher education research on what counts as 'professional' in professional teacher identity development or formation. The study fits in well with the current national need in South Africa and elsewhere to improve teacher education at pre-

pimary and primary level education.

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Assessing Efforts to Address Cultural Constraints to Girls' Access to Education Among the Maasai in Tanzania: A Case Study of Monduli District

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Abstract

The purpose of this paper is to assess various efforts made in Tanzania to enhance girls' education among the maasai using Monduli District as the study case. The maasai are among the tribes that have been marginalised in terms of education provision. These are largely nomadic pastoralists who have been migrating from one place to another leading to difficulties in terms of providing education to them. Specifically, the paper discusses the current perceptions towards girls' education among the maasai, enrolment status of maasai girls in schools, efforts to promote girls' education among various stakeholders and challenges prevailing in the provision of education to girls among the maasai. The paper ends up providing conclusions and policy implications. In fact, the paper is the product of a research project that was conducted under the A-A Dialogue for three years among the maasai tribe in Monduli District in Tanzania.

Introduction

Education has long been considered as a fundamental human right as it is the key to sustainable development and peace and stability within and among countries and thus indispensable means for effective participation in the societies and economies of the respective countries (Dy & Ninomiya, 2003; UNICEF, 2012). Committed to this perspective the United Nations launched a Declaration for Human Rights in 1948, in which the Article number 26 states:

> *Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be generally available and higher education shall be equally accessible to all on the basis of merit.*

Basic education was given the highest priority and many countries began making efforts to achieve Universal Primary Education (ibid). Tanzania also, through the Musoma Resolution of 1974, launched the Universal Primary Education (UPE) policy whose implementation had to start in 1977 and be completed in 1989 (Ndaro, 1980). However, despite some few successes that were realised during UPE like increased enrolment

rate and decrease in illiteracy at a global level, there were a lot of failures that were experienced during its implementation. One of the failures included decline in quality of education that raised a great concern in the global community, and this called for the formulation of other policies that could be more effective (Dy & Ninomiya, 2003; World Bank, 2008).

The international community under UNESCO convened a conference in 1990 in Jomtien, Thailand to launch the movement called Education For All (EFA). Several countries met to endorse EFA and they took measures to increase educational opportunities for all citizens through Basic Education Strategic Plans (Dy & Ninomiya, 2003). EFA 1990 became instrumental in identifying internationally agreed targets for the provision of education as basic human right. The general target was that all children should be provided with basic education by the year 2000 (Aderinoye, 2000; UNESCO, 2011).

Evaluation of EFA 1990 was conducted during the time for its implementation and results were presented in 2000 during the World Education Forum in Dakar, Senegal. The results showed that the six goals that were set in 1990 when EFA was launched had not been attained as it was expected. It was found that by 2000, more than 113 million children had no access to primary education, 880 million adults were illiterate, gender discrimination continued to permeate the education system and quality of learning and the acquisition of human values and skills fell far short of the aspirations and needs of individuals and societies. Youths and adults were denied access to the skills and knowledge necessary for gainful employment and full participation in their societies. Without accelerated progress towards Education For All, national and internationally agreed targets for poverty reduction would be missed and inequalities between countries and within societies would widen (Aderinoye, 2000; UNESCO, 2011).

Following the prevalence of problems in the implementation of EFA goals that were ratified in 1990 in Jomtien, Thailand; and the need to achieve the eight Millennium Development Goals (MDGs), the countries that met in Dakar, Senegal for the World Education Forum that ran from 26 to 28 April in 2000, decided to adopt a new Framework of Action. The new Framework of action basically reaffirmed the vision of six goals that were laid down in Jomtien and the new target for achieving Education For All was set to be 2015 as stipulated in the in Millennium Development Goal number two, which states that Universal Primary Education has to be achieved by 2015 (Aderinoye, 2000; UNESCO, 2011). Apart from reaffirming the six goals that were set during the endorsement of EFA 1990 in Jomtien, the Dakar conference also established twelve strategies for achieving these goals.

After developing the strategies, all states were requested to develop or strengthen existing national plans of action by 2002 at the latest. These plans were to be integrated into a wider poverty reduction and development framework, and would address problems associated with the chronic under-financing of basic education by establishing budget priorities that reflect a commitment to achieving EFA goals and targets at the earliest

possible date, and not later than 2015 (Dy & Ninomiya, 2003).

As far as Tanzania is concerned, the problem of access to education opportunities has always been a big problem among girls, and this has been so evident among the maasai tribe (MWEDO, 2006). According to MWEDO (2006) gender relations among the maasai have been negatively affected by male dominance over decision-making. Women and girls are not accorded great importance in maasai society and hence they are denied access to education and other economic opportunities. This tendency, therefore, made maasai women and girls stay out of the school system making them become illiterate and hence ignorant of their basic human rights in their respective societies (Heather, 2009).

In Tanzania, the Government and Non-governmental Organisations have been struggling to empower maasai women and girls through providing education with the focus of eliminating gender gap in the access to education as stipulated in the second and third Millennium Development Goals (Aderinoye, 2000). The same efforts have been happening in Kenya where there has been developed the Maasai Girls Education Fund to sponsor maasai girls who would otherwise never go to school (Maasai Girls Education Fund, 2007). In Tanzania in particular, there are local organisations such as The Local Pastoral Women's Council (PWC) for empowering the Tanzania's maasai, and the Maasai Women Development Organisation (MWEDO) with the focus on making property rights work for the poor in Tanzania.

One of the functions of these organisations is to ensure that local communities in the maasailand participate effectively in various developmental activities as well as enhancing girls' access to education. They are highly concerned with transforming non-developmental cultural traditions into viable practices including allowing girls to have access to education. However, despite all these efforts, girls still face problems in having access to education among the maasai and cultural practices have been cited to be among hindrances to girls' education (Kamuhangiro et al., 2003; Ngoitiko, 2008). Some of the cultural practices which have been affecting girls' education in Tanzania include: initiation ceremonies, female genital mutilation, early marriages, assigning domestic chores to girls and migratory tendencies among the maasai who are found both, in Tanzania and Kenya (Kenya Information Guide, 2010)

The Problem Context

Regarding the problem context of this paper, the major issue in as far as access to education is concerned is that cultural practices make females keep on lagging behind males in education, and this problem has existed since the colonial period (Jezebell, 2002) While the second and third Millennium Development Goals focus on enhancing girls' education and addressing the gender gap in the delivery of education, still there exists the problem of inequity and inequality in the education system particularly at secondary school and tertiary levels. This inequality seems to have worsened since 1990's (Research and Analysis Working Group, 2004). Some of the researchers have cited inadequacy of

funds due to poverty, distance to schools, cultural practices and sexual harassment to be among the factors which have contributed to poor schooling among girls in African countries (Bendera & Mboya, 1998; Kamuhangiro et al., 2003). Hence, support is supposed to be given to address the situation.

In Tanzania, the maasai were earmarked as one of the tribes to be given great support in the expansion of basic education, particularly girls (Oxfam, 2008). Various efforts have been made to promote maasai girls' education such as the development of the Maasai Education Discovery in Tanzania that finances girls' education (Miller, 2010). However, gender gap still exists among the maasai in Tanzania whereby boys tend to be given priority in the access to education compared to girls. Many local organisations such as MWEDO and PWC have joined hand with the government to ensure that the position of maasai women in society is promoted. One area of focus is to transform some cultural aspects that are not developmental among the maasai, so that women and girls can be given opportunity not only in owning resources but also having access to education. To what extent the positive cultural transformation has taken place and what constraints exist is the question that this paper was designed to address. The general aim of the paper is to assess efforts to address cultural constraints that hinder girls' access to education among the maasai in Tanzania, using Monduli District as the study case. Specifically, the paper aims to achieve the following objectives: to explore the current perceptions among the maasai on girls' education; to find out the trend of increase in maasai girls' enrolment if basic education in Monduli District, to identify various efforts made by the governments, FBOs and NGOs' to promote girls' education among the maasai; and to explore various challenges in addressing cultural hindrances to enhancing girls' access to basic education among the maasai in Monduli District.

Literature Review

This section provides a review of related literature in order to enhance understanding of the nature of the problem being addressed in this paper. It covers educational meaning of education, education and development, education and culture, as well as maasai culture and education provision. The details are provided as follows:

Education and Development

The URT (1995) provides two definitions of education: (i) education as the process by which the individual acquires knowledge and skills necessary for appreciating and adapting to the environment and the ever-changing social, political and economic conditions of society and as a means by which one can realise one's full potential, and (ii) education as the process of initiating and preparing man through training, in his environment, to play active roles in society. The URT (1995) further explains the importance of education that entail providing desirable and worthwhile broad and in-depth

modes of thought, skills, attitudes and understanding needed for the full development of the human thinking and actions. Education makes man aware of his own potentials and responsibility to change and improve his own condition and that of his society; it embodies within it science and technology.

Woodhall (2004) also argues that education is now universally recognised as a form of investment in human capital and yields economic benefits and contributes to a country's future wealth by increasing the productive capacity of its people. Thus, expenditure on education can be partially justified in terms of the potential contribution of education to economic growth. The URT (1995) further adds that the relationship between education and development depends on the extent to which the kind of education provided and its methods can meet the expectations of the individual and the needs of the society. The people's higher standard of living, maintenance of peace, unity, mutual understanding and cooperation in Tanzania depend on the satisfaction of the basic needs for food, shelter, clean and safe water, environment as well as better performance in agriculture, industry and other sectors. The effectiveness and efficiency in the performance of these sectors lies within the level of education of the individuals in the country (URT, 1995). Omari (1981) further argues that people need education to acquire broad base of knowledge, attitude, values and skills, which they can build in later life, but the emphasis is that education should provide people with the potential to learn, to respond to new opportunities, to adjust to social and cultural changes, and to participate in political, cultural and social activities.

Culture and Education

Culture and education are two interrelated concepts. Culture of a given group or geographical location or even a country can be defined as people's traditions, history, values and language that contribute the identity of the group. It is about the shared knowledge and schemes created by a set of people's perceptions, interpretations, expressions and how they respond to those social realities around their living environments (Lederach, 1995). Culture can further be defined as the shared patterns of behaviours, interactions and cognitive constructs and affective understandings that are learned through a process of socialization. Such understandings and patterns therefore are used to identify the members of a cultural group while also distinguishing those of another group.

Each cultural group has its own culture-based education. This kind of education is informal compared to the formal education that is offered by the state. It reflects, validates and promotes the values, world views, and languages of each community's cultures. Culture-based education is far more than the incorporation of cultural events and traditional skills into the curriculum. The goal of culture-based education is to support all students through affirmation of their culture. A formal school education recognizes and validates the students' culture; it helps them to be aware of their heritage and to value the

accomplishments of their family, their community and their ancestors. The assumption in as far as the maasai culture is concerned in this study may not be the case as it should be argued later in the statement of the problem.

Maasai Culture and Education Provision

New education has brought new demands which tend to challenge the traditional cultural norms and values. While modern education has kept on viewing the traditional culture to be characterised by many non-developmental norms and values, some traditional educationists have kept on striving to ensure that their cultural norms and values are sustained in the current times (Kaheta, 2006). Adherence to traditional cultural values and norms is still strong among the maasai, though some of them have changed and others are changing the way they perceive their cultural values and norms (Leggett, 2005 in Heather, 2009).

According to Heather (2009) the maasai cultural values and norms subjugate women and girls in their respective societies. There is still male dominance in maasai communities which in turn has led to marginalization of maasai women for many years now. Women are not involved in making important decisions; they don't own property (including livestock); are subjected to forced marriages, heavy workloads and physical suffering; and also they are not given greater access to education by their respective communities (Ngoitiko, 2008). Because of lack of education most masaai women are not able to participate in decision-making processes and they lack the capacity to take various positions at different government levels (Ngoitiko, 2008).

Theoretical Framework: The human capital theory

This paper is based on the theory of human capital. According to this theory, education is considered as an economic good because it is not easily obtainable and thus needs to be apportioned. Economists regard education as both consumer and capital good because it offers utility to a consumer and also serves as an input into the production of other goods and services. As a capital good, education can be used to develop the human resources necessary for economic and social transformation. The focus on education as a capital good relates to the concept of human capital, which emphasizes that the development of skills is an important factor in production activities. It is widely accepted that education creates improved citizens and helps to upgrade the general standard of living in a society. Therefore, positive social change is likely to be associated with the production of qualitative citizenry. This increasing faith in education as an agent of change in many developing countries, including Tanzania, has led to a heavy investment in it. The pressure for higher education in many developing countries has undoubtedly been helped by public perception of financial reward from pursuing such education. Generally, this goes with the belief that expanding education promotes economic growth Schultz

(1971; Sakamota & Powers, 1995; and Psacharopoulos & Woodhall, 1997). However, the paradox accompanying this belief is that, despite the huge investment on education, there is little evidence of growth-promoting externalities of education in Tanzania.

The economic prosperity and functioning of a nation depend on its physical and human capital stock. Whereas the former has traditionally been the focus of economic research, factors affecting the enhancement of human skills and talent are increasingly figuring in the research of social and behavioural sciences. In general terms, human capital represents the investment people make in themselves that enhance their economic productivity. This theory is relevant in this paper due to the fact that the authors consider that provision of basic education among the maasai can transform their ways of thinking and belief. Education can also enhance their capacity to interpret realities and engage in more productive practices. Through education, skills can be promoted and the maasai can resign from non-developmental cultural practices that make women lag behind socially and economically.

Conceptual Framework: Holistic or complete systems perspective

Gender, culture and education are three variables that should not be looked in isolation but each of them should always be treated and identified in interaction with one another. The three concepts are always in interaction moderated by government policies and economic status. Researchers and scientists have to find the intersection(s) amongst the three variables if really people and institutions are to understand the essences of the gender gaps from their defined contexts and that are generated from these intersections. It includes their respective practical consequences in education among males and females (boys and girls).

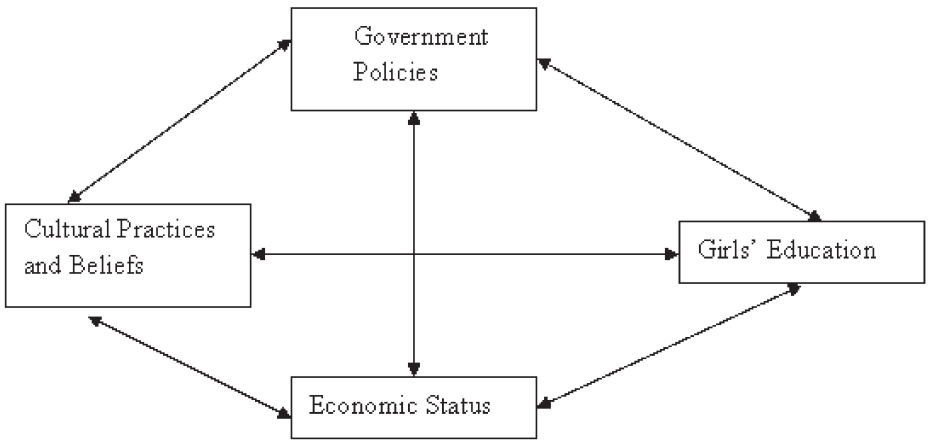

Figure 1: Conceptual Framework
Source: Researchers' construct, 2012

A holistic and systemic approach was used in examining closely the relations between traditional cultures and girls' education in Tanzania and how the variables influence one another. Such an examination will help in coming up with challenges that the government and other educational stakeholders face in addressing the cultural constraints that hinder girls' access to education in Tanzania. The Figure 1 illustrates the relation between various variables that influence girls' education.

Figure 1 shows holistic relationship between culture, economic status, government policies and girls' education. It can be seen that the variables exist in reciprocal relationship. This means that they affect each other. Cultural practices and beliefs can affect girls' education, economic status and government policies; but the vice versa is also true. For example, girls' education can also influence economic status, government policies and cultural practices and beliefs. Thus, these variables are interdependent and have to be looked at in their interrelated nature using the systems analysis approach.

Methodology

Information provided in this paper is based on the research that was conducted by the authors in Monduli district in Tanzania. The reason for choosing Monduli district was that it is largely a maasailand where the main activity is nomadic pastoralism. Also, Monduli is one of the districts where efforts to promote girls' education have been taking place actively. For example, there are NGOs, CBOs and FOs operating in Monduli district with the aim of promoting formal education among the maasai with greater emphasis on women and girls. The study was largely qualitative in nature applying an embedded single-site case study design. The study involved 70 respondents who were selected both purposively and randomly. The composition of the sample was as follows: one District Education Officer (DEO) in charge of primary education, five (5) head teachers, ten (10) primary school teachers, three (3) ward education coordinators, eleven (11) maasai elders, and forty (40) pupils from five schools; that is, eight pupils from each school. Maasai elders, pupils and teachers were selected randomly while the DEO, ward education coordinators and the head teachers were selected purposively since the researchers believed that these had the required information received from teachers in schools. The data collection methods used include: Questionnaires, interview schedules, documentary review, focus-group discussions and observation. The research tools were developed in line with research questions and specific objective and were pre-tested in Morogoro district among the maasai. The weaknesses were improved to make the research tools stronger and effective in collecting the required data. The data were collected from five primary schools selected from Makuyuni, Monduli Juu, and Mto wa Mbu wards. Also, the office of the District Education Officer in charge of primary school was involved in the study. The data collected through various methods were synchronised and organised according to the research questions and coded on broad sheets of paper. They were then presented in tabular forms, with frequencies and percentages being calculated for drawing

up conclusions on particular observations. Non-quantifiable data were subjected to content analysis and interpretation, and open ended responses were organised in tables to facilitate comprehension for making inferences.

Results of the study

This section covers the following subsections: current perceptions towards maasai girls' education among the maasai in Monduli, Status of enrolment of maasai girls in primary schools in Monduli district, efforts by the Government, CBOs and NGOs in promoting girl's basic education among the maasai in Monduli District, challenges in addressing cultural hindrances to enhancing girl's access to basic education in Monduli District. The details are provided as follows:

Current Perceptions Towards Maasai Girls' Education Among the Maasai in Monduli District

Researchers in this study asked the respondents to give their views on how they found the perception of maasai people towards girls education in their communities. The responses were as follows: All seventy (100%) respondents said that regarding maasai's perception towards girls' education there has been some improvement compared to the previous twenty or so years. But the rise in awareness has been slight since majority of the maasai parents have negative attitude towards educating girls.

During interview with one of the head teachers, it was discovered that even the maasai girls themselves have started realizing the importance of education such that some tend to avoid early marriages in favour of getting education first. The head teacher gave the following story:

> *I can say that many maasai girls are now aware of the importance of education as I have witnessed five cases in this district where girls ran from their parents in the village and went to Arusha to join secondary schools. A very interesting case was when one girl, upon being forced by her father to get married to an old man after finishing standard seven, she escaped at night and went to her aunt in Arusha town where she joined a secondary school.*

The finding above is in line with the findings by the Pastoral Women's Council, a non-governmental organization, which in 2005 found that at least three maasai girls run away from home daily to escape arranged marriages.

In fact, all the above findings provide a proof that maasai people have been changing in terms of their perception towards girls' education in their respective communities. This gives the researchers confidence that today's maasai society might not be the same society some thirty years to come.

The researchers went further into probing about the factors that have contributed

to development of positive attitudes towards girls' education among the maasai. Table 1 illustrates the answers that were given by respondents as follows:

Table 1: Factors that Contributed to positive perception on girls education

Responses	Frequency of responses	
	Number	Percentage
Government campaigns to educate maasai girls	56	80
Radio programmes	13	18.6
Maasai graduates at various levels	15	21.4
Awareness programmes by NGOs and CBOs	63	90
Experience from towns and cities regarding success of women and girls	9	13
Influence of mother who got primary education	17	24

Source: Compiled by researchers from the filed data, 2012

Table 1 indicates that positive attitude towards girl's education among maasai has been a result of: government campaigns (80%), radio programmes (18.6%), maasai graduates especially females (21.4%), awareness programmes by Nongovernmental organisations and Community based organisations (90), influence of mothers who finished standard seven (24%), as well as experience that some of the maasai people get from towns and cities where they go to work as watchmen or to sell traditional medicine (13%).

Status of Enrolment of Maasai Girls in Primary Schools in Monduli District

The researchers were also interested in knowing the status of enrolment of maasai girls in primary schools in Monduli District. The response was that number of maasai girls in primary schools had increased due to the fact that there has been concerted government effort to ensure equal opportunities to basic education as stipulated by the Education for All policy that was launched in 1990 in Jomtien, Thailand. Another factor was the participation of NGOs, FBOs, and maasai graduates in promoting girls' education in Monduli District. Regarding the number of girls enrolled, it was said that at some classrooms in primary schools in Monduli had more maasai girls than maasai boys and some were performing better than boys. Generally, the enrolment rate for girls, according to the statistics given by the District Education Officer in charge of primary education, had been increasing as follows: 2006 (57.23%), 2007 (54.33%), 2008 (57.42%), 2009 (62.44%), and 2010 (91%). This trend is further illustrated in Figure 2.

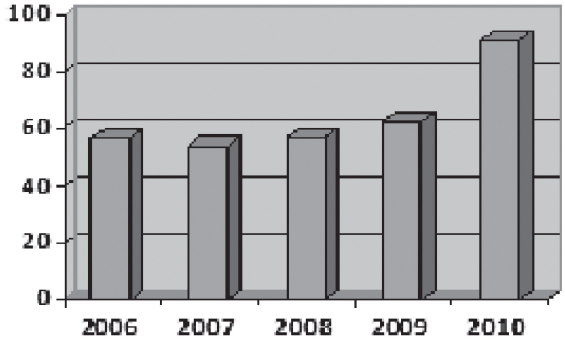

Figure 2: Enrolment trend for girls in Monduli District
Source: Compiled by researchers from the District Education Office, 2011

Figure 2 indicates that enrolment for girls in Monduli district has been increasing steadily from 2007 to 2010. This is encouraging and implies that the maasai are changing their attitudes towards girls' education. They have begun realizing that it is also important to educate women in their society. However, the major issues as observed in the field include poor retention, absenteeism due to domestic chores, truancy because of traditional dances (ESOTO[1] and OLOIPU[2]) and pregnancies as many of the maasai girls start involving themselves in sexual relationships at very tender ages, as well as early marriages.

Efforts by the Government, CBOs and NGOs in Promoting Girl's Basic Education Among the Maasai in Monduli District

The researchers also asked the respondents to identify various efforts made by the government, CBOs and NGOs in promoting girls education among the maasai, in particular, Monduli District. The efforts were identified as follows: The District Educational Officer said that there are meetings which are held to raise awareness among the maasai regarding the importance of educating girls; and building of boarding primary schools near maasai homesteads called bomas. Some of the boarding primary schools are: Esilalei, Losimingori, Oltukai, Engaruka Juu and Manyara Ranch B. The District education officer further said that the government has been providing funds under the Primary Education Development Plan which is in phase two to construct primary schools near the maasai residences in order to encourage the maasai to send their kids to school, girls inclusive.

Apart from the Government, Community Based Organisations (CBOs) were in

[1] ESOTO is the traditional maasai dance that takes place at night.
[2] OLOIPU is the traditional maasai dance that takes place during day time

the fore front in promoting girls' education in Monduli. One of the CBOs operating in Monduli District is maasai Women Development Organisation (MWEDO) that was founded in 2005 whose overall objective is to empower maasai women and young girls who live in the underserved communities in rural Tanzania through availing education opportunities in order to improve their socio-economic condition. Among other aspects, MWEDO provides scholarship to girls, promotes girls retention in schools, provides mentoring services to girls and women among the maasai, and mobilizes funds at a community level for supporting the education of the maasai girls. Since 2005, more than 200 girls have been sponsored by this organization. The organization also provides adult literacy courses to adult maasai people in order to empower them so that they can participate in decision-making and various development activities.

Non-Governmental organizations were also mentioned to be participating in promoting girls' education among the maasai. Some of the NGOs which were mentioned include the World Vision, Maarifa ni Ufunguo (Knowledge is the Key) and ARK Mission which is the Charity Organisation. Maarifa ni Ufungo, in particular has been working since 2008 to transform girls' education in Arusha including Monduli. It has been making efforts to build the capacity of girls by supporting their education financially. It is operating to execute the Education For All Policy. The ARK mission is the charity organization which is led by volunteers with the aim of promoting and protecting human rights of people with intellectual and developmental disabilities and is dedicated to giving hope to orphan children around the world. It works in Monduli District to promote girls' education too.

In fact, Non-Governmental Organizations (NGOs) and Community-based Organizations (CBOs) currently working in Monduli District, have established their own joint network forum known as Monduli Non-Governmental Network (MONGO NET). The newly established MONGO NET is a District-based network, which works toward building the capacity of its members NGOs and CBOs, formulating a symbiotic coordination and creating conducive working environment for its members.
The network is also aiming at improving the livelihood of Monduli residents enabling them to play their vital development roles in forging a vibrant civil society.

Challenges in Addressing Cultural Hindrances to Enhancing Girl's Access to Basic Education in Monduli District

The researcher asked thirty respondents (excluding 40 pupils) to mention some challenges that hamper them from enhancing the girls' access to basic education in Monduli District. The question was asked to the District Education Officer (Primary Education), five head teachers, three ward education coordinators and eleven maasai elders. They identified the challenges as follows:

Table 2: Challenges in addressing cultural hindrances to maasai girls' education

Challenges	Frequency of responses	
	Number	Percentage
Inadequacy or lack of funds	12	40
Some maasai parents are adamant to change	9	30
Remoteness of some places where the maasai live	7	23.3
Frequent migration of the maasai people as many of them live a nomadic life.	16	53.3
Low international support and the local NGOs tend to be focusing on getting money for personal interests rather than addressing seriously the educational problems facing the maasai	5	16.7

Source: Compiled by researchers from the field, 2011

Table 2 depicts that various challenges exist in addressing cultural constraints to enhancing maasai girls' education in Monduli District. The detailed of some of the challenges mentioned were as follows:

Regarding inadequacy or lack of funds, the head teachers and the District Education Officer (Primary Education) said that funds are allocated for the district they normally inadequate and tend to reach late. This makes the efforts to organize seminars and other maasai development projects become difficult.

Concerning the migratory nature of the maasai, the District Education Officer (Primary Education) said,

> *It has been a big problem to work with the maasai people in as far as education is concerned because they tend to keep on migrating from one place to another in search of pasture and water. It is easy for them to migrate due to the fact that most of them are living in temporary houses called boma. Being in the bomas the only valuable property they have are the cattle; so, when they decide to migrate they have nothing to lose. They just drive their cattle into the bush, off they go.*

Regarding the seriousness of the NGOs that operate among the maasai society, teachers and maasai elders said that the contribution by NGOs is not felt by many maasai people because they are too few to serve all the maasai. At the same time, some of the NGOs are not seriously working for the purpose of addressing the problems facing the maasai. They are just used by clever individuals to get funds from either the government of the international funding organizations such as UNICEF, UNESCO and others of the like. Furthermore, the teachers said that NGOs tend to confine themselves in certain areas that are easily accessible ignoring remote places. That is why there are places where no NGO has ever visited so as to save the people.

Conclusion

On the basis of findings presented and analysed in this paper, it can be concluded that awareness of the importance of girls education among the maasai society has risen though gradually. Currently, a good number of maasai girls are in schools and some managed to go to secondary schools, colleges and university. Some of those who have reached higher levels of education are participating in promoting girls education in their home places by establishing some projects and NGOs. Following the rise in awareness some of the maasai elders ask some NGOs to help them in building schools. Likewise, the maasai community members are participating in building schools and contributing food for children in schools. This is a good indicator of the rise of awareness among the maasai. However, despite the rise in awareness there are some challenges which still exist. The challenges are like lack of funds and adamancy by some of the maasai people to change. Likewise, not all NGOs are there to help the maasai, others are for personal gains only.

Policy Implications

Following the challenges which have been identified above, various policy implications are given by researchers as follows:

First, the government should increase efforts to ensure that the maasai and other pastoralists are educated on the importance of girls' education in their societies. This should go hand in hand with formulating the strict policy on this aspect.

Secondly, NGOs, CBOs and religious institutions should really work for the maasai people rather than focusing on attaining personal gains under the pretext that they are serving the maasai people.

Thirdly, the government should solicit funds from international organization in order to establish more projects for educating the maasai as well as building hostels for girls. Hostels are important because of the migratory nature of the maasai pastoralists. With hostels, when they migrate, girls can remain in hostels getting education.

Also, the fight against early marriages should be intensified by various people in collaboration with the government. When this problem is addressed girls will have a good chance to go to school and study for their future prosperity.

Lastly, the government and other influential people should work together to discourage the migratory life of the maasai. The first step should be to encourage them to embark on modern animal husbandry where a farmer keeps few animals that have high productivity.

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Affective and Cognitive Characteristics of Nigerian Student-Teachers: Towards Developing an Effective Teacher Education Framework

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Abstract

The study analyzes the affective and cognitive traits of teacher trainees in higher educational institutions in Nigeria. This is with the view to develop an effective teacher education framework by using inputs from the trainees, in-service teachers and teacher educators and incorporate their ideas into the structuring and organization of not only the educational programmes but also the admission processes into such programmes. Using inputs from classroom teachers, teacher trainees, teacher educators as well as basic education students, a compilation of the personal and professional characteristics of an effective teacher was drawn. These are then developed into a comprehensive open- and close-ended questionnaire covering trainees' perception of and attitude to teaching, their belief systems, measures of cognitive and affective characteristics as well as test of personality trait. The main sample for the study comprised three hundred teacher trainees drawn from two universities and one college of education from south-west Nigeria. The findings showed that Nigerian teacher trainees possessed varied and widely spread cognitive and affective behaviour some of which are suited for the teaching profession. However, the study could not determine if these attributes are reflective of their personality types prior to exposure to teacher education or not.

Introduction

In any educational system, the teacher performs the significant function of perpetuating society's heritage and energizing human resources towards social progress. This supports the fact that the teacher is an important variable in the teaching-learning situation. Hattie (2003) observed that the teacher accounts for about thirty percent source of variance in students' achievement. His knowledge, skills and attitude are instrumental in creating the conditions for learning. Indeed, it is reasonable to say that teachers have more influence on the future of young people than do the members of other professions. Lassa (1996, p.16) identified the teacher as 'the initiator of the learning process, the facilitator of learning skills, the coordinator of learning sequence and indeed the pivotal element in the entire education development'. This makes the teacher the most formidable determinant of quality learning.

Some characteristics of an effective teacher have been discussed in several studies. For example, Kemp & Hall (1992) synthesize research to identify specific factors that

contribute to student achievement. It was noted that the teacher factors include attributes such as teacher's knowledge base, sense of responsibility, communication skills, his affective and cognitive skills, in-service training and inquisitiveness. Teachers must possess the vital skills, personality characteristics and behaviours that students perceive to impact their motivation to learn, since it is a teacher's job to connect with each student to foster the passion and excitement to learn (Littkey, 2004, p.12). Therefore, teachers need a solid foundation and orientation towards their professional practice as teachers. This starts with the quality of training they are exposed to. It is an established fact that like all developing countries, Nigeria faces educational challenges in the area of the teacher professional preparations and development particularly in its quest to achieve the goals of Universal Basic Education which are focused on eradicating illiteracy, ignorance and poverty. Such goals include widening access to primary and junior secondary education, period review and effective implementation of the curriculum, Baikie (2002) emphasized that only the teachers who possess the necessary technical competence and professional skills through a well coordinated teacher education can rise to meet the challenges of the crisis that has bedevilled Nigerian's teacher education.

Teacher education in Nigeria is stratified to produce two major qualifications: the Nigeria Certificate in Education (N.C.E) and the Bachelors Degree in Education (B.A/B.Sc. Ed.) Recent federal government policy has made the NCE the least teaching qualification for primary school teachers up to the Junior Secondary School (JSS) level. NCE awarding colleges run a three year post–secondary teacher education. The residues of the Teachers Grade Two qualification where teachers are initially trained for primary schools are also admitted into the NCE course. The quality of the NCE teacher candidates is affected by various admission policies/requirements across the geo-political zones. While the officially declared educationally disadvantaged states demand lesser entry qualifications, the other zones require at least five credit passes including English and Mathematics to qualify for admission. These disparities as well as the organization of such have created skepticism and doubts about actual qualification of NCE products. The undergraduate teacher education, a four-year course combining academic and professional training, is the responsibility of the Faculties of Education of Universities. It trains students for B.A/B.Sc. Education degree and produces teachers for the sciences, humanities or arts. In both institutions, subjects in curriculum and teaching methods largely offered in the penultimate and final years were intended to prepare student-teachers in pedagogical skills and specific subject areas. Links between theory and practice are emphasized in teaching practicum so that students could draw close professional links between their institutions and the schools where they are prepared to function as teachers.

However, Nigeria's teacher-training institutions have been critiqued for inability to produce teachers who are properly grounded in pedagogy and content as well as ability to collaborate professionally in the work environment. For example, educationists observed that the transition from academic theories in universities to classroom practice has often been very sharp suggesting that student teachers are not often properly groomed to put

into practice current pedagogy and interactive skills that has been theoretically learnt. The system has not produced the desired result for an effective educational system in a globalised world, an innovation required for both teacher pre-service preparation and teacher in-service training.

This above is compounded by the fact that over the years, there has been a serious erosion of teacher's respect and this applies to all levels of education since quality and relevant education depends a great deal on what teachers do with learners. Recent events in Nigeria show that the traditional respect and prestige enjoyed by teachers in the society have been eroded quite considerably (Awanbor, 1996, p.18), leading to loss of interest and attraction to the teaching profession. Consequently, this sordid situation occasioned by low enrolment of teachers in preparation institutions has become a source of worry to teacher educators. Awanbor (1996, p.18) further reported that some teacher-trainees did not appear to be particularly enthused by the training goal of teaching as they indicated that the teaching profession was really not an attractive profession to them. In another development, Omoregie (1994) reports that the attrition rate of teachers, particularly secondary school teachers is attributable to the general poor attitude to the teaching profession. Similarly, Nwangwu (1997) observed that the crisis in Nigerian education system is traceable to lack of interest and low morale due to poor social status. Afe (2001, p.31) opines that the standing of the teaching profession is affected by the social background, adding that the low status constitutes a problem in recruiting competent hands into the profession.

Many studies have been carried out in both developed and developing countries to find out what motivates students in teacher education institutions to choose teaching as a career. In general, the studies have shown that such students choose teaching as a career for various intrinsic, extrinsic and altruistic motives (Bastick, 2000; Ejieh, 2006). The assumptions in most of these studies seem to be that students in teacher education institutions will enter the teaching profession after completing their courses of study. Evidence from some studies (Achimugu, 2005; Hall & Langton, 2006; Viatonu, 1999), however, shows that not all such students intend to teach after graduation. The studies noted a group of education graduates referred to as the 'uncommitted'-- those who decided not to take teaching as a job immediately after they graduate and who regard teaching as irrelevant to their future goals. In Nigerian situation, the uncommitted group are quite large. Moreover, studies have shown that many of those who join the profession after graduation leave early because such people had a career plan other than teaching. These invariably have an overall negative effect not only on the quantity but also on the quality of teachers produced for schools.

The trends and characteristics of globalisation perhaps call for a total re-invention or repackaging of the teaching profession in Nigeria. The teacher in the globalised environment must be prepared to think globally and act locally in matters relating to education. He must be able to create a learning-friendly and animating environment in the classroom. The Nigerian teachers must be able to participate effectively in

the contemporary ICT imposed revolution in knowledge creation, distribution and management. Schools exist to impart knowledge and skills. It is therefore imperative for schools to move with time in matters relating to knowledge creation and distribution. The core concern therefore is how do we attract quality potentials/candidates into teaching in Nigeria? What cognitive and affective characteristics should we examine in potential teacher candidates and how do we use this to establish an effective admission processes and result-oriented framework for teacher education in Nigeria? These concerns drive this study.

Theoretical Frameworks

Brophy & Good (1974) cited in Fang (1996, p.47) argued that a better understanding of teachers' belief system or conceptual base will significantly contribute to enhancing educational effectiveness. The Theory of Personality Types chiefly backed this study, though supported by Teacher Cognition and Reflective Teaching Practice.

Holland's Typology of Personality and Congruent Occupations (1973, 1974) argued that the choice of a vocation is an expression of personality and based on this, proposed six personality types- realistic, investigative, artistic, social, enterprising and conventional. The theory notes that social type of a person is more successful in teaching profession, as he/she prefers activities that involve and develop others and are sociable, friendly, cooperative and understanding. In addition, Meyers & Meyers (1980) developed the Meyer-Briggs Type Indicator (MBTI)- a psychometric assessment designed to measure psychological preferences in how people perceive their world and make decisions, and thus categorized personality along four dimensions- how they focus their attention or get their energy (Extraversion or Introversion), how they perceive or take in information (Sensing or iNtuition), how they prefer to make decisions (Thinking or Feeling) and lastly, how they orient themselves to the external world (Judgment or Perception). The four preferences are to interact in complex ways to produce sixteen psychological types. According to Meyers & Meyers (1980) teachers are ENFJ (Extrovert, Intuitive, Feeling and Judgemental). This suggests that teachers are outgoing, enjoy connecting with people, and are intuitive, flexible, open-minded, highly organized and decisive. While Kent and Fisher (1997) noted that MBTI is uniquely suited to applications in teaching and learning in the field of education when examining personality self description, there are criticisms by McCrae & Costa (1989, p.19) that the Meyer-Briggs Type Indicator measures only four dimensions of personality and therefore proposed the Five Factor Model, based on five broad dimensions- conscientiousness, emotional stability, agreeableness, extraversion and openness to experience- which according to them, can be found in virtually all personality types. In relation to teaching, Allen & Whitely (1968) noted two important dimensions of personality in teacher effectiveness, cognitive flexibility & psychological openness. The major argument here is that the knowledge of teacher personality type can reveal the foundation of their education philosophy. According to Fairhust & Fairhust (1995),

understanding one's own personality type is an important part of student-teacher learning process. They further noted that understanding the difference between the teacher's own personality characteristics and their students' personality can be beneficial when attempting to improve students' learning and achievement scores. This perspective is also related to theory of Teacher Cognition which deals with understanding what teachers think, know and believe, that is, unobservable dimension of teaching (Borg, 2009, p.165). A core component of teacher cognition is teacher belief systems which are described as dynamic in nature, undergoing change and restructuring as individuals evaluate their beliefs against their experiences (Thompson, 1992, p.132). The importance of teachers' beliefs within teacher education rests within the constructivist's conception of learning and the reflective approach to teaching. Constructivist holds that beliefs are thought of as critical in terms of what and how the student teacher makes sense of their learning in the teacher education programme. Pre-existing beliefs are so influential that attempts to change teaching styles are ineffective, unless these beliefs are directly questioned (Johnson, 1988, p.169), since, according to Pajares, (1992, p.309) the earlier a belief is incorporated into the belief structure; the more difficult it is to alter. As a result, pre-service teacher education may find itself competing with previously established beliefs that play an active role in the acquisition of new knowledge. This dimension of cognition therefore emphasizes the importance of teacher trainees deconstructing their own prior knowledge and attitudes, comprehending how these understandings evolved; exploring the effects they have on actions and behaviour, and considering alternate conceptions and premises that may be more serviceable in teaching. Critical analysis and structured reflection on formal course knowledge and everyday practical experience are therefore encouraged in teacher education. It also forms the core Reflective Teaching Practice which also underlies the professional knowledge bases of teachers. These knowledge bases are centred on knowledge of self, knowledge of content, knowledge of teaching and learning, knowledge of pupils, and knowledge of context within schools and society. Preparation for working with diverse populations in an ever-changing cultural and global context requires teachers who are knowledgeable, caring, responsive and reflective; therefore; teacher education curriculum including teacher admission processes should accommodate all these conceptions to produce an effective and quality teacher for the 21st century classrooms. These culminated in the conceptual framework that guides the study.

Conceptual Framework

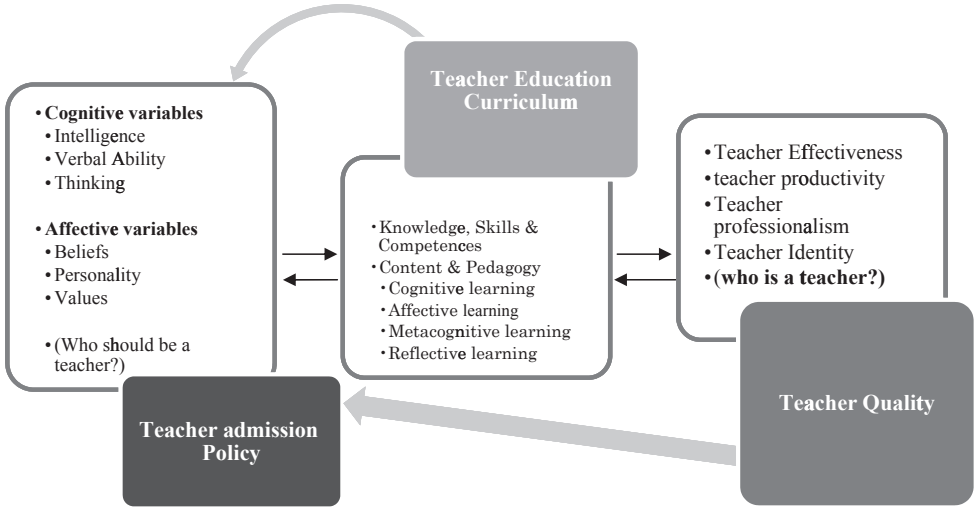

Figure 1: Teacher Education Framework connecting admission, curriculum and output.

The framework establishes a core relationship between teacher admission policy, curriculum and quality output, showing a kind of input-process-output relationship, each component feeding and impacting on the other. The core question, 'who is a teacher?' should first be addressed through the screening process which should move beyond test of academic ability and focus on determining the cognitive traits (intelligence, verbal ability and thinking levels) as well as affective traits (attitude, values, beliefs, personality) of would-be teachers. These should serve as inputs which teacher education curriculum should build upon -- through instructional practices, new learning, re-learning, construction and deconstruction of knowledge and belief, reflection, and mentoring – to ensure teacher quality, quality also being a defining characteristic of 'who should be a teacher'. Therefore, consideration of teacher candidates' cognitive ability and personality types suited for teaching should form the core of admission criteria. These characteristics should also be considered in developing effective and quality oriented teacher education curriculum that would be able to further imbue the trainees with the expected teaching quality with focus on classroom effectiveness, commitment to professionalism which shall over time improve teacher's self-identity and social recognition.

Objectives

The objectives of this study from which relevant research questions are drawn include:

1. To investigate the characteristics of an effective teacher at all levels of education.
2. To determine the cognitive and affective characteristics of Nigerian teacher-trainees,

their motives for entering into education courses, their perception of teaching profession, as well as their future career plans.

3. To harness the findings from 1 and 2 as recommendations towards developing:
    i. A framework for admission processes into teaching in Nigeria.
    ii. A framework for effective teacher training processes in Nigeria.
4. To analyse how these frameworks can be utilised to enhance teachers' productivity.
5. To draw further necessary conclusions from issues that may arise in terms of challenges faced by teachers in their extended professional preparation and development.

Methodology

This study is concerned primarily with Nigerian teacher-trainees covering Nigerian university undergraduates as well as students of Colleges of Education. It determines the affective and cognitive characteristics of the would-be teachers with the intention of cataloguing a professional identity of teachers in Nigeria. Using inputs from classroom teachers, teacher trainees, teacher educators as well as basic education students, a compilation of the personal and professional characteristics of an effective teacher was drawn. These are then developed into a comprehensive open- and close-ended questionnaire covering trainees' perception of and attitude to teaching, their belief systems, and measures of cognitive and affective characteristics as well as test of personality trait. It also involves a survey of both in-service teachers of basic and secondary schools and teacher-trainees in Colleges of Education and Faculties of Education from the South-west geo-political zone, Nigeria. In this wise, a federal College of Education and a federal University as well as a state-owned were randomly selected from this zone, making a total of 3 teacher training institutions. The teacher-trainees were drawn from among the final year students of each institution. This is because they have had adequate exposure to both content and pedagogic courses in the course of their training and are already exposed to practical orientations in terms of teaching practice. One hundred students were randomly selected from each university/COE, totalling three hundred (300) subjects, which covered education students from different course orientations- science and technology, social sciences, languages and humanities. In addition, Sixty-three in-service teachers, fifty teacher educators and two hundred secondary school students were randomly selected from the geographical areas of the institutions sampled to write about their best teacher. Deductions were made from their write-ups about the qualities of an effective teacher. Research instruments include:

1. A checklist of characteristics of an effective teacher was drawn by basic/secondary school students and in-service teachers. To draw the checklist, the subjects here were required to write a composition on their most effective teacher, from which cognitive and affective characteristics were inferred.
2. Three comprehensive, self-assessment questionnaires (one for cognitive

characteristics, one for affective characteristics and the third focus on their belief systems) for teacher trainees with focus on their cognitive and affective characteristics, their cognition and belief systems as related to teaching and learning, their attitude to and perceived suitability for the teaching profession. Both content and face validity were done, and a reliability coefficient of 0.78 established through test-retest. The relevant data were collected at different times across the groups, though in all, data collection spanned 10 weeks.

Findings

Descriptive Statistics

A total of 300 teacher trainees (54.4% male, 45.6% female) were sampled from teacher education institutions. The most dominant age grade among the trainees was between 21-24 years with average percentage of 51% while 16-20 years were 28% which indicate a level of maturity for tertiary education. Age above 30 were very minimal (5.7%) indicating a very active and agile population as teacher trainees. The mode of admission into education programmes is the same across all the institutions, though differ across the trainees. 72% of the respondents entered into their programme through Unified Tertiary Matriculation Examinations which is the widely recognised mode of admission into Nigerian institutions. However 22.5% got admitted through direct entry, signifying that they have had three-year training at the College of Education. Others got admitted through preliminary and diploma programmes or were transferred from other courses to Education, often as a result of low achievement in their course of choice. Other supportive respondents include Sixty-three in-service teachers, fifty teacher educators and two hundred secondary school students who were randomly selected from the geographical areas of the institutions sampled.

Qualities of an Effective Teacher

In the context of this study, an effective teacher should inspire and influence learning. The positive and negative behaviours exhibited by teachers determine, to a large extent, their classroom effectiveness and the impact they have on students' learning and achievement. Several characteristics of teacher responsibilities and behaviour covering his/her personality, classroom management, quality and implementation of instruction, monitoring of students' progress, nurturing students' potential and teacher's sense of professionalism determine teaching effectiveness or otherwise of a teacher. A checklist of attributes of an effective teacher drawn from secondary school students' writings, as well as summations from in-service teachers, teacher educators and the teacher trainees which form the pool of responses used to determine the qualities or characteristics. All respondents which comprised 613 in all were required to write a one page composition

on their most effective teacher. Each composition was analysed to highlight the core attributes. On the whole, 27 core attributes/characteristics were drawn from the summations of the respondents. This is summarised in Table 1:

Table 1: Attributes of a effective teacher

	Attributes	Frequency	%	Type
1.	Skilful/teaches well	75	12.2	C
2.	Kind	61	9.95	A
3.	Intelligent	55	8.97	C
4.	Friendly, social with good interpersonal relationship	47	7.66	A
5.	Mentors, motivates, counsel	47	7.66	A
6.	Self -disciplined	36	5.87	A
7.	Committed, diligent, dedicated	30	4.89	A
8.	Knowledgeable/mastery of subject	30	4.89	C
9.	Role model/well behaved	23	3.75	A
10.	Humble	21	3.42	A
11.	Hardworking	20	3.26	A
12.	Neat, decent and attractive	19	3.09	A
13.	Caring and loving	15	2.45	A
14.	Patient, understanding and tolerant	15	2.45	A
15.	Punctual	15	2.45	A
16.	Respectful/polite	13	2.12	A
17.	Honest	12	1.95	A
18.	Organized	12	1.95	A/C
19.	Good class control	10	1.63	A
20.	Helpful	10	1.63	A
21.	Integrity/high moral standards	10	1.63	A
22.	Modest/simple	10	1.63	A
23.	Generous	8	1.30	A
24.	Creative	7	1.14	C
25.	Communicates and facilitates learning	6	0.97	C
26.	Experienced	4	0.64	A
27.	Assertive	2	0.32	C

Note: Type indicates affective (A) or cognitive (C) characteristics. *Source: Field work 2011*

From the table, it can be observed that respondents in all generated more affective traits than cognitive characteristics, though this is more visible in the write-up of the secondary school students. However, ability to teach well (which encompasses other attributes) occurred most frequently in the write-ups, followed by kindness and intelligence. Key attributes expected of good teacher according to the teacher trainees

themselves include subject matter mastery, emotional stability, positive attitude, high intellectual capability, proficiency in communication and admirable personality. To them, good personality is more important to teaching than cognitive skills or pedagogical knowledge. 56.2% of the subjects believed that teachers are made not born, signifying the importance of professional training and practice in teaching. By implication, one can deduce that the respondents believe that there are specific characteristics amenable to teaching, and that the trainees expect that the teacher education programme should help them develop the required attributes.

Cognitive Characteristics of Nigerian Teacher-Trainees

Studies (Anderson, 1993; Bernardo, 1994; Carroll, 1993; VarLehn, 1993; 1996) have identified the following as measures of cognitive characteristics- intelligence, intellectual competence, verbal ability, mental alertness, knowledge base, communication skills, critical thinking skills, problem solving skills, rational and logical thinking, analytical thinking, initiative, innovation and creativity, independent thought and judgement, self management and control; though the study could not exhaustively measure these among the trainees. However, as a measure of intellectual competence and knowledge base, especially about teaching, their college/university grades were used. The data collected showed that the highest proportion of the respondents (39.6%) falls within second class lower division, followed by Third Class (28.2%), Second Class Upper (23.7%), First Class (4.6%) while Pass grade has the least representation of 3.9%. Though the students' grades may result from a number of factors, but the spread indicates an average level of intellectual competence as well as knowledge base. In addition, students were given a self-evaluation questionnaire with 25 variable constructs, on which they are to rate themselves on a scale of 1-6. The results are summarised in Table 2.

Table 2: Cognitive characteristics of Nigeria Teacher Trainees

Variables	6 (%)	5 (%)	4 (%)	3 (%)	2 (%)	1 (%)
1. Certainty about potential solutions to problems	40.9	19.9	7.1	7.4	13.9	10.8
2. Commitment to particular points of view	27.4	28.1	5.9	27.4	7.6	3.5
3. Openness to other people's opinion & suggestions	34.8	9.1	15.2	35.1	0.3	5.4
4. Believe that knowledge is constructed	23	27	10.4	30.2	1.4	6.7
5. Believe knowledge must be evaluated within contexts	33.1	34.8	23.3	--	6.1	2.7
6. Solution to a problem is derived from one correct answer	6.1	20.9	23.6	31.8	9.5	8.1
7. Solution to problem depends on the context	18.9	9.5	20.6	30.1	3.0	17.9
8. Making compromises is a fact of life	21.3	13.2	16.6	27	7.1	14.9
9. Reliance on illogical analysis when solving a problem	5.3	13.9	1.4	26.8	15.6	36.9
10. My opinion is as good as anyone else	2.7	27.4	12.5	35.5	9.5	12.5
11. Acceptance of diversity in people's opinion	27	34.8	7.4	18.6	3.4	8.8
12. Truth is relative	24.4	31.4	8.7	11.8	9.8	13.9
13. Ability to reflect before taking actions	45.8	26.8	1	9.5	6.1	10.8

14.	Ability to reflect on people's thoughts, beliefs & intentions	27.5	15.3	25.8	25.4	0.7	5.4
15.	I do organize information in my mind	28.1	24.7	14.2	18.6	--	14.2
16.	High capacity to commit things to memory	17.6	28.5	20.3	18.3	2.7	12.2
17.	Ability to express emotions positively or negatively	17.6	28.7	20.7	6.0	12.9	13.6
18.	Reliance on others to formulate my thoughts for me	8.8	9.2	9.8	3.4	23.4	45.4
19.	Voicing educated and appropriate opinions	9.0	18.7	16.3	16.6	30.8	0.7
20.	Consideration for consequences of my actions before I act	29.3	16.3	23.1	19.3	5.4	6.1
21.	Possess the ability for independent thought/judgement	33.2	32.9	12.9	4.1	2.7	4.2
22.	Often sceptical of suggestions until tested	10.8	23.1	22.7	20.7	5.8	16.9
23.	Consider the merits of various viewpoint before decision	36	31.7	0.3	4.3	17.7	3.7
24.	Synthesize different viewpoints into a workable solutions	24.7	43.7	18.3	1.3	3.7	8.1
25.	Rely less on authority to determine what is right or wrong	16.9	23.4	22.7	33.9	0.3	2.7

Key: 6= *definitely my style*, 5= *often my styl*e, 4=*my style 50% of time*, 3=*sometimes my style*, 2=*hardly ever my style*, 1= *not my style. Source: Field work 2011*

Cognitive characteristics possessed by the teacher trainees include self assurance, open-mindedness, pragmatism/practicality, reflection, organisation, expressiveness and critical thinking, while affective characteristics include cooperativeness, self confidence, friendliness, emotional stability, goal and value oriented, fairness, time-consciousness, though these attributes are spread widely among them.

Affective Characteristics of Nigerian Teacher-Trainees

Measure of affective characteristics include self concept, self efficacy, sense of values, motivation, cooperation, tolerance, patience, compassion, sense of direction, sense of focus, sensitivity. Stronge (2002) has shown the following attitudes to be necessary to become successful teachers: caring, fairness, respect, enthusiasm, motivation and dedication; Socket (1993) added attitude towards morality and ethics; and Darling-Hammond (1997) sensitivity towards learners' feelings to the list. These traits correlated with the list generated from the write-ups by the respondents. According to them, predominant affective attributes include cooperation, attention to details, good relationship/friendliness, impartiality, self-concept, self-efficacy, self-confidence, listening/attentiveness, while the least developed attributes include carefree attitude, others are present on the average level. These are captured in Table 3.

Table 3: Affective characteristics of Nigerian teacher-trainees

Variables		6 (%)	5 (%)	4 (%)	3 (%)	2 (%)	1 (%)
1.	I often cooperate with my colleague/classmates	48.5	14.2	18	4.7	9.2	5.4
2.	I give attention to details	40.3	29.2	8.5	16.3	3.1	2.7
3.	I often demonstrate self confidence in doing things	28.3	40.7	15.3	6.0	2.7	5.3
4.	I maintain good relationship with people who are less	43.2	32.1	9.0	10.1	--	5.4
5.	I form and maintain positive interpersonal relationships	33.8	39.5	17.2	1.4	--	8.0

6.	I do manage my emotions without allowing others to know	27.3	48.3	9.1	6.1	3.4	5.4
7.	I do express my emotions in a socially acceptable manner	27.0	41.2	14.5	7.4	6.4	3.4
8.	I blame others for my failure	6.8	23	6.8	4.1	11.3	47.3
9.	I take responsibilities for my actions	38.9	33.8	15.3	8.7	0.3	2.7
10.	I have good relationship with people who are not my family	49.7	19.3	15.9	6.1	0.3	8.8
11.	I set my own goals and personal values	37.8	24.3	9.5	15.5	3	9.8
12.	I allow others to set my goals for me	7.4	27.4	12.8	4.1	16.2	32.1
13.	I often weigh the impact of my emotions on my behaviours	21.3	31.8	15.3	19.9	2.7	8.7
14.	I do react impulsively to situations	13.5	26.4	6.8	41.6	3.7	8.1
15.	I readily agree to engage in activities with colleagues	15.9	23.6	23.3	25.3	8.0	3.3
16.	I pay attention to what others have to say	18.7	42.7	3.7	21.6	9.8	2.7
17.	I involve others in decisions on issues that affect my group	31.1	38.0	6.7	13.7	7.0	2.7
18.	I keep my judgements within the limits of my competence	28.4	30.7	16.9	9.8	11.5	2.7
19.	I get angry when people make jokes about me	13.2	13.9	10.2	23.7	26.4	12.5
20.	I am willing to share jokes	2.7	2.7	9.8	23.3	34.1	27.4
21.	I have positive expectations of people	17.3	19.7	29.3	9.5	15.2	8.1
22.	I leave things wherever, I feel like	6.1	23.3	25.3	12.8	16.9	15.5
23.	I do things at the expected/appropriate time	27.4	31.7	8.8	13.2	12.5	6.1
24.	I am impartial when judging others	48.6	13.9	4.7	9.8	8.1	--

Key: 6= *definitely my style*, 5= *often my style*, 4= *my style 50% of time*, 3= *sometimes my style*, 2= *hardly ever my style*, 1= *not my style. Source: Field work 2011*

Students' Motives for Entering into Education Courses

For those who came into education through mainstream admission, there were several reasons for the choice of education as course of study- 61.8% agreed to their inability to meet the admission requirement in their course of choice while only 22.6% however cited their passion to teaching as the major motivating factor. Other reasons cited by the respondents include wrong combination of subjects, late admission, family influences and teachers/peers influences. By implication, we have 77.4% of unwilling teachers among this group. However, 53.7% of them indicated their willingness to teach after graduation, indicating a change in attitude to teaching during the course of their training. The study also sought to know from the subjects (teacher's trainees) if teaching job scares them and result revealed that contrary to the expected result 85.6% of the respondents disagreed that they are scared by teaching job leaving only 7.2% of the respondents who genuinely admitted their fear for teaching job. About 31.1% admitted that they lack the ability and skills for a full time class room teaching. 56.8% of the respondents also believe that knowledge about teaching comes from practice and training. Finally, 22.1% admitted that their training is for certification purposes. It can then be deduced that majority of the teachers trainee has an unfavourable disposition towards the teaching profession. We tend to determine if this disposition is borne out of a set of belief systems. Table 4 established this.

Table 4: Teacher Trainees' Belief Systems

Variables	SA (%)	A (%)	U (%)	D (%)	SD (%)
1. I possess the ability to teach	32.3	38.9	4.7	16.9	6.8
2. I shall be a role model to my students	50	31.7	6.	5.7	4.3
3. I have a positive attitude that will enhance my teaching	55.9	24	9.7	7.3	2.8
4. I am interested in making a breakthrough learning & teaching	31.4	53.3	-	10	-
5. I easily adjust to new thinking	41.9	46.6	7.9	3.6	-
6. I will be fulfilled in my teaching career	-	46.2	3.6	32.5	17.7
7. I need to consolidate myself in my subject area	40.4	34.3	7.2	15.2	2.9
8. My training as a teacher has made me more focused	47.3	41.0	0.3	7.2	-
9. Teaching personality is more important than cognitive skills	16.6	45.8	8.7	28.9	-
10. Teaching is about learning a series of tricks	19.5	40.4	0.2	18.3	
11. Teaching involves coordinating knowledge	50.9	32.7	7.	9.3	-
12. Teaching is helping students learn	54.4	45.6	-	-	
13. Teaching involves different learning styles	57.7	-	39.5	2.8	-
14. Teaching should go beyond the classroom	71.8	25	3.2	-	
15. Teaching should be systematic	75.4	19.3	-	3.6	-
16. Teaching goes beyond transmitting knowledge	44.6	38.2	9.3	6.7	
17. Teaching involves different learning styles	62.4	34.4	2.7	0.4	-
18. A teacher must be intellectually capable	59.2	29.9	7.8	3.1	-
19. A teacher should be able teach & impact knowledge effectively	65.4	25.3	2.7	3.3	2. 7
20. Attitude of a teacher will determine his learners success	68.7	21.7	-	8.1	-
21. A teacher must be highly proficient with communication skills	67.1	15.9	16.9	-	-
22. A teacher must have a good mastery of subject matter	65.5	25.7	0.7	8.0	
23. A teacher must have an admirable	49.7	38.9	5.4	3.4	2.7
24. A teacher must be emotionally stable	55.7	35.1	6.4	2.7	

Key: SA- Strongly Agree; A –Agree; U –Undecided; D- Disagree; SD- Strongly Disagree
Source: Field work 2011

Teacher trainees' belief systems include belief about self and ability to teach, about teaching, about learning and about who should be a teacher. The strongest belief system focussed on teaching which they believe should be systematic, should go beyond the classroom and involve different learning styles. Despite their strong beliefs about who should be a teacher (should impart knowledge, possess positive attitude, proficient communication skills and master the subject matter), they could not strongly see themselves possessing the abilities required to teach effective as students rated themselves rather low on their the ability to teach and willingness to break through in learning & teaching.

Other Findings

1. The most common entry into teacher education programmes is through the Unified Matriculation Tertiary Examination (UMTE), a jointly administered examination that

places candidates into different higher institutions according to their scores. Higher scores are admitted into universities while lower scores are placed in colleges of education.

2. About 61.8% of the respondents had to study education due to their inability to secure admission into more lucrative courses, while only 22.6% expressed an initial intention to study education.
3. After exposure to training, about 53.7% of trainees intend to teach after graduation. This gives a gain of 8.1% from initial reluctance to teach.
4. On their readiness and ability to teach, 31.1% of respondents admitted they lack the required skills and abilities for teaching, while 79.9% believe that they have a positive attitude that can enhance their practice as teachers. Though mostly uninterested, 81.7% believe that if they are peradventure found in the teaching profession, they would act as role models to their students. In contrary, about half of them (50.2%) feel they would not be fulfilled as a teacher, though they admitted their training have made them more focused.

Discussions and Implications

The core questions to address here are: how do we use the findings as recommendations for (i) enhancing admission process into teaching; (ii) developing a standardized and robust teacher education programmes; and (iii) ultimately, enhancing teacher effectiveness in schools?

The reality of what teachers face in the classroom upon graduation is daunting, making it imperative that decisions about who to admit into teacher education programmes are significant and critical (Casey and Childs, 2007). This is because teachers need to be able to handle challenging situations and experiences far beyond what their trainings prepare them for (Feiman-Nemser, 2003). The objective of students' recruitment into teacher education should therefore be to admit high quality candidates. As Darling-Hammond (2000) noted, the admission processes are expected to select candidates who will succeed in the pre-service education and become good teachers. There is insufficient evidence to support the notion that standardized tests are a suitable admission mode when determining which teacher candidates are capable of becoming highly effective teachers. Studies have demonstrated there is no strong correlation between standard test scores and effective teaching as measured by students' teaching practice grades and supervisor feedback (Baskin, Ross and Smith, 1996), therefore, changing admission standard is required in order to ensure that high quality students are admitted to education programmes. While academic rating of students is very important determinants of IQ and other academic scores, such should be supported by other measures. Casey and Childs (2007) further observed that the relationship of admission criteria to the knowledge, skills and attitudes beginning teachers need and the preparation provided by the programmes need to be made explicit. To design effective admission requirements into teacher

education in Nigeria, the following criteria for admission are recommended for selecting candidates into the teacher education, borrowing from internationally accepted practices. These include:

1. Smith and Pratt (1996) suggested the use of a written profile in conjunction with academic rating. Such requires applicants to describe the relevant experiences or why they are interested in teaching. Caskey, Peterson and Temple (2001) argues that profile can reveal motivation related to pupils needs, congruence with the philosophy and mission of teacher education programme, a vision for need for quality in schools and the ability to express oneself in a compelling manner in writing. Written profiles should be reviewed regularly to be sure they provide opportunities for teacher candidates to demonstrate their knowledge, skills and attitudes.
2. Interviews are also suggested. Interviews are said to reveal information about language proficiency, attitudes and interpersonal skills (Casey & Childs, 2007). Jacobovitz (1994) proposed that interviews are necessary to ensure selection of applicants who understand the moral and ethical dimensions of teaching. Therefore, as part of the post-UTME screening process for teacher education, interviews can be conducted for applicants who have fulfilled other admission criteria.
3. Also suggested is letters of reference which can be open- or close-ended, detailing the key attributes and values of each applicant including personal characteristics and academic competences. However, there are concerns about objectivity of reference letters, since referees are often selected by the applicants.

A significant component of preparing future teachers is to equip them with professional and personal qualities as teachers and instilling the basic disposition and behaviour as teachers. Teacher education programme need to create balance between content knowledge, pedagogical knowledge, pedagogical skills and attitudes. It is important to distinguish which knowledge, skills and attitudes that beginning teachers need and which can be learned in the teacher education programme. Those that are not already possessed by applicants prior to entry into the programme should be learned in the programme. There should be explicit instruction to affect pre-service teachers' attitude, such as openness to learning through mentoring and reflective practices. Pre-service and new teachers need to learn situational relevant approaches to subject matter, how to think on their feet, how to size up situations and decide what to do, and to study the effects of their decisions, and how these will affect their planning (Ball & Cohen, 1999). In addition, the objectives of teacher education should include cultivating in the teachers the attitude of continuous learning.

In creating effective balance, mentoring should be an integral part of teacher education and professional development process. Mentoring is a process of building mutually beneficial partnership among teachers, i.e. between teacher educators, experienced teachers and teacher trainees, to help develop the skills, behaviours and insights to the teaching goals and ensuring quality outcome. It involves a process of

socialization/induction to the teaching profession, adjustment to classroom, school and community procedures and mores, and the development of effective instructional and classroom management skills.

The use of reflective practices in training should also be emphasized. Reflective practice often referred to as careful review of and thoughtfulness about one's own teaching process has been described repeatedly in studies of teacher effectiveness. Effective teachers continuously practice self-evaluation and self-critique as learning tools. Reflective teachers portray themselves as students of learning- they are curious about the art and science of teaching and about themselves as effective teachers, they constantly improve lessons, think about how to reach particular students, and seek and try out new approaches in the classroom to better meet the needs of their learners. Through reflection, effective teachers monitor their teaching because they want to be better teachers and to make a difference in the lives of students. Reflective practices should be core of teacher education processes because they are crucial to lifelong learning and a professional necessity. Reflective teachers should therefore possess certain characteristics – cognitive and affective that predisposes them to reflection. Teacher educators should model reflection in their teaching, give trainees tasks/assignments that involve reflection, and during teaching practice, should be encouraged to keep journals and diaries where they not only record their school experiences, but also meditate and think critically about them. In this sense, we have teacher trainees 'grow' with reflection even before graduation from colleges. On the whole, teacher educators should create educational contexts and opportunities that support and sustain trainees as they navigate through their training and practice experiences. These approaches should also be incorporated into in-service teachers through professional developments that emphasize lifelong learning, collaboration, peer tutoring, team planning and teaching, and lesson study.

Conclusion

Motivation, positive disposition, a strong knowledge base, possession of adequate skills and competencies are some of the important factors which shape teacher trainees perception of their training and ultimately, their effectiveness as teachers. The psychological type theories as discussed in the framework have been found to support the connection between individual differences in personality profiles and particular professional choices (Rushton, Mariano & Wallace, 2012). The core of this paper was to profile some core cognitive and affective characteristics that a teacher-candidate should possess to position him/her as effective teacher. Most of these characteristics mentioned by the respondents were supported by literature (Darling-Hammond, 1997; Socket, 1993; Stronge, 2002). While it is impossible for an individual to possess all the core characteristics, the admission process into teacher education should develop effective measures of determining these traits in teacher candidates. This would serve several purposes- to determine teacher candidates' suitability for teacher education and teaching,

to serve as input for structuring teacher education curriculum and instructional processes including pre-service mentoring relationship, configuration of classroom learning environment and adaptation of teacher educator's teaching styles with student-teachers' learning styles.

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Professional Development for Primary School Teachers in Madagascar: Around Teachers' Network

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Abstract

In Madagascar EFA Plan of 2007, primary school teacher pre-service training was abandoned; it was replaced by in-service training. In addition to the in-service training implemented twenty years ago called "Pedagogical days" (JP), the "Teachers' Networks" were created to cater for the profession development of neophyte teachers who have been massively recruited by parents' associations (FRAM), but not excluding experienced teachers. A study was conducted to analyze the teachers' network program, and to shed light on the contributions of the teachers' network as a collaborative learning device.

Questionnaires, supplemented by interviews, were submitted to regional education officials and key actors involved directly in schools. Although "collaboration" is not really apparent in JP as there is neither voluntary work per se, nor symmetry criteria, "collaborative learning" can be observed in Teachers' Networks and is appreciated by FRAM teachers. In fact, the findings reveal significant complementarities between JP and "Teachers' Networks".

Introduction

In Madagascar, the parents' desire to send their children to school is strong. The relationship of the population with the school is relatively old (Razafimbelo, 2011), and school was viewed as a means to achieve social promotion that was accessible to all. It was a key element in the difficult road to development and was in actual fact one of President Tsiranana's main priorities[1]. During his second term of office, efforts were directed towards the rural primary schools, often as part of the "work at ground level". These reforms, which were often conducted in a disorderly fashion because of the demographic pressure, had the effect of disorganizing the pre-service training of teachers. The democratization policy of education which was advocated by the Second Republic (1975-1993) led to a dramatic increase in parents' initiatives to create and

[1] Philibert Tsiranana: President of the Malagasy Republic from 1960 to 1972.

open community schools. As the demands for teachers were rarely satisfied, parents' associations recruited teachers who did not have appropriate training. These teachers are called "FRAM[2] teachers"; they are supported by Parents' Associations. This became common practice due to the freeze on the recruitment of civil servants imposed by the "Structural Adjustment Program" and the deficiencies of the Government.

Education for All and the Madagascar Education System Reform

Following Madagascar's adhesion to the Education for All initiative (EPT) in 2002, Madagascar's education system has gone through very important changes. Different decisions have been taken by the State namely:

- the bearing of part of the education expenses: elimination of school fees, provision of school kits to new pupils, allocation of a school fund, providing food to the school, the building of new schools.
- pedagogical initiatives: distribution of textbooks and other didactic materials, revision of the organization and management of the school syllabus, writing of a new curriculum, massive recruitment of teachers outside of the civil service and the provision of allowances to teachers that have been recruited by the pupils' parents and provision of in service training to all teachers.
- institutional reform: a reconsideration of the role of the pedagogical and administrative areas (ZAP)[3] towards a decentralization of the school districts (CISCO)[4].

Following those initiatives, significant progress was observed at all levels: from 2003 to 2010, the number of students in primary education increased by 30% (about one million of students over eight years). Important challenges still remain; both the dropout rate and the repetition rate are still high. Out of 100 pupils who enter the first year of the primary school, less than 60 manage to reach the fifth year.

In its desire to help all young Malagasy pupils to reach an acceptable level of competence as required by the modernization of the economy, the Ministry of Education, MENRS, in its 2007 Education For All (EFA) plan decided to adopt measures that would lead to the improvement of learning in seven areas:

- Improvement of the school infrastructure,
- Extension of learning time,
- Reform and modernization of the primary school Curriculum and of the teaching and learning materials,
- Provision of fully qualified teachers,
- Improvement of the management of resources of pedagogical process at all levels,
- Monitoring of learners' acquisitions and assessment of elements aiming to

[2] FRAM : Parent-Teacher association
[3] ZAP : pedagogical and administrative areas
[4] CISCO corresponds to school district and ZAP to municipality

improve cost effectiveness and finding the best strategies to improve pupils' learning,

- Provide support to pupils that are identified to be most likely to fail.

Teachers Network Selected by the Ministry in Charge of Education as an Appropriate Tool to Improve Teachers' Professional Competence

Considering the rapid increase in the number of pupils enrolling in the primary school and the demand for qualified teachers resulting from that increase on the one hand, and on the other, because of the State's inability to support the training of such a large number of teachers both technically and financially, the pre-service teacher training formula was abandoned in the EFA plan of 2007, for the first five years of primary education; it was replaced by in-service teacher training. Pre-service teacher training was maintained for "semi skilled" teachers for grades 6 and 7 of the new structure of seven year primary schooling[5].

The Ministry of National Education and Scientific Research (MENRS)[6] then developed a conceptual framework for in-service training of FRAM teachers (MENRS, 2008a). This was used as a working document for experimental projects such as the "Francophone initiative for the distance training of teachers (IFADEM)" and ATEC[7] and it is currently a reference document for the in-service training of school teachers.

The in-service training provided an opportunity for FRAM teachers and enabled them "to link their status to their skills" (MENRS, 2008b). However, it should be noted here that the difficulties generated by the political crisis have made it impossible to implement this project and to articulate continuing education opportunities with career paths.

The Teachers' Network

Twenty years ago, under the "Malagasy Democratic Republic", primary school teachers took part in the pedagogical days (JP): every quarter, and later every two months, all primary school teachers were required to attend three to five days' training on topics which were determined by the CISCO teams of trainers. The organization of the JPs was taken care of by the CISCO and more recently by the regional department of national education (DREN)[8] and the ZAP chiefs were to be in charge of their implementation. The

[5] Under the educational reform initiated in 2008, it was decided that the duration of basic education level 1 (primary) would be extended from 5 to 7 years, the basic education level 2 (junior secondary) from 4 years to 3 and secondary education (Lycée) from 3 to 2. Thus, the duration of schooling from primary to secondary is still 12 years; it is the organization of the cycles that changes to 5+ 4+ 3 to 7+ 3+ 2. Meanwhile, a curriculum reform was initiated with 20 CISCOs (CISCO called CISCO with reform) and was expected to gradually expand.

[6] MENRS : ministry in charge of education

[7] ATEC: Partnership program between MENRS - USAID / EDC for Technological Support for Educators and Communities between 2006 and 2008.

[8] DREN: Regional department of education

JPs involved trainers from the school district (CISCO), the regional department (DREN) or from the Regional Center of the National Institute for Pedagogical Training (CRINFP)[9].

One of the key elements suggested by the conceptual framework to replace the training is the establishment of a local teachers' network. Its use reflects a commitment to the innovation of the training approach (collaborative practice) as well as a desire to reduce training costs. The in-service training device for primary teachers through teachers' network was implemented in 2008.

The Teachers' network aims to improve the quality of teaching/learning. It was intended to encourage collaborative learning by developing professional skills related to the profession, by promoting exchanges of experience, sharing and mutual help, by encouraging the search for solutions to educational problems, the production of documents, co evaluation and self-evaluation in order to improve everyone's practices. The model is based on three criteria:

- Location: teachers should be close to one another,
- Size: 5 to 20 participants,
- Heterogeneity: it includes civil servant teachers and non-civil servant teachers.

All teachers, FRAM or non-FRAM, are invited to become members of a teachers' network. The network members choose two facilitators (a primary one and his or her substitute) and the choice of the facilitators is validated by the ZAP chief. The criteria for selecting facilitators are quite simple: the primary facilitator must be a civil servant; the substitute must not be one. A brochure detailing the various roles of the facilitators, with suggested activities has been made available to the facilitators. The network members choose a name for their network. They determine the venue, the frequency and the duration of their meetings.

Collaborative Learning is the Learning Mode to be Preferred in the Network according to the Conceptual Framework

The confrontation of alternative concepts develops the heuristic sense by creating arguments to defend one's vision and listening to change it. According to Vygotsky (1985), it is through social interaction that the individual learns to solve problems that he is not yet able to resolve alone. A socio-cognitive conflict promotes the search for veracity in disciplinary concepts. Following in the footsteps of Vygotsky (1985), research on collaborative learning has sought to demonstrate the effectiveness of this learning situation.

The establishment of a teachers' network is based on the development of teachers' professional skills through "collaborative learning". So, a brief reminder on the theoretical framework will be given first. There is also a need to clarify what is meant by collaboration in the Malagasy context.

[9] CRINFP: Regional Center of the National Institute for Pedagogical Training

Research and literature review about "collaborative learning" were conducted by Dillenbourg (Dillenbourg, Baker, Blaye & O'malley, 1996; Dillenbourg, 1999). These authors reported that "…collaboration learning is a situation in which particular forms of interactions among people are expected to occur, which would trigger learning mechanisms, but there is no guarantee that the expected interactions will actually occur". Hence, a general concern is to develop ways to increase the probability that some types of interaction occur. Namely, these ways include the monitoring and regulating of the interactions by a facilitator.

Uses of the word "learning" in collaborative learning reflect two distinct concepts: a pedagogical method (it is *expected* that by collaborating, people learn efficiently) and a psychological process (collaboration is the *mechanism* which *caused* learning). Dillenbourg (1999) also reports a variety of meanings for "collaboration" itself. He describes the conditions which allow to characterize as collaborative the following four items: situation, interactions, processes and effects. Then, the theory of collaborative learning concerns these four items: criteria for defining the situation (symmetry of action, symmetry of knowledge, symmetry of status, shared goals, low division of labour), the interactions (interactivity, synchronicity and negotiability), the processes (grounding, mutual modeling) and effects. An explanation of the relations between them is also given.

In setting up the "teachers' network", the major concern was to create a situation in which primary teachers could learn together. They would select a facilitator among themselves. According to the criteria for defining a situation of collaborative learning mentioned by Dillenbourg, symmetry is not quite assured since some teachers are experienced and the FRAM teachers have had no professional training. However, they do have the same academic degree and after a while, it is hoped they will have achieved a same level. Thereby, the term collaboration is here taken to mean a situation in which all primary school teachers attempt to learn together.

For the same reason that has been mentioned in the previous paragraph, network members are referred to as "peers". According to their relative abilities, they will coach one another, so we use the term "peer coaching" to qualify their relationship.

Research Questions

As part of the seven areas where the Malagasy government planned to intervene in order to improve pupils' learning skills, the provision of qualified teachers to the schools is included. This implies an increase in the number of the teachers and in the improvement of their quality.

Because of the impossibility to do pre-service training due to lack of resources (human, material and financial), faced with the huge demands for primary teachers, the department has no alternatives: the Ministry of Education will continue to accept FRAM teachers without professional qualification. The problem therefore is the setting up of an appropriate in-service training that will improve the professional skills of the teachers in

primary schools in the current context.

The Ministry of Education has asked the educational districts to continue the in-service training called JPs (pedagogical days) but in addition, a conceptual framework for the training of FRAM teachers was drafted by the Ministry of Education (2007-2008), whose objective is to use all available resources (human, infrastructural, conceptual) in order to upgrade the teaching skills of FRAM teachers. This type of training was called "teachers' network" and aims to promote collaborative learning among primary school teachers.

It must be stressed, however, that the political context since 2009 has severely disrupted the implementation and functioning of the "teachers' network" that was supposed to play an important part in improving the skills of primary school teachers especially the FRAM teachers.

The following research questions were identified during this study.

1. Does the situation within the "teachers' network" allow collaborative interactions which trigger an effective training/learning of primary school teachers in Madagascar?
2. To what extent and how do organizations and current operating modalities of the teachers' network allow collaborative learning to achieve the objective of developing teachers' professional skills?

Objectives

This research aims to analyze the implemented teachers' network program that was designed to improve the professional skills of primary school teachers in Madagascar.

More specifically, it is to shed light on the impact of teachers' learning modalities which can promote collaborative learning currently recognized as an efficient approach by the conceptual framework.

Methodology

The preparation and use of tools are largely inspired from the International Institute for Educational Planning modules (UNESCO, 2005). The selection of the targets takes into account the institutional hierarchies of the education sector, namely, the Regional Department of National Education (DREN), the Regional Centers of the National Institute of Educational Training (CRINFP), the School Districts (CISCO), the Administrative and Educational Areas (ZAP). The second group of "targets" is composed of those people who are directly involved in the primary schools, namely, headmasters, facilitators, teachers and parents. As part of the sampling, eight axes were selected using the following criteria:

- Existence of a teachers' network
- Presence of different target populations
- Geographic representativity: urban area, suburban area, rural area

Since the networks were set up in parallel with the reform of primary education, the representativeness of the CISCO where the reform was implemented was taken into account.

Altogether, the institutions that were selected for the fieldwork are 6 DRENs, 24 CISCOs, 50 ZAPs, 10 CRINFPs and 107 schools. These areas are presented on the map in Figure 1. There were 418 interviewees: 6 DREN personnel, 21 CISCO personnel, 38 ZAP chiefs, 10 trainers in CRINFP, 68 headmasters, 32 facilitators, 173 teachers and 70 parents.

Questionnaires were designed for these target groups. The questions mainly focused on the organization and the functioning of the teachers' networks and of the pedagogical

Figure 1 : Areas of study

days according to each entity on the one hand, and their respective opinion on the in-service teacher training device on the other:

- The DREN staff was asked to indicate what support was provided to the teachers' network;
- Quantitative data on the number of teachers as well as information on their status were requested from the CISCOs;
- The Questionnaires handed to the ZAP chiefs made it possible to determine the number and status (public / private) of primary schools within the ZAP, the number and the characteristics of existing teachers' networks (location, components);
- In addition to questions about the organization and the functioning of the teachers' networks, the CRINFP trainers were also asked to give their assessment of the facilitator's function, the teachers' network and the pedagogical days;
- The questionnaires to the headmasters sought to determine the number, diploma, status and seniority of teachers, the existing classrooms and the number of students in the target schools. They were also asked to talk about the organization and the functioning of the teachers' networks, provide their assessment of these networks and of the facilitator's function, and clarify the relationship between the training in the teachers' networks and the pedagogical days;
- The facilitators were asked to provide information concerning teachers' age, gender, seniority, qualification, status (FRAM teachers, civil servants or teachers in private school), to talk about the organization and the way network is operating. They were also asked to give their assessment of their role as facilitators, the effectiveness of the teachers' networks, the relationship between the pedagogical days and those networks;
- The teachers' surveys are based on variables such as age, gender, seniority, qualification, status. The teachers were also asked to give examples of the contents they had already proposed or would like to suggest for later training sessions within the teachers' networks, to provide their assessments of the teachers' networks and the pedagogical days, give their comments and make suggestions;
- As for the parents, questionnaires were used in order to know the number of children attending primary school, the costs and obligations toward the school, the salary of FRAM teachers, the monitoring of children's studies.

These questionnaires were supplemented by interviews and then closed questions were processed with SPSS and open questions with EXCEL. Analysis of data was performed in two steps: first of all the data were processed by the eight targets. Then a synthesis came out of a confrontation and a cross corroboration of the data collected.

Findings

According to the surveys conducted at the CISCOs, more than three quarters of

the teachers in the regions have the BEPC (diploma at the end of junior secondary) and 22% have a "Baccalauréat diploma" (diploma at the end of Lycée). Less than half of these teachers (49%) have a teaching certificate certifying their ability to teach in primary schools. Most of them are civil servants (86%).

Half of the teachers in the target schools are not civil servants. They are recruited by parents' associations. In general the less qualified teachers work in rural areas, and they usually have not received any pre-service training. Moreover, their large number makes the implementation of such trainings difficult.

The strategy and the implementation of two in-service teacher training modalities ("JP" and "networks") during the current political crisis are presented below.

In-Service Training before 2007: The Pedagogical Days

The primary school teachers took part in an in-service training programme called "pedagogical days" long before the existence of the teachers' networks.

Teachers in the same commune are under obligation to participate in the pedagogical days which last from three to five days. However, over the past two years, the frequency of the JPs has slightly decreased. The trainers involved in the pedagogical days are the ZAP chiefs and the CISCO trainers' team or the CRINFP trainers.

According to the survey results, about threequarters of the training contents during the pedagogical days are set by the trainers' team of the CISCOs, based on the teachers' needs and on proposals made by the chiefs of ZAP. But in some areas, the proposals of the teachers, the headmasters and the ZAP chiefs are submitted to the CISCO trainers' team and then discussed again at DREN level before they are validated and implemented throughout the region (case of the Vakinankaratra DREN).

The Teachers' Network

As was mentioned earlier, the Ministry of Education has put in place a new in-service training device called *teachers' network* since 2007. This part presents the information given by the different actors about the organization and the functioning of the teachers' networks.

a. Organization and operation of the teachers' networks

During the investigations, we drew up a flowchart showing the internal structure of the teachers' networks, as perceived by the different actors. In each scheme, the facilitators, the teachers and sometimes the ZAP chiefs are mentioned because they are mainly involved in the system; the presence of other actors varies from one scheme to another. The network is first and foremost, a training device for peer coaching. The role of the different members of the training bodies (CRINFPs) or of the superiors has been

redefined in this new framework, according to the result of our investigations.

➢ *The CRINFP trainers*

In principle, the trainers in the Regional Centres of the National Institute of Educational Training (CRINFP) to which the teachers' networks belong should be the promoters of the training. Since they are responsible for the evaluation of FRAM teachers along with the ZAP chiefs, they are the ones who should deliver the brochures to introduce the networks to the CISCOs and analyze the portfolios: the assessment tools for teachers' autoevaluation.

It has emerged from the interviews and the discussions with the stakeholders on the field that the role of the CRINFP trainers does not seem to be fully understood. Their roles remain a sort of isolated interventions. The trainers have therefore, completed only a small part of their mission compared with the general objective, such as the language training (Antsirabe). This may be due to the remoteness of the teachers' networks from CRINFP, to budget limitations and to the relatively small number of trainers making it impossible or extremely difficult to cover all the teachers' networks in their Region. But this could also be explained by the fact that CRINFPs are dependent on the political choices of the Ministry of Education, and the tergiversations that are blamed on the current political crisis.

➢ *The chief of ZAP*

The chief of ZAP runs the teachers' networks. He validates the choices of the facilitators who are selected by the network members. He participates in drawing up the schedule of the different activities and helps the facilitators with the implementation of the trainings. He reports to the CRINFP and to the service in charge of pedagogy at CISCO level. He supervises the networks' activities and participates, if needed, in the facilitation of meetings and in the formative evaluation of the teachers.

➢ *Members of the teachers' network*

Teachers are the principal target actors in the setting up of the teachers' networks; they are the most important members of the network. Their presence is strongly recommended, even mandatory, and they are under obligation to take part in all of the activities of the network. These teachers, especially FRAM teachers, are encouraged to submit their training needs, which will be taken into account when planning training activities on the teachers' network.

Each headteacher in the teachers' network sensitizes and invites teachers to attend the training sessions organized in the network. He participates in the working sessions of the network, in the formative evaluation of the FRAM teachers and may propose appropriate remediation measures.

➢ *A new role: the facilitators*

According to the MENRS (2008a), the network aims to help the learner on the one hand, and the group on the other. The learner works to build up their knowledge; the group is a source of information, an agent of motivation, a means of self-help and mutual support and provides an excellent space for interaction and the collective construction of

knowledge. The facilitator plays the role of a moderator.

The facilitators are members of the teachers' network. In each network, the members propose two facilitators, if possible, a civil servant and another who is not a civil servant. As members are generally familiar with each other, the proposed facilitators are those they consider to be the most competent, the most experienced and the most dynamic. Sometimes the facilitators are the headmasters but in some CISCOs, this practice is very unpopular. The majority of local trainers (80% of CRINFP trainers and 76% of headmasters) find the modalities of the facilitators' appointment relevant.

As kingpins to the operation of the network, the facilitators ensure the smooth running of the training sessions by organizing and facilitating the meetings. They are also responsible for the dissemination of information from the higher instances to the network members and for the preparation of reports. The substitute facilitator usually is charged with the secretarial function of the session in addition to his participation in discussion facilitation.

Despite their heavy workload, the organizational problems related to the management of the network members, pedagogical, academic and language difficulties, the lack of material resources and other personal concerns, many of the facilitators (72%) claim they are enjoying their position. For them, the reinforcement of their skills and abilities, the opportunity to share their experiences with their younger colleagues, the pride of being facilitators chosen by their colleagues are significant assets that largely mitigate any inconveniences.

b. The contents of the training networks

At the beginning of the implementation of the teachers' network, a training module designed by INFP was sent to each network. This training was then, still related to the career path of the FRAM teachers. The topics were intended to make up for what was missing in the education of those who had not had any pre-service training, such as writing, lesson plans, drawing up annual and weekly plannings, spelling out the rights and duties of the teacher, developing group work and teamwork skills, and carrying out criterionreferenced assessments and remediation.

It was agreed that teachers could submit their requirements to the facilitators and that these would be included in the agenda of subsequent training sessions. Other topics on didactics such as strengthening the reading skills in French, the development of lessons plan in Mathematics, Malagasy, French, and History were also addressed in response to the teachers' needs. In fact, the majority of the target teachers (87.7%) said the proposed training contents they submitted for the teachers' networks largely concerned the French language, calculations and problems, both from the academic and the didactic points of view.

c. The teacher's assessment of the network

We collected the degree of satisfaction of the different actors on the network as an organ of local training, as an academic and pedagogical skills upgrading vector for teachers. Actors who completed the questionnaires had a choice between four levels: very satisfied, satisfied, rather satisfied, not satisfied. We then grouped in the "satisfied", all those who answered "very satisfied", and "satisfied".

- *The teachers' network as an organ of neighborhood training*

About half of the local actors expressed satisfaction with the closer proximity of training in the teachers' network. However, trainers in the CRINFPs did not (only 20% were satisfied). Indeed, the average distance between the target schools and the CRINFPs is 52kms but this is highly variable and can reach 160kms; thus, without appropriate means of transport, trainers' access to schools where networks are located is difficult.

Based on these survey results, half of the local actors are not convinced of the benefits from the so-called local training networks. This could be explained by the fact that schools are far from each other and teachers located in remote areas still have to travel long distances. Of course, the distance to the schools that are part of the network is reduced compared to the distance covered to participate in training in the capital of their district or their commune during the JPs, but more importantly, there is often no means of transport and travel expenses must be borne by the teachers. To preserve some kind of equity, some networks have chosen to adopt a rota-based system for the meeting venue so that teachers do not have to travel when the training takes place in their area.

The teachers in remote areas are aware that it will be harder for the trainers' team from the CISCOs, the CRINFPs and chief ZAPs to coach them in their schools.

- *The network for the strengthening of teacher's academic knowledge and professional skills*

Teachers are the most satisfied by the contribution of the network in terms of academic knowledge and professional skills (85%). The chiefs of ZAP (about half of them) and the headmasters are also satisfied but to a lesser degree.

Comparing the levels of satisfaction with the contribution of the networks to the strengthening of academic knowledge and the reinforcement of professional skills, it also appears that only teachers seem to be satisfied. Other entities are more satisfied with the gains in professional skills than in academic knowledge. Half of the teachers are not satisfied with the contribution of such training in the mastery of school administration and legislation.

Nevertheless, the survey results show that the interventions of the facilitators and of their peers are the most appreciated by the teachers. They feel more comfortable in the training within the network than in any other type of training. About 50% of the actors believe that the teachers' networks contain real potentials for the improvement of school performance, although their impact is still quite difficult to assess.

Approximately two thirds of the target teachers claim they have received training in

the use of materials and teaching aids, and three quarters in the use of textbooks. However, only about half of those who said they received training stated they were satisfied. That is maybe because classroom implementation could not take place during the training due to lack of financial resources.

- *The involvement of the civil servants*

The civil servant teachers, who are strongly solicited by the headmasters and the facilitators, are not always motivated to participate in training sessions. They feel they must contribute a lot during the exchange of experiences without getting anything in return in terms of teacher development.

Discussion

On the basis of the surveys with the heads of the various entities involved, we will discuss the implementation of the scheme, both from the conceptual framework developed by the Ministry of Education and compared to experiments reported in the literature, always taking into account the prevailing context in Madagascar.

As was mentioned at the beginning of this study, despite its political willingness to achieve the EFA goals, the Ministry can only provide the means that it has at its disposal, namely, the implementation of an adapted in-service training scheme which is thought to be effective instead of the pre-service training for the teachers of the five year primary school.

The conceptual framework of the FRAM teachers training (MENRS, 2008a) recommends four learning modalities for the implementation of the scheme. Each of them corresponds to different ways of organizing and involving different actors in the education system, as presented in Figure 2.

These are i) self-training for those teachers who feel they possess the skills required

Training /learning modalities		**Organisation modalities**	
CRINFP	**Face to face training**	Grouping the teachers from neighboring districts in face to face training	During holidays
ZAP	**Inter-network training**	Grouping of the teachers from one ZAP during pedagogical days (JP)	Four days every quarter, and later every two months
	Collaborative learning in teachers' network	Teachers' network	Negotiated date
ON FIELDS	**Self training**	Valorization of prior experiences Self reliant work	

Figure 2: Training/Learning modalities and organization modalities
(Source: MENRS, 2008a)

to exploit the resources available to them or selected by themselves, ii) collaborative learning within local networks, iii) local training during meetings at ZAP level (pedagogical days) when the network does not have the necessary resources and iv) face to face training organized by the CRINFPs in neighboring districts during the holidays to check on some modules, assess or analyze practices. At each level of organization, needs, resources and constraints analyses are carried out, that will eventually lead to the drafting of requests which will then be addressed to the appropriate structure.

Among the different training types mentioned above, we shall look more specifically at the two ways specified in the scheme, namely the "JPs" (pedagogical days), the old form of training, and the "teachers' networks", the new one.

Pedagogical Days and Professional Skills Development

The pedagogical days gathered hundreds of teachers. These were training sessions involving two types of actors: a team of qualified trainers and teachers. Although the latter belong to relatively close educational administrative areas, they do not know one another or they just have superficial relationships. Their status and their levels are very heterogeneous: although trainers sometimes divide them into working groups, discussions are still very limited because asking questions is sometimes considered as an admission of incompetence by some teachers. Such a situation may be associated with a coaching situation and the appropriation of knowledge and /or expertise is not always guaranteed.

The training content is based on requests expressed by the teachers. The team responds to those needs and they are well prepared pedagogically but their efficiency is reduced as a result of the context. In addition, the JP operation is often problematic as no financial support is provided (there is no per diem, it is part of the teachers' normal obligations) while on average, the training site is relatively remote and the teachers are forced to incur costs, severely curtailing their already meager salaries.

JPs are also opportunities for policymakers to relay instructions from the administrative authorities. In short, we cannot talk of "collaboration" as part of the JPs since, apart from the presence of common goals that are defined by staff from the ZAPs, CISCOs and DRENs, there is no mention of voluntary work or of the symmetry notion. Furthermore, as a group composition depends on the issues in each session of pedagogical days, participants do not experience mutual trust or share a sense of belonging to a group.

Everything that has been mentioned above explains the frustration or lack of satisfaction expressed by more than half of the teachers about the JPs although it was expected.

The Contributions of the Teachers' Networks as a Collaborative Learning Device

It seems, according to the pilot CISCO surveys, that the implementation of the curriculum was not easy for about half of the teachers, especially due to lack of supporting

documents. Moreover, the new approach had not been properly assimilated yet, mainly in terms of knowledge acquisition.

Networks are designed to provide teachers with a structure allowing them to exchange experience, produce documents, in co- and self-evaluation in order to improve everyone's practices (MENRS, 2008b). Networks are also designed to foster collaborative learning which, according to Dillenbourg (1999), describes a situation in which the triggering of the mechanism of learning as a result of specific interactions between people is hoped. Indeed, the network consists mainly of teachers who are either ordinary members or facilitators. There is therefore relative symmetry between the network members. They have common goals such as improving their professional skills, and there is a horizontal division of tasks between the members and the facilitators of the network. The heterogeneity of the group (civil servant or not) can lead to socio-cognitive conflict which promotes the search for truth in disciplinary concepts (Vygotsky, 1985).

Dillenbourg (1999) identifies three criteria to qualify collaborative interaction: interactivity, synchronization and negotiability. Due to the relative symmetry in the network, decisions resulting from negotiations and interactivity are facilitated. As the networks operate within the framework of physical meetings, synchronization of activities and resource sharing are encouraged.

Collaborative learning takes place through peer coaching. According to the results of the surveys, teachers said they appreciated the interventions of the facilitators and of their peers more than those of other trainers because their status are similar; more discussions and exchanges take place as it is not the ideas of a superior, but of a peer who convinces through reasoning and justification. Moreover, according to Thorn, McLeod and Goldsmith (2007), peer coaching is based on mutual trust and moreover, it is a factor of personal development.

Regarding knowledge and skills, the FRAM teachers seem to be satisfied with the network contributions, while the other actors are not. This is because FRAM teachers came without any previous training and found everything useful. From this perspective, networks are indeed an appropriate training tool. But what will happen if they feel they have acquired the necessary knowledge and skills? Indeed, it is important to note that civil servant teachers, after attending a few meetings of the network, are discouraged because they feel exploited because they do not get anything in return. The seeming symmetry reported above therefore presents, in fact, a weak point: the presence of both neophytes and experienced teachers (who are not facilitators) in a network creates a situation that is not conducive to collaboration and is worth reconsidering. Such resistance has been reported by Karsenti (2005) who advocates the necessity of a culture of collaboration and training implementation because it is not innate and professional development has no limit.

Conclusion and Prospects

According to our findings, it can be said that the teachers' network is an important element of the in-service training of primary school teachers. It provides a situation which uses peer collaboration to improve skills, including teachers' professional skills. The JPs and the network of teachers are complementary insofar as the JPs make qualified trainers available while the network allows peer coaching and facilitates the integration of knowledge and expertise which are only moderately acquired during the JPs, due to time constraints. In addition, it makes it possible to look into the professional problem of every teacher. This was confirmed by around 80% of the teachers interviewed.

Activities are complementary; contents which had not been included into the pedagogical days schedule are re-discussed in the networks or vice-versa. Indeed, if the JPs provide opportunities for teachers to explore the pedagogical innovations with the help of the more competent trainers, whereas the networks offer them the opportunity to conduct more extensive exchanges and discuss more freely and more openly.

The teachers' networks therefore, should be revived (they were suspended in 2010) subject to some improvements, namely, the provision of material and financial resources, motivation of teachers, revision of its organization and functioning according to the field realities. Namely, the role of the CRINFPs must be clarified and they should be given the means to allow them to fulfill their role as designers, trainers in JPs and as evaluators in teachers' networks. The facilitators' work seemed to be relatively well performed and well appreciated by all stakeholders.

These elements include the boosting of teachers' motivation according to their development needs. The articulation of the training system to a career path should be reconsidered in order to promote trained teachers.

The enormous need for teachers in our country has resulted in the recruitment of FRAM teachers whose levels of academic knowledge are relatively low. The networks alone cannot fill all the gaps in their knowledge, while this conditions their ability to provide quality education. The recruitment level of FRAM teachers to the Baccalaureat should therefore be adopted.

Moreover, it is necessary to reflect carefully and thoroughly on the choice of the contents of the training to be covered in the networks. Studies (Beaumont, Couture, Fortin & Bourdon, 2007) show that pedagogical practices are the most discussed items in the context of collaboration. According to Supovitz and Turner (2000) teachers' professional development is the best way to change the practice of teaching. However, the prospect of professional development should be inspired by the six following criteria according to Villegas-Reimer (2003):

- Based on constructivism
- Perceived as a long-term process
- Perceived as a process that takes place within a particular context;
- Intimately linked to school reform

- Conceived as a collaborative process
- Very different in diverse settings.

Experiments in "lesson study" in Japan and Indonesia are a potential element of effective professional development of teachers in schools (Ono & Ferreira, 2010).
Will it be used in Madagascar to strengthen the network of teachers, after adaptation to the context and realities on the field?

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School-based continuous Teacher Professional Development in Addis Ababa: An Investigation of Practices, Opportunities and Challenges

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Abstract

The purpose of this study was to examine opportunities and challenges in practicing Continuous professional Development (CPD) in selected schools in Addis Ababa City Administration. Questionnaire pilot tested in two primary schools was administered to 300 randomly selected primary school teachers in Addis Ababa. With regard to the variable "Teachers' self-reflection", male respondents tend to use self reflection techniques more than female respondents to improve their career development. The mean score for teachers teaching at the second cycle was found to be statistically higher than that of teachers working in the first cycle of primary education indicating that teachers in the second cycle tend to use peer discussion, self-assessment of one's own daily routines, and use of portfolio more often than their counterparts teaching in the first cycle. The mentoring process stood as number one contributing factor for teacher professional development followed by action research and school in-house workshops. Lack of knowledge and experience on the theoretical underpinnings, implementation inconsistencies, lack of budget to run the program at school level, lack of incentive procedures to recognize teachers who made utmost efforts to change themselves and their colleagues were major problems identified from the qualitative data. Despite these problems, the new CPD has entailed a number of opportunities and useful experiences in terms of empowering school teachers and ameliorating school-based problems related to the teaching learning process. Future implications of the research were also suggested.

Introduction

For education to play the role of enhancing the capacity of citizens and informing important choices to their welfare effectively, it has to meet minimum quality standards. Among other conditions, it is strongly argued that universal goals set for education in terms of access need to be accompanied with quality instruction. This in turn requires teachers to be qualified to do their job effectively. This is reflected in the Education and Training Policy (TGE, 1994) and Education Sector Development Programs focusing on expanding educational opportunities and increasing access to all levels of education.

Teachers in the present Ethiopia are expected to be reflective and change-oriented

to meet the government and public demand for quality education. They are expected to consider the dynamic nature of the learners and the society. This situation signifies the importance of continuous teacher professional development (CPD) aiming at improving the teaching learning process thereby improving quality of education. Teachers are expected to employ interactive methods of teaching to help students learn better. The literature on education quality indicates a strong link between teacher professional development and quality especially in the areas of teachers' beliefs and practices, students' learning and on the implementation of educational reforms (UNESCO, 2006).

CPD is said to have been coined in the mid-1970's (Griffin as cited in Gray, 2005). Its notion is rooted in the constructivist philosophy which claims that a person's constructions and views of the world are not stable, but are in continuous change. Accordingly, it is presumed that teachers have to engage themselves in planning and executing their professional development on continuous basis to cope with the continuous change. In this regard, Amare and Temechegn (2002) noted that teacher development is an essential element to bring meaningful changes in addressing equity, quality, relevance and efficiency.

According to Griffin as cited in Gray (2005), CPD embraces the idea that individuals aim for continuous improvement in their professional skills and knowledge, beyond the basic training initially required to carry out the job. In teaching, such development was used to be called 'in-service training', or INSET, with the emphasis on delivery rather than the outcome. Similarly, CPD is viewed as professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically (Reimers, 2003; Institute for Learning, 2009).

Various models were developed to explain professional development of teachers. Guskey (2002) has viewed CPD as a tri-dimensional aspect of the change process that includes teachers' classroom practices, change in teachers' attitudes and belief systems and change in the learning outcomes of students. The pedagogical versus subject area model emphasized the need for qualified teachers who have appropriate subject knowledge and pedagogical skills (Amare, A., Daniel, D., Derebssa, D. & Wanna, L., 2006). Ehman, Bonk and Yamagata (2005) developed the Teacher Institute for curriculum knowledge about Integration of technology (TICKIT) model. The model integrates technology with individual and group activities in the school settings. The infusion of technology into the curriculum created an environment in which TICKIT teachers would share their experiences with their colleagues, the university staff and graduate program students in universities. Kennedy (2005) discussed a spectrum of CPD models in a comparative manner. He identified nine CPD models namely the training, award-bearing, deficit, cascade, standards-based, coaching/mentoring, community of practice, action research, and transformative model.

The teacher professional development program in the Ethiopian context is a national intervention program run by the Ministry of Education (MOE) and supported by six European countries with the intent of enhancing the quality and effectiveness of teachers'

education through pre-service teacher training, in-service teacher training, Teacher System Overhaul (TESO), Leadership and Management Program (LAMP), and English Language Improvement Program (ELIP). The national program involved eleven Regional Educational Bureaus (REBs), Teacher Education Institutions (TEIs), and nine universities as implementers (MOE, 2007; MOE, 2008a).The purpose of this national project was to improve the knowledge, skills, qualifications and attitudes of primary and secondary school teachers by setting Objectively Verifiable Indicators (OVIs) and target outcomes for the aforementioned areas. The target outcome for the in-service CPD priority area was pedagogical knowledge and improving the capacity of teachers (MOE, 2007).

A document produced by Teacher Development Advisory Team (MOE, 2007) argued that Teachers' Competency Standards at different career levels provide a foundation on which all other teacher training related activities should be based. Re-licensing of teachers and climbing the next career ladder in the competency standard scales requires teachers to pass through CPD program courses.

An evaluation study by Haramaya University (MOE, 2009a), for example, indicated that the CPD structure was absent or inadequately organized in most of the schools. The study further reported inconsistencies in implementation, resource limitations, and communication gaps among stakeholders. Although interviewed teachers ascertained that the program has brought significant changes in their attitude towards the profession, lack of readiness to participate actively in the program was found to be an overarching problem.

An assessment made by Mekelle University (MOE, 2008b) also suggested that ELIP and CPD trainings resulted in outstanding changes compared to other forms of trainings received by teachers. Paradoxically speaking, not less that 50 % of the interviewed teachers, however, tend to show lenient behavior to demonstrate the "student-centered" approach in their classrooms.

Taking into account the major findings and implications of the impact studies conducted by the two universities and the recommendations entailed from need analysis (MOE, 2009b), the new CPD program underlined the importance of awareness-based understanding of all stakeholders on the essence of CPD, active involvement of teachers in planning and implementing the CPD program, relentless effort to bring change in students' learning through continuous improvement of one's teaching methodology.

According to the new CPD framework and toolkit documents (MOE, 2009b), the CPD is a developmental program that moves in a cyclical path anchored at four stages namely: Analyze→ Plan→ Do→ Evaluate. The aim of the new CPD is "to improve the performance of teachers in the classroom in order to raise student achievement and learning. It is a career-long process to improve knowledge, skills and attitudes centered on the local context particularly classroom practice" (MOE, 2009a, p.16).

Statement of the Problem

Ethiopia has made extraordinary achievement in expanding education at all levels of the system. However, it seems that this achievement in terms of students' enrollment did not meet quality standards. Quality of education has become a serious concern among all stakeholders. The national assessment results of 2000, 2004, and 2008 (MOE, 2008a) indicated that, in many schools, children were not mastering basic skills. Despite the concerted effort by the government, improving quality of education while at the same time keeping the expansion of the education program has become a challenge.

A review of the performance reports of Teacher Professional Development program I and II showed tangible results and shortcomings both at policymaking and implementation levels. Evidences documented from researches conducted by universities, reports compiled from field visits and impact studies by the Ministry of Education showed that the TDP program has brought promising changes in terms of the targets set for the projects life span. Achievements registered and problems encountered are linked to organizational arrangements and readiness to implement the program by all stakeholders. In response to these problems, the MOE has worked out a new toolkit for effective implementation of school based Continuous Professional Development (CPD) at school level.

Thus, the objective of this study was to examine the practices, opportunities, challenges and prospects of school-based teacher professional development as per the new CPD program in selected schools in Addis Ababa City Administration. The study focused on examining views and experiences of teachers, CPD committee members and pertinent education officers in relation to creating opportunities for teacher professional development at school level. Efforts were made to identify supportive provisions in place, procedures developed, results gained, challenges and shortcomings observed in connection to program implementation.

Research Questions

1. How do teachers and CPD committee members perceive the purpose and importance of school-based teacher professional development?
2. What relationships exist between the different demographic groups and teachers perception of the process aspects of CPD?
3. What practices and procedures are in place to implement teacher professional development at schools?
4. What provisions are in place to support teacher professional development efforts at school level?
5. What are the major challenges and shortcomings observed in implementing school-based teacher professional development program?
6. What are the major results obtained through school-based teacher professional

development in terms of influencing change and improvement in teachers' practices?

Methods

The design of the study was mixed approach where data from the quantitative and qualitative designs complemented each other. As part of the quantitative design the survey method was used to assess teachers' perception and understanding of the process aspects of the new CPD program. The quantitative data was complimented by qualitative data obtained from focus group discussions, interviews and analysis of documents.

Three steps were taken to develop the teacher self-report questionnaire. The first step was to review the literature on continuous teacher professional development. That was followed by review of policy documents issued by MOE on teacher professional development. Key areas relevant to the research purpose were identified from the literature review. These include general perception of teachers about the impact of CPD, the mentoring process, action research, teachers' self-reflection of their performance, and essential conditions for successful implementation of CPD. All items under these thematic areas were framed on Likert-type scale along a five-point continuum ranging from 'Strongly agree' to 'strongly disagree'. Moreover, items that require participants to rank order ten activities from 1(most important) to10 (least important) that contributed to their professional development were constructed. A pool of eighty items was constructed. These items were clustered under the thematic areas. Content analysis was made by the research team and items that did not fit into the themes were discarded or modified and re-constructed. After preliminary screening of the items, experts evaluated the relevance of the items to the research purpose along a five point scale ranging from 'Most favorable' to 'Least favorable'. Inter-rater agreement between the experts was found to be 87 percent.

A preliminary survey was undertaken in two purposefully selected primary schools in the study area. The purpose of the preliminary survey was two-fold. One was to determine the reliability of the measuring instruments and to verify whether or not these instruments suffice the purpose for which they were developed. The second purpose was to see the general pattern of data collection and to verify the suitability of analysis techniques suggested in the research proposal. The preliminary data and the analyses highlighted important information that helped to refine the instruments and the measurement of variables in the study.

In order to find out the internal consistency of the measuring instruments each item was correlated with the total score. Except for two items, namely "The mentoring process is according to the needs of the beginner teachers rather than the school management" (r=0.06) and "I do action research as a means for promotion in the career structure" (r=0.07), the rest of the items were moderately and highly correlated with the total score on the fifteen items (coefficients range from 0.224-0.779). However, in some cases it was found out that there were some ambiguous items which required some kind of amendment

to improve their quality. Cronbach alpha for the whole instrument and the four subscales namely General perception, Mentoring, Action research and Self reflection were found to be r=0.935, r=0.95, r=0.40, r=0.18, and r=0.81 respectively. Alpha value for the action research was found to be low. The research team decided to reframe the items in this subscale separately as "yes" "no" items.

The data collected through self-report questionnaire were analyzed using descriptive and inferential statistics such as percentages, t-tests and analysis of variance in order to draw relationships between demographic variables and CPD process variables. Data obtained from interviews, focus group discussions and document analysis were coded thematically. The two types of data were analyzed using concurrent triangulation method as suggested by Creswell (2009).

Results

A self-report questionnaire piloted in two primary schools was distributed to 300 teachers teaching in the first and second cycles of twelve primary schools located in Addis Ababa City Administration. Two hundred eighty-one questionnaires were returned which makes the return rate 94%. A total of 154(54.8%) of the respondents were males. The questionnaire had different components meant to assess teachers' perceptions and understanding of the overall benefits of CPD, the mentoring practices, teachers' self-reflection on the program, and the role of action research in promoting teachers' professional development.

An attempt was made to see the relationship between the different demographic variables such as gender, respondents qualification levels, their current career position, and the levels at which they were teaching at the time of the study and the process variables (i.e., Positive Conditions for CPD, Mentoring, Teachers' self-reflections, Essential conditions for the effectiveness of CPD).

Forty eight percent of the respondents were diploma holders whereas 21.7% had bachelor degree. Only 2.1% of the respondents were at a certificate level. Upgrading the qualification of primary school teachers teaching in the first and second cycles to diploma and degree levels has been set as target of school improvement program by the MOE. Prior to the introduction of School Improvement Program, teacher training institutes used to train primary school teachers at certificate level heavily focusing on the methodology aspect. These same teachers were at times expected to teach at junior level (grades 5-8) which of course was a challenge for many teachers in terms of mastery of subject knowledge.

The new career structure for primary school teachers is hierarchically structured ranging from "beginner teacher" to the highest "lead teacher". The minimum number of years a particular teacher is expected to stay at each level and the requirements to be fulfilled for the levels vary as teachers move from one career position to the other. Table 1 shows the distribution of respondents by their career position.

Table 1: Distribution of respondents by their position in the career structure (N=281)

Career ladder	N	%
Beginner teacher	20	7.1
Junior teacher	95	33.8
Teacher	76	27.0
Higher teacher	26	9.3
Associate teacher	7	2.5
lead teacher	56	19.9
No response	1	0.4
Total	281	100.0

The majority of the respondents in this sample were in the "Junior" and "Teacher" levels (33.8 % and 27% respectively). Although the criteria seem stringent as one progress upward, a significant number of the respondents (19.9%) have reached the rank of "lead teacher".

With respect to the level at which the respondents were teaching, 121(43.1%) were teaching at the first cycle where as 151(53.7%) teaching at the second cycle. Independent t-tests were computed to see if there are statistically significant differences between male and female respondents along the four dependent variables i. e., positive influences of CPD on the overall teaching-learning process, CPD and the mentoring process, teachers' self-reflection on their day-to-day teaching activities, and essential conditions needed for the implementation of CPD. Except for the variable "Teachers reflection" male and female respondents did not statistically differ in their perception on the rest of the process aspects of CPD.

Table 2: Gender difference in CPD variables (N=281)

Variables	Gender	N	Mean	S	t-values	P
Positive Conditions for CPD	Male	152	27.11	10.23	-0.60	0.55
	Female	123	27.89	11.42		
CPD Mentoring	Male	150	22.07	3.76	1.02	0.31
	Female	123	21.61	3.59		
CPD Teachers' self-reflections	Male	153	9.44	3.65	3.85	0.00
	Female	121	7.95	2.50		
Essential conditions for the effectiveness of CPD	Male	151	26.50	8.74	-0.17	0.86
	Female	119	26.70	9.68		

With regard to the variable "Teachers' self-reflection", male respondents tend to use self reflection more than female respondents to improve their career development ($t=3.85$, $p < 0.00$) using various strategies such as peer discussion, and assembling of good practices in the form of portfolios. Descriptive statistics and "t" values for mean comparisons of male and female respondents in relation to the four variables are shown in

Table 2.

Respondents were also compared in their qualification levels. Mean comparisons were employed to find out statistical significance between certificate, diploma, and degree holders. The "F" statistics revealed significant mean differences between teachers in the different qualification layers in relation to the variables "Positive conditions of CPD" and "Essential conditions for sustainable use of CPD for professional development" ($F= 4.77$, $p < 0.00$, and $F= 6.48$, $p < 0.00$ respectively). Results are shown in Table 3 below.

Table 3: Mean differences between the qualification levels in CPD variables (N=281)

Variables	Source of variations	Sum of Squares	df	Mean Square	F	Sig.
Positive Conditions for CPD	Between Groups	1487.78	3	495.93	4.77	0.00
	Within Groups	25661.79	247	103.89		
	Total	27149.57	250			
CPD Mentoring	Between Groups	23.71	3	7.90	0.59	0.62
	Within Groups	3293.08	245	13.44		
	Total	3316.80	248			
CPD Teachers' self-reflections	Between Groups	43.73	3	14.58	1.39	0.25
	Within Groups	2593.09	247	10.50		
	Total	2636.82	250			
Essential conditions for the effectiveness of CPD	Between Groups	1472.50	3	490.83	6.48	0.00
	Within groups	18328.43	242	75.74		
	Total	19800.93	245			

Respondents teaching in the first cycle and second cycle of primary education were compared in their responses to the four CPD dependent variables. Except for the variable "Teachers' self-reflection" respondents did not significantly differ in their perception of the remaining three variables. Descriptive statistics and "t" values for mean comparisons of responses for the two groups are shown in Table 4.

Table 4: Mean differences between teachers in the first and second cycles in CPD variables (N=281)

Variables	Cycle	N	Mean	S	t-values	p
Positive Conditions for CPD	First cycle	119	27.49	11.98	0.19	0.85
	Second cycle	150	27.24	9.66		
CPD Mentoring	First cycle	118	21.48	3.77	-1.69	0.09
	Second cycle	150	22.25	3.60		
CPD Teachers' self-reflections	First cycle	118	8.07	3.08	-3.24	0.00
	Second cycle	150	9.35	3.33		
Essential conditions for the effectiveness of CPD	First cycle	116	26.16	9.48	-0.55	0.58
	Second cycle	147	26.78	8.73		

The mean score for teachers teaching in the second cycle was found to be statistically higher than the mean score of teachers working in the first cycle of primary education ($t= 3.24$, $p < 0.00$) indicating that teachers in the second cycle tend to use peer discussion, self-assessment of one's own daily routines, and use of portfolio to assemble best practices more often than their counterparts teaching in the first cycle.

Further analyses were made to find out if there existed significant differences with regard to teachers work experience as measured by number of years they stayed in the profession. Comparisons were also made between teachers found at different positions of the career structures. In both cases statistically no significant differences were revealed in relation to the four CPD variables.

Action research is considered as an important component of teacher professional development. Teachers in the Ethiopian context are expected and encouraged to conduct action research to mitigate problems they encounter in their day-to-day activities. Apart from developing their career, action research is supposed to be taken as an important milestone to move upward in the career ladder. Five "Yes", "No" type items were developed and teachers were asked to what extent action research contributed to their professional development. Percentage distributions for the "Yes" and "No" items are shown in Table 5.

Table 5: Teachers' perception on action research practices (N=281)

Item	Yes		No	
	N	%	N	%
I do action research to improve my profession	188	66.9	74	26.3
Action research is one of the criterion for professional development	188	66.9	77	27.4
I have no time to do action research	101	35.9	164	58.4
Teachers do action research with imposition	65	23.1	199	70.8
I do not get sufficient professional support for doing action research	156	55.5	107	38.1
I do not get sufficient resources for doing action research	140	49.8	123	43.8
I have knowledge for doing action research	191	68.0	73	26.0

As shown in table 5, most of the respondents perceived action research as a means to develop in their profession. For example, for the items that read "I do action research to improve my profession" and "Action research is one of the criteria for professional development" 66.9% said "Yes" and about 26 % said "No" in both cases. Despite shortage of time to conduct action research, teachers are of the opinion that action research can still be conducted. It appears from the data in Table 6 that the school management is also supportive in terms of availing resources and professional backings for those who have the will to conduct action research.

The last part of the questionnaire asked respondents to rank order factors that contributed more to their professional development. Respondents were asked to indicate the extent to which school based programs and activities contributed to their professional

development along a five-point scale ranging from "Very low" to "Very high". In order to ease the analysis and find out the most contributing factors, percentages in the "High" and "Very high" categories were merged together and composite percentages computed. Based on the composite percentages for the high and very high categories, the contributing factors were ranked. Percentage distributions for each contributing factors are shown in descending order in Table 6.

Table 6: Factors that contributed most to the CPD process

Items	High		Very high		Composite		Rank
	N	%	N	%	N	%	
Mentoring	49	17.4	33	11.7	82	29.1	1
Action research	59	21	22	7.8	81	28.8	2
School in-house workshop	50	17.8	28	10	78	27.8	3
Advice from colleagues	42	14.9	34	12.1	76	27	4
Directives from the school leadership	45	16	29	10.3	74	26.3	5
Visits to other schools	44	15.7	27	9.6	71	25.3	6
Learning from students	38	13.5	30	10.7	68	24.2	7
Study groups	41	14.6	22	7.8	63	22.4	8
Observation of colleagues work	31	11.0	30	10.7	61	21.7	9
Learning from individual readings	20	7.1	33	11.7	53	18.8	10

As shown in Table 7, the "Mentoring process" stood number one contributing factor for teachers' professional development (29.1%) followed by "Action research" (28.8%) and "School in-house workshop" (27.8%). "Advice from colleagues" (27%) and "Directives from the school leadership" (26.3%) were also preferred areas of activities for teachers. These results have important implications for designing professional development training programs at school and city administration levels.

Qualitative data from interviews and focus-group discussions were analyzed to identify participants' perceptions and understandings of school-based teacher professional development and its practice in enhancing quality education. Categories were derived from interviews and discussions. Issues of importance that emerged from the open ended items, interviews conducted with vice principals and education officers and focus group discussions with CPD committee members were triangulated for the purpose of comparison.

Teachers' responses to open-ended questions in the self-report questionnaire revealed a number of problems that affected the implementation of the CPD program at school level. One of the major problems reported was the issue of knowledge and understanding on the essence of CPD program. This point was explained with reference to teachers, CPD coordinators, school principals and trainers each of which are involved in the program in different ways and at various levels.

Lack of adequate knowledge and experience on CPD was one of the problems

as reported by teachers. Teachers and principals who participated at entry phase of the program were not able to help them develop clear understanding on the program; hence, teachers viewed the contribution of the trainers as limited. Another dimension of the issue relates to knowledge of the coordinators of the program at school level. Review of teachers' views indicated that officers involved in the coordination of the program do not have clear understanding about CPD and its implementation strategies. It appears that this situation has resulted in low level of understanding on the part of the teachers who are the major targets in the CPD program.

The gap in the knowledge and understanding of teachers and coordinators on CPD, as noted by teachers, was attributed to problems associated with the duration of the training period, lack of experience of trainers, inadequate discussion and understanding at the inception stage. Review of experiences of some selected primary schools confirmed this assertion. Before the launching of the new CPD in February 2011, sub-cities education offices organized five days training for school leadership (principals and deputy principals) followed by two days in-house training for all teachers in the respective schools headed by the vice principals. Subsequently, each teacher was provided with the guide material prepared on the new approach to CPD.

This shaky start of the program without adequate training and preparation was also concern of focus group discussion participants in three purposefully selected primary schools. They disclosed that the training was given only for two days for some teachers. In addition, lack of budget to organize school-level training on continuous basis was a problem indicated by discussants. Based on this evidence, one can reasonably argue that the quality of the initial training program had notable drawbacks. Hence, it would be at least difficult to assume that it has met the objective of enabling teachers to understand and implement the CPD program at school level.

Another area of problem strongly linked to the inception stage of the program was induction of the new CPD toolkit which has been introduced in the year 2011. The MOE developed and disseminated a national framework document which was supposed to serve as a guide for primary and secondary schools to run school based CPD. The toolkit envisages detailed activities to be worked out by individual teachers, departments and at school levels and the expected outcomes from the CPD program. However, teachers' response to open ended questions in the self-report questionnaire characterized the CPD toolkit as lengthy and unattractive. The new CPD toolkit, however, has a number of worth mentioning properties compared to the old one. Accordingly, the old CPD was monotonous, ambiguous, full of inconsistencies and something that does not address school-based problems and detached from context. The new CPD follows a different approach. It aims at up-dating and upgrading teachers in terms of knowledge and adjustment in career structure. Here, schools are expected to identify three priority problems out of which each teacher selects and implements one based on his/her interest and area of study. In other words, a plan for teacher professional development is developed and implemented by each school with active participation of teachers in groups

at department level and at individual teacher level.

Participants were asked to explain the unique features of the new CPD program and what opportunities exist to encourage teachers to participate actively in the program. The distinguishing feature of the new CPD program according to the discussants is the bottom-up approach. Teachers plan, teachers implement, teachers evaluate. In the new approach teachers are the sole owners of the program.

In line with the new CPD guideline, schools are expected to identify problem areas that have immediate significance to their context. Each school at an individual, department and institutional level is expected to develop a module plan along the identified priority areas, work out detailed procedures on how to execute these priority areas, devise monitoring and evaluation strategies. National policies and strategies are considered in selecting priority areas of interventions at schools.

Document analysis carried out in one of the Primary schools, for example, suggests the procedures adopted. Before identifying the three top priority areas, teachers, students and parents held a meeting and discussed over a wide array of problems. They identified twenty problems in their school. Further analysis of the problems enabled sorting out of three top-problems that need immediate intervention and resource mobilization in that particular school context. The three priority agenda of the school were: enhancing parental involvement in children's education, improving students' mathematics performance and increase teachers' awareness on the importance of continuous assessment. It was around these three problems that each subject teacher, departments, and principal worked their respective CPD module plans. In order to accomplish the anticipated module plans, procedures and specific actions were devised at all levels. The sixty–hour CPD time was further apportioned into different activities in line with the three basic priority problems.

Formats and working procedures were also in place to follow up the implementation of the activities. Minutes, checklists, parental communication letters, records of students who do not work assignments were some of the tools used by teachers and the vice principal to monitor day-to-day results of the CPD program. An important component of the CPD cycle is the evaluation stage. To what extent the problems identified by the school community have been mitigated as a result of these implementation strategies and to what extent their solution contributed to students' learning was not substantiated by this research.

Despite these opportunities that can be reaped from the practice of the new CPD, program implementation seems to be entangled by a number of human and organizational problems. Interview with deputy principals disclosed that quite in many cases, teachers show low interest to participate in discussions on CPD. A quote from focus group discussions with CPD committee members substantiated the views of deputy principals.

> *Commitment of each teacher is a key to program sustainability. Teachers should be convinced to be committed to their profession. As it is mandatory to participate in the program, we believe that it will sustain. There are many*

> *teachers who are being convinced about its importance and usefulness. Step-by-step, it will become part of the day-to-day activities of teachers. It will sustain.*

Absence of certification and lack of clear scheme to motivate teachers to engage in CPD activities, as noted by teachers, has contributed to the fall in teachers' motivation. As solution to this problem, participants underlined the importance of establishing a procedure to recognize and reward the efforts of hard working teachers. Participants of the focus group discussions noted:

> *The promises made by the ministry of education in relation to certifying teachers through the CPD program have not been implemented. This situation has led to confusion and lack of direction on the part of teachers. This situation would likely entail negative impact on continuity and sustainability of the CPD activities by teachers.*

Qualitative data captured through open ended questions, focus group discussions, interviews and analyses of documents such as portfolios, checklists and minutes were clustered around three thematic areas, namely opportunities, challenges, and useful experiences.

Opportunities

- The new CPD followed bottom-top approach. It is planned, executed, analyzed and evaluated at school level. Hence, it opened opportunity to contextualize the program;
- Career development as a motive for executing CPD at school level;
- CPD is considered as an opportunity for self-enhancement, improvisation of quality of education;
- CPD empowered teachers.

Challenges

- Lack of knowledge and experience on the theoretical underpinnings, implementation inconsistencies, lack of uniformity in implementation, confusion and redundancy;
- Lack of budget to run the program at school level;
- Lack of interest, initiative and commitment by some teachers especially by teachers with long years of teaching experience;
- Becoming too ambitious and looking for immediate return from the CPD program;

- The incomparable nature of the sixty-hour time demand and regular work load of teachers;
- The detailed nature of the toolkit being not handy;
- Lack of incentive procedures to recognize teachers who make utmost effort to change themselves and their colleagues;
- CPD module plans are coined and implemented in relation to peripheral issues that were indirectly related to students learning.

Useful experiences

- Opened widow of hope in practicing student-centered approach, improvement in students learning, reduction of school-based disciplinary problems;
- Facilitated easy flow of information and feed-back among teachers in a department, cluster schools, and the management at large. The territory that bounded them has become porous;
- Facilitated documentation of better experiences and success stories in portfolios and anecdotal records.

Discussions

This research has examined the practices, opportunities, challenges and prospects of school-based teacher professional development in selected primary schools in Addis Ababa City Administration. It examined the relationship between teachers' demographic factors (sex, qualification, grade level at which teachers teach, teaching experience) and selected CPD process variables (self reflection, mentoring). The study also examined teachers' views on essential conditions for effective implementation of school-based CPD and major barriers to the implementation of the program.

With the exception of few cases, teachers held favorable views on the need for a school-based continuous teacher professional development program. Teachers viewed school-based continuous professional development as a means by which the school community collaborates to improve quality of teaching and learning. Results suggested that the program has set a direction and regulatory mechanism to ensure teachers' engagement in on-job learning task on a continual basis. It opened an opportunity to address problems and challenges that can affect the quality of education.

Teachers' involved in the study reflected a positive attitude towards school-based continuous teacher professional development. The new CPD, as reported by most teachers, facilitated easy flow of information and feedback among teachers, cluster schools, and the management. Teachers believed that CPD facilitates documentation of better practices and success stories in the form of portfolios and anecdotal records.

The extent to which teachers engage in monitoring and evaluating their own work beyond compiling portfolios was examined. Results suggested that male teachers tend

to evaluate their performance more than female teachers using various strategies such as peer discussions and assembling of good practices. This difference could be explained in relation to the contextual factor. Female teachers carry equal load with their male counterparts. They are expected to engage in CPD programs on equal basis. Nonetheless, they shoulder more social and family responsibilities. They have more stress due to time constraints which could limit the extent of their engagement in self reflection and peer discussion practices.

Compared to teachers teaching at first cycle, those teaching at the second cycle showed better and higher involvement in peer discussions and self-reflection activities. This difference could be attributed to differences in qualifications where relatively better qualified teachers are assigned to teach in the second cycle of primary education. Teachers teaching at the second cycle, held more favorable views on essential conditions for CPD. The fact that the second cycle deals with more advanced concepts could compel teachers to seek answers to many questions and challenges through the CPD program. This explanation, however, does not imply that teaching in the first cycle is easier.

Teachers identified action research as most contributing factor for their professional development. This finding is supported by Burbank & Kauchack (as cited in Kennedy, 2005) indicating that action research is a means for teachers' success. Despite the time constraint and lack of experience to implement CPD, most teachers hold favorable views toward engaging in action research. Teachers also reflected positive views on mentoring, school in-house workshop, and advice from colleagues and directives from the school leadership as supportive elements in implementing CPD program in their respective schools.

Mentoring often implies counseling and supportive relationship where one partner is novice and the other more experienced (Rhodes & Beneicke; Clutterbuck; cited in Kennedy, 2005). In the Ethiopian context, mentoring is practiced particularly during induction period of new teachers in the first two years of their employment. It was assessed by teachers as an important contributing factor for teacher professional development. However, variations were observed among teachers on the extent of its importance. Teachers with long years of teaching experience particularly those who achieved the highest career structure seem to lose their interest in the activities of the new CPD. It appeared to them that the new CPD would entail no significant benefit. The research team was able to realize that some of the experienced teachers were reluctant to coach the newly recruited teachers who were in their induction period.

In not few cases, teachers held negative position about the program. Results showed that the school-based CPD was too ambitious in terms of what was expected of teachers. Quite many teachers reported experience of stress and overload problem in connection to the sixty hour CPD activities in the academic year.

Knowledge and understanding on the objectives, contents and methods of CPD was found to be among the determinant factors affecting quality of implementation of the program. Results showed gap of knowledge and understanding about CPD among trainers

and trainees. This situation has resulted in low level of understanding of the contents and methods of CPD on the part of the teachers who are the major targets in the program.

The limitations observed in connection to knowledge and understanding could be explained in reference to particular drawbacks related to the initial training. First, the training material (CPD toolkit) was lengthy and not reader friendly. This, in turn, affected teachers' motivation and resulted in frustration. Second, as reported by the teachers, duration of the training was very short. Third, knowledge and experience of trainers at central level was questioned. Fourth, further professional support at school level was missing. Fifth, those who were trained as trainers faced budget limitations to organize training in their respective schools. In brief, sufficient opportunities were not created for teachers to develop knowledge and understanding on the objectives, contents and methods of the new CPD program. Hence, it would be difficult to assume that the training met the objective of enabling teachers to understand and implement the CPD program.

Teachers' attitude emerged as another important factor in influencing the practice of school-based teacher professional development. Results suggested that some teachers were less enthusiastic about the CPD program. Low level of interest and commitment, as well as limited collaborative learning efforts among teachers were identified as problems. In the views of teachers, the new CPD was coined and implemented in relation to peripheral topics, for instance, students' discipline, parental involvement, etc; that were not directly related to students' learning. Limited involvement of communities in education of their children and lack of students' interest in learning were reported to affect teachers' overall attitude towards the new CPD program.

Conclusion

Most of the research participants held the view that school-based teacher professional development program is important as it focuses on core issues– teacher professional development and improving the quality of teaching and learning. Teachers and school leadership were widely engaged in developing CPD modules at the level of individual teacher, department and school. They implement the module plan and assemble portfolios. On the other hand, it was observed that there were teachers who had negative attitudes in their views on the real contributions of the program to improvement in teachers' knowledge and skills. Such teachers engaged in CPD as the program was mandatory for all teachers. It could be argued that these teachers' activities on CPD might not be genuine efforts to learn and improve their performance. The activities could be carried out merely to meet formal requirements. Whether or not, the overall practices of CPD have contributed to improved learning among students is yet to be established. It is expected that all stakeholders need to collaborate and ensure that schools particularly teachers get adequate professional support to effectively engage in the implementation of the new CPD program.

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Effectiveness of University Teacher Education Curriculum on the Secondary School Teacher Performance in Uganda: The Case of Kyambogo University

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Abstract

The main objective of this study was to examine the effectiveness of the Kyambogo University teacher-education curriculum on secondary school teacher performance in Uganda. The study was conducted between 2008-2011. Questionnaires, focus group discussions, lesson observations and interviews were administered to Kyambogo University lecturers, university students, secondary school teachers and students. Results indicate that most lecturers and secondary school teachers use teacher-centred methods. Theoretical teaching was widely practiced in schools and university. Teachers attributed their use of teacher-centered methods to their training and pressure of national examinations. Suggestions to improve the effectiveness of the university secondary teacher education program are made and include: university curriculum review, reform of examination system, conducting pedagogical courses for university lecturers, teachers, and involving experienced teachers in supervising students on school practice.

Introduction

Realizing the importance of the Secondary School (SS) education in the country's development, the Ministry of Education and Sports (MoES) through National Curriculum Development Centre (NCDC) has embarked on reforming the SS curriculum in order to meet the challenges of the 21st Century. A Road Map for this reform has already been developed (Clegg, 2009). The roadmap identifies weaknesses of the present SS curriculum and identifies improvement in teacher education curriculum as one of the reforms to address the weakness (pp 42-43). The Government White Paper on Education (MoES, 1992) and the Road Map (Clegg, 2009) stipulate the cognitive, affective and psychomotor competences and skills a SS graduate is expected to demonstrate.

The Uganda SS education has two levels. The first level, Uganda Certificate of Education, also referred to as Ordinary ("O") level, takes four years in which a student does sixteen subjects in Senior 1 and 2 (S1 & S2). The student registers for a minimum of eight and a maximum of ten subjects in Senior 3 and Senior 4 (S3 & S4). The second level, Uganda Advanced Certificate of Education, also referred to as Advanced ("A") level, (Senior five and Senior six), lasts two years where a student takes three subjects at

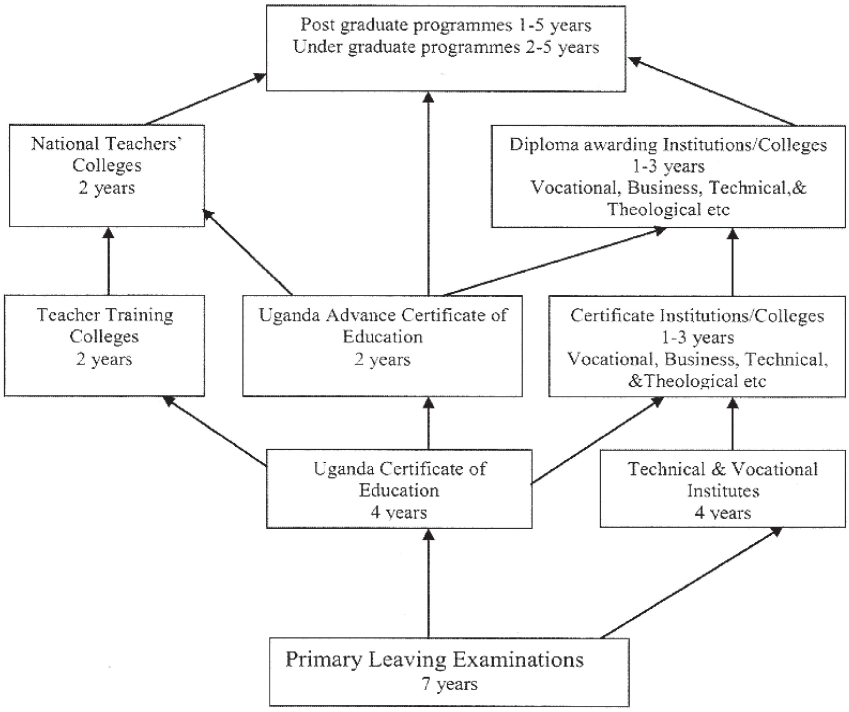

Figure 1: The Ugandan Education and Training system

(Source: Lubale G, (2010). *Higher Educational Programmes in the Development of a Nation*. Berlin, Lambert)

principal level (Figure 1).

Sciences are compulsory in all schools. Graduates of "A" level proceed to universities and other tertiary institutions. The "O" and "A" level students are rigorously prepared for the national examinations set and administered by the Uganda National Examination Board (UNEB). There is "cut-throat" competition among schools to attract more financially and academically capable students. This competition adversely impacts on the methods of teaching.

According to NCDC profile of SS graduates (Clegg, 2009) and the MoES (1992) aims and objectives of education, graduates should have acquired appropriate literacy, numeracy; moral, practical and scientific skills to enable them not only become self-dependent, but also job-creators (Okonye, 2007). However, there is an increasing general public concern about the behaviour and incompetence of some of these graduates in carrying out many of their daily activities (Opio, 2007). For instance, morally, many students do not measure up to society's expectations. A study by Makerere University School of Public Health on SS students in S3-S6 found that one in every fifty female students had conceived and 21% of them had aborted (Nabatanzi, 2010). Core curriculum and school ethos had not fully helped these students to avoid such problems. Strikes, drug

misuse and abuse, theft and forgeries are some of the other immoral acts committed by some students.

Due to the "White-collar job" type of education inherited from the colonial period (Ssekamwa, 1997) students offering vocational subjects such as Agriculture rarely put into practice the skills they acquire. Similarly, the linguistic skills of many students are also wanting since many of them can hardly write a good application letter. Correspondingly, some university students cannot demonstrate intellectual ability that is consistent with excellent grades they obtained at "O" and "A" levels (Aguti, 2010). These, and many more concerns raise many questions about SS curriculum.

Factors Affecting Curriculum Implementation

Implementation of any curriculum is affected by many factors. These include the quality of school administration and the teacher-student ratio. Large classes of over 80 students, resulting from the introduction of free Universal Secondary Education (USE) in 2007, reduce teacher effectiveness (Nakabugo, et al., 2008). Teacher effectiveness is also affected by job dissatisfaction, monetary and non-monetary de-motivation (Perrot, 1996) and inadequate teacher-support systems. The quality of training teachers receive from universities is yet another factor that affects their effectiveness. Although some of these factors are not directly related to university curricula, universities are being criticized for having the "Ivory Tower" mentality that hinders them from assisting and interfacing with teachers in the field (Kasozi, 2003; Maani, 2010).

The examination system has immensely influenced curriculum implementation (Weerhe, 2007; Odongo, 2007). Many teachers have abandoned effective methods of teaching and instead concentrate on drilling and "coaching" students in order to pass the national examinations (Okonye, 2007). Clegg (2009) being conscious of this suggests in the Roadmap that "The new secondary curriculum will require a new kind of teacher with skills not previously commonly taught in teacher education programs" (P.45). Many scholars agree with Clegg that in addition to academic subject content teachers (*and student-teachers*) need pedagogical skills to facilitate learning (Mcber, 2000; Oyenike, et al., 2009; Good & Brophy, 2008). One of such pedagogical skills that is not adequately handled in Ugandan education system is the Reflective Practice (MoES, 2007; Moon, 1999; Okonye, 2007). The curriculum component of Continuous Assessment is emphasized in the new SS curriculum to minimize the negative effects of national examinations (NCDC & Cambridge Education, 2012). Education at SS level is no longer holistic and has not adequately addressed concerns presented above.

Conceptual Framework

Educationists differ in their understanding of who an "effective teacher" is because of the many roles teachers play in providing holistic education to children (Goe, Bell

& Little, 2004). It is difficult to isolate any one factor that determines a teacher's effectiveness because the teaching-learning process is affected by many factors. This makes teaching a complex activity (McBer, 2000). However, the quality of any University Teacher Education Programme should be assessed and improved upon as one of the measures toward improving the competence of SS teachers.

In addition to training teachers, universities have the potential to develop research-evidenced Continuous Professional Development (CPDs) courses (MoES, 2007). Apart from universities, SS education is influenced by many different institutions and agencies. Therefore no one institution should be solely blamed for inadequacies observed in the SS graduate teachers. Instead the interrelationship of these institutions should be regarded as synergy that can boost the effectiveness of the SS teacher. The relationship of all these factors is summarized in Figure 2.

According to the conceptual framework, in Figure 2, SS education is influenced by many factors, one of which is the university training. There is a challenge of ensuring the quality of university teacher graduates. The question is whether there a mechanism of following up these teachers in the field as a way of quality assurance. There is a cyclic pedagogical relationship between universities and secondary schools. Effective university teacher education curricula train competent teachers who in turn help universities admit academically and morally sound students that they (universities) "turn" into competent teachers.

Effective teaching is not just transmitting knowledge to learners as has always been traditionally understood (Bishop, 1985). Rather it involves setting tasks that enable

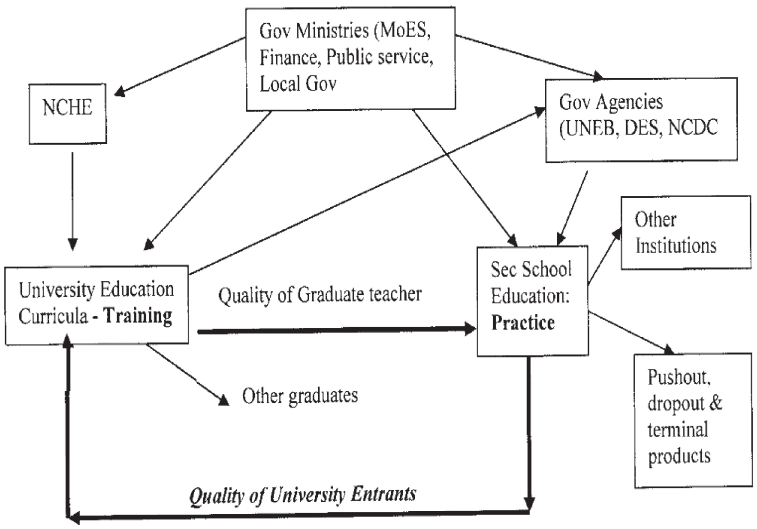

Figure 2: Interrelationship of factors that influence Teachers' Performance
(Source: authors' reflection)

learners actively contribute toward their own learning (Aggarawal, 2001; McBer, 2000). Other non-academic activities teachers are involved in such as co-curricular activities, guidance and counseling, mentoring and modeling are included in the broad definition of teaching (Weerhe, 2007).

For the purpose of this study, curriculum is defined as all activities that happen to a child within the school setting (Bishop, 1985; MoES, 2007). This definition therefore requires teachers to go beyond their teaching subjects and facilitate the holistic development of their learners. If all stakeholders have a similar understanding of these concepts, they would endeavor to enhance teachers' performance. At university level, lecturers should use and educate students about learner-centered methods (Aguti, 2010; Maani, 2010).

Objectives of the Study

The study investigated the effectiveness of Kyambogo University teacher education curriculum on secondary school teacher performance. The study concurrently covered the two levels because of their interlinkage. The specific objectives of the study were to:

1. identify practices of an effective university secondary teacher education programme
2. establish the relationship between training at Kyambogo University and teacher practices in secondary schools

Research Questions

The study was guided by the following questions:

1. What are the practices of an effective university secondary teacher education programme?
2. How is the Kyambogo University training related to teacher practices in secondary schools?

Methodology

This descriptive survey study used mainly a qualitative approach to explore various aspects of the teaching-learning process at SS and University levels. The study was carried out in the central region of Uganda, within Kampala metropolitan city area. This study area was selected due to its diversity of schools and teaching/learning environments. Sixteen schools from urban, peri-urban and rural settings were purposively sampled for the study. This sampling technique is consistent with Patton's (2002) argument that "the logic and power of purposive sampling lie in selecting information–rich cases for study in depth" (p.169). Sixty-four teachers, drawn from different categories of subjects offered at SS participated in the study. From each school, two Focus Group Discussions (FGDs)

with students were conducted to share views about their learning experiences in their schools.

Kyambogo University was selected as a convenient sample and as a case from thirty-four nationally accredited universities in Uganda. Teacher education programmes offered in these universities, are approved and accredited by the National Council for Higher Education (NCHE). This therefore makes Kyambogo University a typical Ugandan university. Although a case study is an in-depth investigation of an individual group or institution, generalisability, to some extent, can be accepted once the institution is typical (Mugenda & Mugenda, 2003; Best & Kahn, 1993). That is, much of what was discovered about Kyambogo University can be applicable to other Ugandan Universities because they are operating in the same education system. Fifty lecturers with teacher education background and currently teaching education courses participated in this study. Using stratified random sampling techniques, 100 Education students from 16 departments (belonging to four faculties) were identified to participate in the study.

Questionnaires with both closed and open-ended items designed to illuminate the various aspects of the teaching-learning process, such as appropriateness of the university curriculum, methods used by lecturers, prior training, use of instructional materials, and effect of examination on teacher effectiveness were administered to university lecturers, university students and SS teachers. Documents, including SS syllabi, teachers' schemes of work and lesson plans were analyzed. Typical lessons were observed and data were collected using lesson observation checklists and anecdotal records. Post-lesson conferences with teachers were held. Focus group discussions were conducted with students. Interviews were also conducted with SS teachers and university lecturers.

Responses from the open-ended items, FGDs and post-lesson conferences were coded, categorised and analysed thematically according to the objectives of the study. Quantitative data were expressed as percentages.

Results and Discussion

The purpose of this study was to explore the effectiveness of Kyambogo University teacher education curriculum on SS teacher performance. The study began at university, where teachers are trained.

Practices of an Effective University Secondary Teacher Education Programme

Lecturers were asked to state the practices that, if implemented, would enhance the effectiveness of the university secondary teacher education program. Results are presented in Table 1.

Table 1: Practices of an effective University secondary teacher education program

	Response			
Practice	**Yes**	**%**	**No**	**%**
Curriculum Review	50	100	0	0
CPDs	17	34	33	66
Instructional Materials Prep & Usage	45	90	5	10
School Practice	38	90	2	18
Participation in Co-Curricular Activities	10	20	40	80
Community Involvement	15	30	35	70
Research and publication	50	100	0	0
Reflection Practice	5	10	45	90

In Table 1, majority of lecturers agreed that curriculum review, research and publication, preparation and use of instructional materials (IMs), and school practice were the core practices of an effective teacher education program at Kyambogo University. Community involvement, participation in co-curricular activities and reflective practice were considered the least aspects of an effective university secondary teacher education program. Interestingly, one of the lecturers who did not support CPDs as a practice for an effective university secondary teacher education program claimed there was not much he would learn since he already had completed all the education ladders. He emphasized that "you cannot teach an old dog new tricks". This is what he said:

> "*mmmm I've been teaching for the last 20 years here in KyU. I've had excellent training both here and abroad. There's nothing new that I'll get by attending your refresher courses. I know how to handle all types of students. So… I don't need your CPDs. Besides, you cannot teach an old dog new tricks….*"*(UL20)*

Reflection on one's teaching is a way of making one aware of how one teaches. It is a method of self-assessment (Amuly, 2004; Clarke, 1995). Unfortunately, 90% of the lecturers in this study did not think reflection was an important practice of an effective teacher education program or were not familiar with the practice. This is contrary to the current studies (Rideout & Koot, 2009; Ferraro, 2004; Moon, 1999) that emphasize the role of reflective practice in teaching. Moon points out that reflective practice enhances an individual's ability to ask the right questions, set tasks that challenge learners to integrate new learning into the previous learning and apply new learning to everyday situation. Similarly, a significant number of lecturers (80%) did not regard co-curricular activities as important in teacher education curriculum.

Relationship between Kyambogo University Teacher Education Curriculum and Teacher Practices at Secondary School Level

Generally, university lecturers and students, and SS teachers observed that the academic content covered at the university enables them teach competently (refer to Table 2). According to Table 2, 78% of the teachers in this study claimed they use teacher-centred methods partly because lecturers also used the same methods to teach them while at university. Teacher-centered approach in the context of this study refers to an approach where teaching/learning activity in the lesson is dominated by the teacher. The learner-centred methods "talked" about by lecturers and attempted by students on SP are not fully internalized and owned by university students. Even if students were fully convinced about the effectiveness of learner-centred methods, the status quo in the field, such as senior teachers' influence, low morale, limited resources and examination pressure, few would gain the courage to use them in their teaching. The same arguments apply to the use of instructional materials in teaching. Therefore as universities plan to improve on their teacher-education curricula, other SS education stakeholders need to tackle other intervening variables over which universities have no control. One of such interventions is to help UNEB improve on the assessment and examining styles and strategies (Odongo, 2007; Weerhe, 2007; Okonye, 2007).

Table 2: University students' rating of Kyambogo University Teacher Education Programme

Main component	Specific aspects	Rating (%) (N=100)	Remark
Curriculum content	Subject academic content is adequate	83	Good confidence building Professionalization is important
	Professional/pedagogical content is adequate	98	Hands-on needs beefing up
	There is a lot of theory in the training of teachers	83	Hands-on needs beefing up
Methods of teaching	Lecturers use a variety of methods	33	Ultimately teachers emulate
	Lecturers rely on lecture method	78	lecturers
	Lecturers ignore academic differences among students	84	Cause: big numbers and/or indifference
Instructional materials (IMs)	Lecturers use Instructional materials	23	More hands-on needed
	Lecturers theoretically talk a lot about IMs	93	on IMs to improve teachers' effectiveness
	Lecturers should also use IMs	91	

Personality of lecturers	Lecturers are very professional	64	CPDs for lecturers is urgent
Examination	University exams demand critical thinking	53	Rote learning also exists at universities
School practice	SP gives us real taste of field experiences	69	More effort is needed on SP planning and management
	SS teachers should co-supervise university SP students.	65	More effort is needed on SP planning and management

University Teacher Education Curriculum Content

Many lecturers observed that the academic subject content students study at university was adequate enough to enable them teach confidently and competently at "O" and "A" levels. This is what two lecturers, (one Biology and one chemistry) asserted when asked what they thought about the relevancy of their curricula to teacher effectiveness: The Biology lecturer claimed:

"*...our current biology curriculum here at University is based on the secondary education general syllabus recommended by the NCDC. We also spot the key and most difficult topics at A-level that teachers find hard to teach and we make sure we give our students enough background knowledge about how to handle these topics so that when they go out there, they're comfortable*" (UL9 Interv).

A chemistry lecturer had a similar observation:

UL15: "*.... we concentrate on the topics that are really hard and often dodged by beginning teachers and much worse by students on SP.*"

I: *Which ones are these topics?*

UL15: "*...they're organic chemistry, for example, and also inorganic chemistry. These are hard topics most teachers dodge them or give them to student teachers. So to help the situation, we go over these topics with our students before they go out for their SP.*"

Majority (83%) of university students agreed with the lecturers' opinion. A big number of students (98%) claimed that professional courses (pedagogy) enable them become competent professional teachers. For instance, one student claimed:

" *... the psychology and methods courses are really helpful. The knowledge I obtained has enabled me handle the difficult students during my last SP When it comes to classroom management. I can handle the stubborn students well with the psychology skills...*" (Interv. S10).

The academic content university education students cover was rated highly by lecturers and students themselves because the courses were designed and developed

in view of the academic content at SS level (NCDC, 2009; UNEB, 2005). Education students, therefore, unlike other non-education students offering the same subjects, are restricted to particular courses in those same subjects. Additionally, students' testimony should not be taken lightly because their memory of what was covered at SS is still fresh. Students also evaluated the relevancy of the university academic content they covered to the SS curriculum based on their first SP experience. Their evaluation indicated a positive relationship. For example: when asked to comment on the relevance of courses taken at university, one student asserted:

> "*... I think, the content we cover at university prepares us well to teach at both O and A levels.*"

I: *How..Why? Give an example*

S: "*mmm ... In A level history, we teach about European history and the rise and fall of Napoleon and his contributions. Also here at University we do the same topics even in depth so that we really get to know the subject very well. This enables us to teach with confidence and much knowledge*" (Int. S5).

Students complained about a heavy course load at university and suggested reduction of courses or extension of the programmes to four years from the current three years. Students' course load includes professional education studies courses, academic (teaching) subject courses and school practice. This is what they said:

S: "*At university, we have too many course units.*"

I: *How many is many?*

S: "*You see, in Professional subjects we've about six components… Research, psychology, econ of educ, philosophy,….; then in our teaching subjects, two of them, we also have a large number of course units…. This's too much. By the end of the day you're really tired.*"

I: *How do you think we should address this challenge?*

S: "*Two options: reduce the number of courses and have only the basic ones or extend the length of the program from 3 to 4 years.*"

However, students' suggestions to reduce course load and extend course length may not be accepted by the University and NCHE. The minimum total Bachelor of Arts with Education (BA/Educ) course load of 180 credit units (CUs) is comparable to other programmes. Of the 180 CUs required for one to graduate, 30 CUs are for professional education courses while 10 CUs are for the two school practices (KYU, 2005).

The data gleaned from the questionnaires and interviews also shed additional light on the Factor that affect teacher effectiveness that may be beyond the university's control. These data are presented in the subsequent sections.

Other Factors Affecting Teacher Performance

Several factors affect teacher effectiveness. University lecturers and teachers were asked to enumerate the factors they considered affecting their performance. Their responses are summarised in Table 3. Among the several factors affecting their performance, previous training featured prominently among both teachers and lecturers. This emphasises the importance of university curriculum in teacher effectiveness.

Table 3: Factors Affecting Teacher Effectiveness

	SS Teachers (N = 64)				Lecturers (N = 50)			
Factor	**Yes**	**%**	**No**	**%**	**Yes**	**%**	**No**	**%**
Large class size	62	96.9	2	3.1	33	66	17	34
Methods of teaching	0	0	0	0	32	64	18	36
Inadequate IMs	55	85.9	9	14.1	28	56	22	44
Poor infrastructure	45	70.3	19	29.7	50	100	0	0
Co-curricular activities	58	90.3	6	9.7	24	48	26	52
National Exam pressure	64	100	0	0	0	0	50	100
Lack of housing	50	78.1	14	21.9	0	100	0	100
Limited opportunities for CPDs	35	54.7	29	45.3	33	66	17	34
Crowded curriculum/heavy workload	60	93.8	4	6.2	15	30	35	70
School Practice	55	85	9	15	36	72	14	28
Inadequate support from community	30	46.9	34	53.1	24	48	26	52
Poor funding	44	68.8	20	31.2	33	66	5	34
Low salaries	64	100	0	0	50	100	0	0
Previous Training	57	89.1	07	10.9	42	84	08	16

Methods of Teaching

Lecturers and students were asked to name the common methods lecturers use during their teaching. Results are summarised in Table 4.

Table 4: Common Methods used by Kyambogo University Lecturers

Method	**Lecturers(N=50)**		**Students (N=100)**	
	Yes (%)	**No (%)**	**Yes (%)**	**No (%)**
Lecture	74	26	78	22
Discussion	55	45	45	55
Demonstration	46	54	36	64
Group work	38	62	35	65
Practical & Projects	30	70	15	85

Table 4 indicates that the most commonly used method of teaching at Kyambogo University is the lecture method. In fact, 74% and 78% of lecturers and students,

respectively claimed that lecture method was commonly used in their classes. This is consistent with students' rating of Kyambogo University teacher education programmes presented in Table 2 in which 78% of students indicated that lecturers rely on lecture method. Responding to a similar view from their students Oyenike, et al. (2009) concluded that "teaching strategies need a lot of improvements" (Oyenike, et al., p.123). The lecture method is here used loosely to include dictation of notes, talk and chalk, uninterrupted and prolonged explanation and giving hand-outs. Lecturers defended the lecture method on the grounds of large classes (100 – 800 students) for Arts and professional courses and lack of equipment and materials for vocational and science subjects. This is what one Arts lecturer asserted in defence of lecture method:

> *...realistically, lecture method is my method of choice. In a situation where you' ve more than 800 students in any one lecture, you do not have enough space even to walk around but glued to the small space around the chalk board, you don't talk about using experimentation, group work ... because you can't just make it. Where will you get the space, materials, someone to help manage the groups? Yet you've to cover certain content, before the semester ends? So realistically, lecture method is the way to go (UL 20.)*

A lot needs to be done on pedagogy because this is one of the factors that differentiate trained from untrained teachers and effective from ineffective teachers (McBer, 2000; Good & Brophy, 2008). Over the past few years, Kyambogo University has increased student intake by admitting privately sponsored students in order to give opportunity to more students to access university education. Day and evening programs run on campus. The available facilities have not increased to cater for the increased enrollment. This has therefore influenced the methods lecturers use in their teaching and could compromise the quality of their graduates.

Students expressed their dissatisfaction with the pedagogical aspect of their training in many ways. For example, they claimed that methods used by lecturers were inadequate to them to become competent teachers. This is what some of them said:

S27: *We're just beginning to know what it is to learn how to teach. But some lecturers do not even teach us how to teach.*

I: *What do you mean?*

S40: *We need to be taught the methods that we can use to teach students, to enable us deliver content. Some lecturers just give notes notes and notes. So really we need much help here.*

This shows that methodology is relatively given less attention. Students suggested that it should be only lecturers who were teacher-trained that should teach them. Students also claimed that teacher-centred methods cause lecturers to ignore academic differences among them. It follows that student teachers and SS teachers may ignore individual differences among their students because they themselves were not given individual

attention while at university. Students also suggested that "micro-teaching" be used to give them more practice before they go for school practice. This is consistent with Perrot (1996) who advocated for micro-teaching as a method of teaching how to teach.

Instructional Materials and Infrastructure

The use of instructional materials varies from faculty to faculty. The materials used (according to lecturers) are: chalkboard and chalk, charts, overhead projector, textbooks, internet and hand-outs. Instructional materials are mostly used by science and vocational studies lecturers. However, due to inadequate teaching materials, students do not get enough hands-on experiences as often as they should. The claim by lecturers that they use instructional materials, though modestly, was actually challenged by 93% of university students who revealed that there is a lot of theoretical talk about instructional materials by lecturers, particularly in Arts (humanities) subjects and professional education courses. Students suggested that lecturers should lead by example and use instructional materials during their teaching as they (students), emulate their lecturers on the use of instructional materials and teaching methods when they graduate. It is possible that during SP some students may try to use instructional materials for the sake of getting a good grade and abandon their use after graduation. Aggarwal (2001) and McBer (2000) emphasise the role of instructional materials in enhancing students' learning since many abstract concepts, in any course or subject, can be (re)presented using illustrations, pictures or models. Arts related subject lecturers and teachers therefore have no excuse for not using instructional materials.

Co-curricular Activities

Teachers claimed that co-curricular activities affect their teaching in that they waste a lot of time that should have been spent on covering the syllabus. This is what one of them said:

> " *... you spend much valuable time in athletics or football instead of using it to make up for extra time to finish syllabus… remember, if students fail, my job's on the line*" (SST52 interv).

They suggested that these activities should be only for one or two days. Teachers' attitudes toward co-curricular activities are contrary to the emphasis of MoES (1992). Interestingly while at university, many students admit that co-curricular activities are important in their curriculum, yet this is not the case after graduation.

School Practice

Lecturers and students regard SP as an important component of training. However,

there are many challenges associated with the Kyambogo University SP exercise. A summary of these challenges as expressed by lecturers and students are presented in Table 5.

Table 5: Challenges encountered by Lecturers and student teachers during School Practice

	Lecturers (N=50)				Students (N=100)			
Challenge	**Yes**	**%**	**No**	**%**	**Yes**	**%**	**No**	**%**
Length of SP	50	100	0	0	54	54	46	46
Large classes	40	80	10	20	94	94	6	6
Inadequate IMs	38	76	12	24	81	81	19	19
Administrators' attitudes	20	40	30	60	15	15	85	85
Lecturers' ability to supervise	10	20	40	80	31	31	69	69
Professionalism of supervisors	0	0	50	100	19	19	81	81
Knowledge of School Practice	43	86	7	14	31	31	69	69
Maintenance & Welfare/Allowances	45	90	5	10	94	94	6	6

The six-week period allocated to each SP is not usually fully utilized because of interruptions in the schools. According to some students, supervision by lecturers was inadequate. Students therefore suggested that school-based co-supervisors (senior and experienced teachers) be engaged to help them as it happens with other internship activities. Other factors include large and overcrowded classes, lack of instructional materials and equipment and lukewarm attitude by administrators towards subjects such as Fine Art, Home Economics and Agriculture.

Some lecturers (20%) wondered why they were not involved in the school practice supervision yet they have the experience of supervision. They therefore could not guide students competently on SP issues due to their lack of involvement. Students also complained that some lecturers do not conference with them before and after the lessons. They just observe, write their reports and leave them in their files.

> "*... two lecturers who came so see me were in a hurry…. They didn't even talk to me. They just burst into my class and sat down, wrote their reports and left them in my file and went away. I didn't even understand their reports…*" *(FGD 2.2)*.

On professionalism, some students complained that some lecturers favour students from their tribes. They claimed:

> "*... you see, lecturers can never be fair to all students. They are all biased. Some of them favour their own tribes, religions, and regions to mention but a few. So they give good marks to the favoured ones first. When they come to us, they just give us very bad and low marks. This happens all the time. I know it…*" (interview excerpt).

Another challenge associated with SP is misinterpretation of the phrase "school

practice" due to limited knowledge by supervisors and students. Most students and supervisors alike, concentrate on lesson presentations (teaching practice) instead of looking at all issues in the schools. Kyambogo University should consider students' suggestion about co-supervisors because their contribution can mean a lot to the improvement of SP (Sentamu, 2008). On maintenance during SP, both lecturers and students complained that the money the university pays them is inadequate to cater for their upkeep for the whole SP period. One student lamented: "*... the university pays us shs 2000 (approx. 1$) per day. How do you expect us to rent, feed on this little money. We're forced to beg...*" (US Int).

Lecturers were equally dissatisfied with the facilitation they receive from the university. "*... the exercise is for six weeks, but we're paid for two weeks. You cannot adequately see all the students that are scattered all over the country in ten days… this is a joke...*" (UL8 int).

Despite these challenges, majority of students valued school practice preparation and experience.

Methods Currently used by Secondary School Teachers

Methods currently used by secondary school teachers in this study are presented in Table 6.

Table 6: Methods used by secondary school teachers

Method	Sec Sch Teachers (N=64)	
	Yes (%)	No (%)
Lecture	74	26
Discussion	55	45
Demonstration	76	24
Group work	75	25
Practical & Projects	79.5	20.5

Data from the questionnaires and interviews with teachers presented in Table 6 show that majority of teachers claimed to be using learner-centred methods of teaching (Demonstration, Group work and Practical) and instructional materials. They theoretically justified the use of such methods and instructional materials. However, this claim could not be confirmed from the lessons observed. The post-lesson conferences held and observations made during the student FGDs did not provide any evidence of the use of learner-centred methods. Teachers largely lectured and dictated notes to students. They rarely used instructional materials. In one lesson where a science experiment was being demonstrated, about 50% (*researchers observation notes*) of students could not see what was happening because of overcrowding. Generally, the major reasons for using teacher-

centred methods were to produce good results in the national examination. Some claimed these were the methods university lecturers used to teach them.

Due to external examination pressure and desire to out-compete other schools, school administrators and teachers devise all sorts of strategies, some of which are unconventional, to enable students pass national examinations. Some of the unconventional methods include teaching before dawn and after dusk and expelling or causing students they consider weak to repeat classes. Teachers confessed that their jobs were at risk if school expectations were not met. In violation of Teachers' Code of Conduct (MoES, 1996) most teachers avoided making lesson plans and schemes of work as to them, it was a waste of time. Without lesson plans teachers cannot reflect meaningfully on their lesson presentation (Ferraro, 2004). Overconcentration on UNEB examinations has caused schools and teachers to ignore or underrate non-examinable aspects of SS curriculum such as co-curricular activities (Odongo, 2007; Okonye, 2007).

Conclusion

So far, results from this study indicate that teachers were academically well prepared by the university. There is a lot of theoretical teaching in Kyambogo University and in the schools. The Kyambogo University Secondary Teacher Education curriculum content is adequate but insufficient in methodology. Large class size and inadequate instructional materials impact negatively on teachers' and lecturers' methods of teaching. Due to pressure of national examinations, teachers use teacher-centered methods in order to cover as much content as possible with a view to improving students' grades. There is limited knowledge and practice of reflective practice among university lecturers and teachers.

Recommendations

In order to improve the university secondary teacher education programmes and therefore teacher effectiveness at SS level, it is recommended that: first, course units covered in each of the students' teaching subjects should be linked to pedagogy. Second, increase "hands-on" and "minds-on" activities in all subjects. Micro-teaching and demonstrations should be emphasized to enable student teachers gain and practise teaching skills. Third, university lecturers need more pedagogical training on reflective practice and school based supervision methods. Experienced practising teachers be empowered to supervise students in addition to university internal supervision. Peer supervision should be encouraged among student teachers. Finally, action research on effective methods of teaching at university and SS levels needs to be strengthened.

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Girl-Child Education Campaigns and Enrolment/Retention in Zambian Basic Schools: Impact Analysis

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Abstract

This study investigated the impact of the Girl-Child Education Campaigns between 1998 and 2006 on enrolment and retention in selected basic schools in Zambia. The campaigns were part of the strategies that government used to redress the existing gender disparities in basic schools where girls were numerically under represented. A multi-pronged research design that encompasses primary and secondary research methodologies was used. Data were collected through questionnaires, interview schedules and focus group discussions with different respondents. Data from questionnaires were summarised using frequencies, percentages and graphic presentations.

The study showed that there was a noticeable positive impact of the girl child education campaigns on enrolment and retention rates in selected basic schools. However, it should also be noted that campaigns may not have been the only factor that impacted positively on the enrolment and retention of the girl-children in school. For instance, the deliberate policy by government to build more schools could be one of the factors, which contributed to the high enrolments and retention of the girl-child in basic schools.

Apart from the Government, other stakeholders like Non-governmental organisations played an important role in the campaigns using a variety of methods. Therefore, the success of the campaigns can be attributed to the combined efforts of many organisations, which complimented those of government. Considering the positive achievements of these campaigns, the government and other stakeholders are urged to come up with measures which will sustain what has been achieved. It should also be noted that campaigns of this nature can yield more positive results if the cultural beliefs that hinder the girl-children from advancing in their education are addressed.

Introduction

Education is a fundamental human right, as enshrined in numerous international human rights instruments, including the 1948 Universal Declaration of Human Rights, the 1976 International Convention on Economic, Social and Cultural Rights, the 1979 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)

and the 1989 Convention on the Rights of the Child. These instruments specify that gender inequalities in education should be eliminated, wherever they exist. The Article 10 of the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW, 1979) obliges States to "*take all appropriate measures to eliminate discrimination against women in order to ensure to them equal rights with men in the field of education, and in particular to ensure on the basis of equality of men and women ……*" (CEDAW, 1979).

The girl-child education campaign in Zambia started about 1996, soon after the Fourth World Conference on Women held in Beijing in 1995. A situational analysis of Zambia's total population in 1996 was estimated at 9.5 million, of which about 51 percent were females. Despite the predominance of females, gender imbalances which did not favour women existed in Zambia's socio-economic, cultural and political spheres. These imbalances prevented women from effectively contributing to and benefiting from the development process.

However, to ensure sustainable development and attainment of equality and equity between men and women, the Zambian Government recognized the need for full participation of women in the development process at all levels. Therefore, it became necessary for the Government to redress the existing gender imbalances and provide equal opportunities for women and men to participate and contribute to their fullest ability and equitably benefit from national development.

The Government's vision and mission as it relates to gender is captured in the mission statement of the National Policy on Education document, **Educating Our Future** (1996, p.1) which states:

> "….. to guide the provision of education for all Zambians so that they are able to pursue knowledge and skills, manifest excellence in performance and moral uprightness, defend democratic ideals, and accept and value other persons on the basis of their personal worth and dignity irrespective of gender, religion, ethnic origin, or any other discriminatory characteristic."

In relation to the girl-child education awareness, different strategies were used by the Government and Non-governmental organisations to redress the existing gender disparities. For example, strategies such as the 50-50 Enrolment policy whereby schools were by law compelled to enroll equal numbers of girls and boys at Grades 1, 8 and 10, and the creation of co-education public schools and colleges were implemented. Other strategies included the conversion of Boys-only public secondary schools into Co-education High schools; the introduction of the Re-entry Policy in 1997 and the extensive classroom construction component of the Basic Education Sub-Sector Investment Programme (BESSIP, 1998-2002) to improve access to basic education for Grades 1-7 to all eligible Zambian children.

Apart from that, in March 2000, the Government of Zambia decided to formulate the National Gender Policy which had a holistic approach in ensuring a full participation and equitable benefit of both sexes from the development process.

Unique among the World Conventions that have taken place so far, is the World Education Forum that was held in Dakar, Senegal in April 2000, where different stakeholders such as the Teachers, Academic Policy Makers, NGOs, Prime Ministers and Heads of International Organisations from 164 countries convened. This meeting saw the adoption of the Education for All (EFA)'s Framework for Action. The Dakar Framework for Action and the Millennium Declaration both established time bound gender equality goals to which all member States are committed.

Among the six goals that were established, two had a bias towards gender:

> **Goal 2.** Ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality.
> **Goal 5.** Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full equal access to achievement in basic education of good quality.

"Education for all" means what it says. Apart from the commitment by the international community, in Dakar Framework for Action, to have all eligible children attending fee-free primary schooling by 2015, adult illiteracy was to be halved, early childhood education and programmes for out-of-school youth were to be increased, and the quality of education was to be greatly improved. The phrase "All Children" implied, of course, boys and girls. However, greater emphasis was put on elimination of gender disparities in primary and secondary schooling, as indicated in Goal Number 5. A careful analysis of this emphasis shows that gender equality is given major prominence in the Dakar Framework for Action and the Millennium Development Goals (MDGs).

The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 Nations and signed by 147 Heads of States during the United Nations Millennium Summit in September 2000. The MDGs relevant to this field are the two goals highlighted above.

In recognition of the importance of addressing gender inequalities in national development, the Zambian Government included "*gender equity and equality*" in the vision of the Fifth National Development Plan (2006). There has been an integration of efforts from different stakeholders to address gender disparities in Zambia amongst other challenges yet to be tackled.

In the past decade, the Ministry of Education in Zambia has initiated policy measures to facilitate enrolment, participation and retention of children in basic education (Ministry of Sport, Youth and Child Development, 2006). As indicated earlier, one of the most important measures taken so far has been what is commonly referred to as the re-entry or re-admission policy. This policy came into being in September, 1997. It allows a school girl who becomes pregnant to come back to school after she has given birth. This is aimed at enhancing retention of the girl child in basic education.

Other measures include an increase in the provision of textbooks and the declaration that government would offer free education from grade 1 to 7 and that with or without uniforms, children would be allowed to attend school. In addition, children would be provided with free exercise books and pencils. A further positive trend affecting girl child education in Zambia today is the increase in gender sensitivity, more recognition of the need to dismantle the "apartheid of gender", and growing realization of the many social and economic benefits that accrue from the education of girls and women (Kelly, 1994, p.18).

In the light of the combined efforts of various stakeholders in ensuring that girls are given the same opportunities as boys in as far as enrolment and retention in school are concerned, it was hoped that this study would bring to the fore the effects of such efforts. It was also anticipated that policy makers might benefit from the findings of the study especially that it would amount to evaluating Government's efforts in promoting gender equity in education.

Statement of the Problem

It has been reported that there are significant gender differences in enrolments at upper basic level of education (i.e. Grades 8 and 9). According to the Ministry of Education report of 1996, the census shows that 39.2% of the eligible boys were enrolled in these grades in 1990 and 29.4% of the girls. In rural areas, 20.9% of the eligible population was enrolled, compared with 52.8% in urban areas. The lowest enrolment ratio at this level was that for girls, only 16.7% of these being recorded as participating in upper basic education (Ministry of Education, 1996).

Further, the report revealed that girls were more severely affected than boys. For example, the 1988 – 1994 completion rate for girls was 71.4% compared with 86.9% for boys. Overall, only 79% of those who entered Grade 1 in 1988 reached Grade 7 in 1994.

Prioritizing the enrolment and retention of girls in school is a critical step in promoting equal opportunities in Zambia. It has been proven that increased education for girls has a dramatic impact on their subsequent achievements and on the status of their families – socially, economically and health-wise (Government of the Republic of Zambia, 1996, p. 11). For these reasons, the girl child education awareness has been given high consideration for the past fourteen (14) years in Zambia.

In light of the above, this study sought to assess the impact of the girl-child education campaigns during the period 1998 – 2006 on the enrolment and retention of girls in selected basic schools in Zambia.

Objectives of the Study and Research Questions

The objectives of this study were to:

a. assess the impact of the girl-child education campaigns on the enrolment of girls

in selected basic schools in Zambia;
b. establish the extent to which the girl-child education campaigns had improved the retention of girls in basic schools in Zambia;
c. identify basic schools that experienced the effect of the girl-child education campaigns;
d. determine basic school children's knowledge of the girl-child education campaigns;
e. determine teachers' knowledge of the girl-child education campaigns; and
f. establish the methods used in the girls' education awareness campaigns.

The research questions were as follows:
a. What has been the impact of the girl-child education campaigns on the enrolment in selected basic schools in Zambia?
b. How have the girl-child education campaigns affected the retention rate of girls in selected basic schools?
c. Which basic schools experienced the effect of the girl-child education campaigns?
d. What is the basic school's children knowledge about the girl-child education campaigns in Zambia?
e. What do basic school's teachers know about the girl-child education campaigns in Zambia?
f. What methods were used in girls' education awareness campaigns?

Literature Review

Globally, girls represent the majority of children out of school and face some of the biggest challenges in getting an education. In 2006, 75 million children of primary school age were not enrolled in school; in 2007, 101 million were not attending school. Most out-of-school primary school-age children (88 per cent) live in Africa and Asia (UNICEF, 2009). According to Forum for African Women Educationalists (FAWE, 1996) comparative data for Latin America, Asia and the Middle East indicate that both the gross primary and the secondary enrolment ratios were significantly lower in sub-Saharan African region than in developing regions. It explains further that as many as 36 million girls in sub-Saharan Africa are missing from school, and those who gain access to education are often poorly served. While the same number of boys and girls enrol in first grade, by fourth grade, 50% of the female students have dropped out. In other words, enrolment decreases, the higher one ascends the educational hierarchy.

The centrality of women's contribution to national development cannot be underestimated. Several studies have shown that an investment in girls' education is an investment in the family, community and nation (Adetunde & Akensina, 2008; Government of the Republic of Zambia, 1996, p.13). It improves overall quality of life.

Their education is particularly associated with significant reductions in infant mortality and morbidity, improvement in family nutrition and health, lowering of fertility rates, improved chances of children's education, and increased opportunities for income earning in both wage and non-wage sectors (Kelly, 1999). The Demographic and Health Survey (ZDHS) for 1992 also revealed that the social benefits associated with secondary education of girls included lower fertility rates, later age of first marriage, greatly reduced infant and child mortality, reduced incidence of child malnutrition (Gaisie, Cross & Nsemukila, 1993).

However, for a long time now, it has been noted that the education sector has not been able to give equal access to girls nor has it been able to retain many of them in school for many years. Some factors responsible for imbalances in female access to education are: wage discrimination, quality of education offered to girls, type of school, religion and ethnicity (Mwansa, 1995, p.3). Studies in West Africa indicated that parents, unless wealthy, preferred to educate their sons on the assumption that education "pays off" in life time wages more handsomely for males than for females (Ram, 1982). The Forum for African Women Educationalists in Zambia has observed that the girl-child is discriminated against from the earliest stages of life, through childhood into adulthood. In terms of education, they include unequal access, poor performance, early drop-out, and low enrolment in higher education (FAWE, 1996, p.15).

In Zambia, it has been observed that there was a steady attrition of girls relative to boys over the twelve years of primary and secondary school, such that by Grade 12 female students accounted for only about 35% of the enrolment (Kelly, 1999, p.253). There is a traditional belief in the intrinsic value for the education of the boy-child (Kelly, 1994; Serpell, 1993). The degree to which this belief is widespread and persistent has not been investigated but it is known that there are different expectations on the part of teachers about girls' performance compared to that of boys (Maimbolwa-Sinyangwe & Chilangwa, 1995).

At the World Declaration on Education for All in 1990, Zambia joined the international community to make a commitment to achieve universal primary education, to eliminate gender disparities in primary and secondary education and to attain gender equality at all levels by 2000. To guide all state parties, the United Nations developed strategic objectives to ensure quality education for all girls; to build political and resource commitments for girls' education, end the gender gap in attendance and completion, eliminate gender bias within national education systems and to support girls' education in areas affected by or recovering from armed conflict, natural disasters or external shock.

In pursuit of the promotion of girls' access to education in relation to their male counterparts, the Ministry of Education (MoE) formulated and put in place a number of policies and programmes. The 1990s studies on the situation of education in Zambia revealed that due to the unequal socio-cultural gender construct, the scale of disadvantages was tipped against girls and women. According to Mumba (2002), among the major problems identified in the research studies were that:

- In primary school, the enrolment, retention and completion rates of girls were lower than that of boys; and
- Many parents prefer to spend the little money they have on the education of boys rather than of girls.

Differences in enrolments can be noted between rural and urban areas. In the 1990 census, the gross enrolment rate in rural areas was 69.3% while in urban areas it was 100.8%. At the provincial level, gross enrolment rates varied from as high as 100.2% in the Copperbelt Province to as low as 53.6% in the Eastern Province. Net enrolment ratios followed the same pattern, ranging from as high as 72.3% in the Copperbelt Province to as low as 36.1% in the Eastern Province (meaning that only 36.1% of the 7-13 year-olds in the Eastern Province were actually in school) (Kelly, 1994).

Kelly (1996) reported that in 1996, the number of children out of school aged 7-13 years old in Zambia were more than one-quarter of a million and more than half of them were girls. The rates at which girls drop out of school at any point at the primary level in Zambia is higher than for boys. Kelly (1994) reports that in 1991/92, the overall primary school attrition rate for Zambia was 5.2% - 6.9% for girls and 3.5% for boys as shown in Table 1 below.

Table 1: Primary school attrition in Zambia, 1991 - 1992

	Girls		Boys		Both sexes	
	Rate of Attrition %	Number Leaving School	Rate of Attrition %	Number Leaving School	Rate of Attrition %	Number Leaving School
Whole Country						
After Grade 1	4.9	5,155	2.6	2,816	3.8	7,971
After Grade 2	4.7	4,794	2.8	2,931	3.7	7,725
After Grade 3	5.6	5,408	2.7	2,767	4.1	8,175
After Grade 4	9.1	8,153	6.2	6,081	7.6	14,234
After Grade 5	8.2	6,561	4.3	3,756	7.2	10,317
After Grade 6	10.8	7,851	2.8	2,309	6.5	10,160
After Grade 1-6	6.9	37,922	3.5	20,660	5.2	58,582
Line-of-Rail Provinces After Grade 1-6	3.0	8,530	1.4	3,867	1.5	12,397
Province away from Line-of-Rail After Grade 1-6	11.0	29,392	5.5	16,793	8.1	46,185

Source: Ministry of Education Data, 1996.

The total number of pupils who left school prematurely from 1991 to 1992, as shown in Table 1 was 58,582, of whom 37,922 were girls and 20,660 were boys.

Campaigns Aimed at Promoting Girl-Education in Zambia

To improve access and retention of the girl child in basic schools, the Government used a number of strategies. One of them was a girls' education initiative locally known as 'The Programme for the Advancement of Girls' Education (PAGE). The Programme was a Ministry of Education initiative supported by UNICEF, CIDA and NORAD. This programme was piloted in Lusaka and Eastern Provinces until 1998 when it was scaled up to all the nine provinces of Zambia. By 2002, 1,571 Basic schools had been reached by this programme. The programme seeks to deliver quality primary education to all children, especially girls, and to reduce gender disparities in primary education enrollment, retention, completion and achievement.

Among PAGE's immediate objectives were the following:

a. Promote and create public awareness of the importance of girls' education and empowerment at national level, within the framework of the Education for All programme and Convention on the rights of the child.

b. Support the Ministry of Education to monitor and analyse data on girls' education.

c. Implement specific interventions that directly impact on access, retention and achievement of girls in selected schools.

To achieve the objectives, several interventions to improve access and retention of the girl child were introduced. One such intervention was that researches were conducted in order to provide information and insight needed to identify and formulate policies and actions in support of girls' education. Another intervention was advocacy and sensitisation. This intervention was aimed at creating policies which promote an enabling environment for the education of children, especially girls. It also focusses on strategies and activities to sensitise the community i.e. parents, teachers, administrators, and pupils to change negative attitudes towards girls' education.

Initially, PAGE was being implemented in Lusaka and Chipata districts. Later the Ministry of Education decided to expand the programme by adopting ten schools in each province. According to Muyakwa (2002), this decision was arrived at after an evaluation revealed positive impacts of what PAGE had achieved in the pilot schools in terms of enhancing the girl-child education. Since then PAGE has continued to expand to other parts of the country though at a slow a pace due to financial constraints.

Similar initiatives to improve access and retention of the girl child in basic schools have been tried elsewhere. For example, the Strategies for Advancing Girls's Education (SAGE) project was funded by the office of Women in Development at USAID to cover five countries namely Guinea and Mali in 1999, and the Ghana, El Salvador, and Democratic of Congo (DRC) programmes launched in 2001. The objectives of the

SAGE project were focused around mutually reinforcing strategies to form and develop partnerships across sectors that can advance girls' education, and to expand the knowledge base, skills and tools that provide guidance for the SAGE programmes, in particular, but also for other girls' and basic education programmes and activities.

Another strategy that was aimed at promoting girl-child education in Zambia was the 50-50 Enrolment policy. Historically, the colonial government adopted policies that tended to favour males to the exclusion of women. Muyakwa (2002) describes how discriminatory the colonial education system was as follows:

> 'The initial integration strategies were to enable women learn how to be better mothers and wives, and therefore tended to concentrate on the home economics and social etiquette training. In many, especially rural households, the limited educational resources are made available for boys'n'education.The rationale being that the girls will eventually be married off and the husbands will look after them' (p.45).

Another strategy which was aimed at promoting the girl-child education in Zambia was the re-entry or re-admission policy. This policy required school girls who fell pregnant to return to school after they had delivered their babies. In Zambia, this policy became operational in September 1997. But the most important question to be asked is: To what extent are girls taking advantage of this policy and returning to school after giving birth?

During the period 2002 – 2008, the percentage of pregnant girls re-entering school after giving birth had slightly increased at the basic education level from 36 percent to 38 percent, while the percentage at the high school level fell from 79.2% to 65.1% (Namuunda & Mumbuna, 2010). In addition, the regulation demanding the sending away of both boy and girl from school to nurse the expected baby may have also played a positive role in increasing retention of the girl-child by avoiding pregnancy.

Mwansa (2008), in her exploration of the use of focused group discussion and semi-structured interview techniques during her studies in London, collected data on the experiences of adolescent mothers in the implementation of the Re-entry policy at high school level in Lusaka. Among other things the following emerged:

> " The Ministry of Education (MoE) reports on the policy have focused on the goals, implementation strategies and on-going development outreach of the policy. It tends to highlight the effectiveness of various interventions. During the early years of the Re-entry policy there was little to be learned about the achievements and failure of this policy in MoE annual statistical bulletins because of lack of consultations that characterised the implementation stage of the policy. However, these statistical reports and joint annual review meeting memoirs seem to suggest that the Re-entry policy in Zambia was achieving the expected goals. They highlighted the indisputable fact that a significant number of school girl mothers, especially in rural areas, had returned to school" (p. 32-33).

In recent years, there has been an increase in the number of pregnancies among school-going girls. According to Namuunda and Mumbuna (2010), between 2002 and 2008, there had been an increase in the number of school girls who fell pregnant; from 3,663 to 12, 370 at Basic school level and from 765 to 1, 566 in 2008 at High school level. They also noted differences in the trends in re-entry rates between basic and high schools, rural and urban areas and among provinces. For example, over the years, there were more girls at high school who returned to school after giving birth compared to girls from basic schools. Although the implementation of the re-entry policy has shown some positive impact, there are still challenges that are experienced and subsequently affect the extent to which girls are taking advantage of this policy.

It has been noted that the enrolment and progression rates of boys and girls in school differ a lot. According to Katongo (2004), girls enrol in grade 1 in numbers almost equal to that of boys. The gap between sexes starts to widen from grade 5 to grade 7, with the girls accounting for only 46 percent. This is because the drop up rate for girls is higher than for boys. Several factors that inhibit the full participation of girls in education have been identified. The campaign, as earlier mentioned, was aimed at promoting the enrolment and retention of the girl-child.

Apart from this strategy, measures such as turning Boys-only schools into Co-education High schools, construction of more basic schools and so on were implemented. However, assessment of the effect of these strategies on the girl-child education has not yet been done.

The progress that has been made in Zambian basic schools regarding access and retention of the girl-child following country-wide campaigns has not been established. Zambia witnessed many groups including Government and some Churches getting involved in these campaigns to advance the cause for the girl-child and women education since the mid-90s. It was, therefore, important to carry out a research to establish the extent to which this policy had yielded the much anticipated and needed results.

Methodology

The objectives of this study clearly point towards a multi-pronged research design that encompasses secondary and primary research methodologies. A descriptive study was used to carry out the research. Unlike other research designs, a descriptive study allows for a wider coverage of cases in the collection of data. As argued by Charles (1988, p.8), “descriptive research describes conditions, situations and events of the present”.

This study consisted of a threefold approach from the onset of the study up to the end term review. It was, thus, a hybrid of *qualitative and quantitative* methodologies preceded by some desk research. To ensure evidence-based insights upon which the impact of the girl child education awareness campaign was established, the information needed to be detailed, diverse and credible. Collecting such comprehensive information called for an exhaustive and methodical irreproachable process. The research was carried

out in conformity with professional ethics, international standards and practices.

The target areas of this study were Northern and Eastern provinces of Zambia, which are among the most hit places with high dropout rates and Copperbelt province, which is not one of the most hit provinces. The Copperbelt province acted as a control group. The main reason for this was to compare the result of the most hit provinces and the less hit provinces by establishing the real situation on the ground (MoE Database Ed Assist). In addition, from each province, three districts were randomly selected.

The Ministry of Education Directorates, Provincial and District Education Officials were part of the target population. Others were serving Head teachers, teachers and pupils in selected basic schools of the target provinces, some parents in selected communities as well as selected Non-Governmental Organisations (NGOs) in the country.

Seven out of 15 Head teachers that participated in the study had served in their present capacity for a period ranging from one to five years while five of them had served for a period of less than one year. Two Head teachers had served for a period between six and ten years while only one Head teacher had served for more than 20 years. The study further probed the length of stay of individual teachers at their present school. It was discovered that the majority of the teachers, that is 22 (48.8%) out of the 45 teachers that participated in the study had served at the present school for a period between one and five years. Thirteen teachers representing 28.8% had served for a period between 11 and 15 years while seven (15.5%) of them had served for a period between six and ten years. On the other hand, three teachers had served between 16 and 20 years while three representing 6.6% had served at their present school for over 20 years.

The sample consisted of three officials from the Directorate of Planning and Information of the Ministry of Education Headquarters, two officers at the provincial and district education offices, and three parents from each of the selected provinces. Others were five Head teachers from each province, three teachers from each of the selected schools, five pupils from each of the selected schools and five officers from three different NGOs.

Ministry of Education officials, basic schools teachers and NGOs were chosen using purposive or judgmental sampling procedures. Purposive or judgmental sampling is based on the judgment of a researcher regarding the characteristics of a representative sample. The strategy in purposive sampling is to select elements that are judged typical of the population under investigation. Head teachers of the selected basic schools were automatic respondents, whereas parents were selected randomly. Random selection as stipulated by Charles (1998, p.8) ensures that “each and every individual in the population has an equal chance of being included”. He adds that random selection helps ensure accurate samples.

In order to have wide coverage of views, data were collected through questionnaires, interview schedules and focus group discussions with the different respondents. Researchers completed the interview schedules by directly obtaining information from the Ministry of Education Officials, NGOs’ officials and conducting discussions with parents, while Head teachers and teachers completed their respective questionnaires themselves.

Interview schedules were used with pupils.

Non-structured questions were manually analysed through categorisation and coding of themes. Descriptive statistics were used in data analysis, i.e. numerical data were summarised using frequency distributions, percentages or graphic presentations in form of figures.

Findings

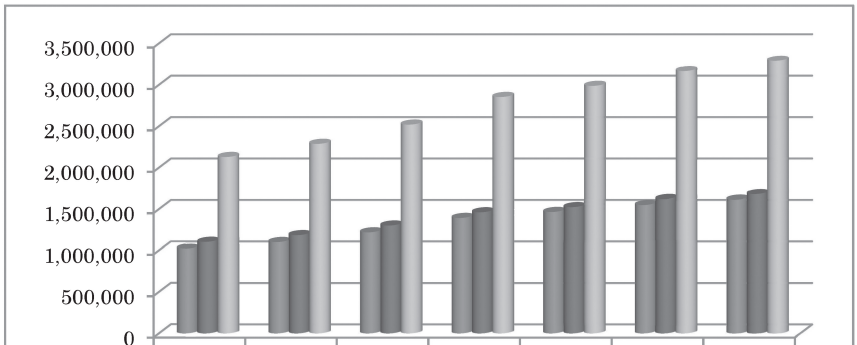
This section presents and discusses the findings of the study on the impact of the Girl-Child Education Campaigns between 1998 and 2006 on enrolment and retention in selected Basic Schools in Zambia. A total of 176 respondents was drawn, of which 15 (8.5%) were Head Teachers, 45 (25.6%) were Teachers and 27 (15.3%) were Ministry of Education officials (i.e. 3 from the Ministry of Education headquarters, 6 from the Provincial Education office and 18 from the District Education Board Secretary's office). Others were 5 (2.8%) NGO officers, 9 (5.1%) parents and 75 (42.6%) pupils. The presentation and discussion of the findings in this regard centre on the objectives which guided this study.

Impact of the Girl-Child Education Campaigns on Enrolments

The other focus of the study was to assess the impact of the girl child education campaigns on the enrolment of girls in selected basic schools in Zambia. Figure 1 below gives us a picture of the enrolment trends between 2002 and 2008.

The information in Figure 1 above shows that the enrolment figures for girls

Figure 1: Enrolment in Basic Schools by Gender and Year in Zambia



	2002	2003	2004	2005	2006	2007	2008
Female	1,023,3	1,101,9	1,218,6	1,391,9	1,464,1	1,547,7	1,611,1
Male	1,104,7	1,184,6	1,300,5	1,460,3	1,522,6	1,618,5	1,679,0
Total	2,128,0	2,286,6	2,519,1	2,852,3	2,986,7	3,166,3	3,290,2

Source: 2006/8 Educational Statistical Bulletin

gradually increased from 1, 023, 320 in 2002 to 1, 464, 130 in 2006 representing an increase of 440, 810 (43%). This means that whereas the difference in enrolment figures between boys and girls in 2002 was 81,390 in 2006, this was reduced to 58, 510. The difference in enrolment figures between girls and boys improved by 28% in 2006. A closer examination of the enrolment pattern reflected in Figure 1 reveals that the more the campaigns lasted, the more girls were enrolled and the narrower the gap between the enrolment of girls and boys. Responses from the Ministry of Education officials, Head teachers and teachers confirmed that there had been a steady increase in the enrolment figures of girls in the selected basic schools between 2002 and 2006. They attributed this increase to the girl child education awareness campaigns.

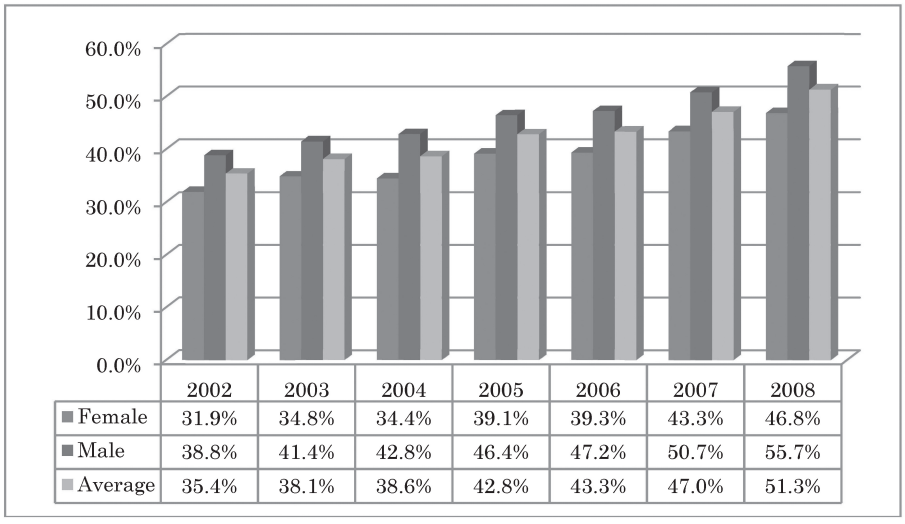
Impact of the Girl-Child Education Campaigns on Retention

Finally, the study also sought to establish whether or not the girl-child education campaigns had improved the retention of girls in basic schools in Zambia.

Asked whether the girl child education awareness campaigns had improved the retention rate of girls in the selected basic schools, 14 out of 15 Head teachers responded in the affirmative. However, one Head teacher did not attribute the improved retention rate to the campaigns. The responses from the teachers also showed that most of the schools had increased retention due to the campaigns. Of the 45 teachers, 43 (96%) acknowledged an increase in retention rate while two (4%) did not give any alternative explanation to this phenomenon.

The completion rate in grades 1 to 9, as reflected in Figure 2 below, also confirms

Figure 2: Completion Rate in Grade 1-9 by Gender and Year in Zambia



	2002	2003	2004	2005	2006	2007	2008
Female	31.9%	34.8%	34.4%	39.1%	39.3%	43.3%	46.8%
Male	38.8%	41.4%	42.8%	46.4%	47.2%	50.7%	55.7%
Average	35.4%	38.1%	38.6%	42.8%	43.3%	47.0%	51.3%

Source: 2006/8 Educational Statistical Bulletin

that the retention rate among girls in selected basic schools had increased.

Whereas the retention rate was 31.9% in 2002, it increased to 39.3% in 2006 representing an improvement of 7.4% in the retention rate. While significant retention rates among girls were recorded between 2002 and 2003 as well as 2004 to 2005, the retention rate recorded in the latter case was the highest of them all.

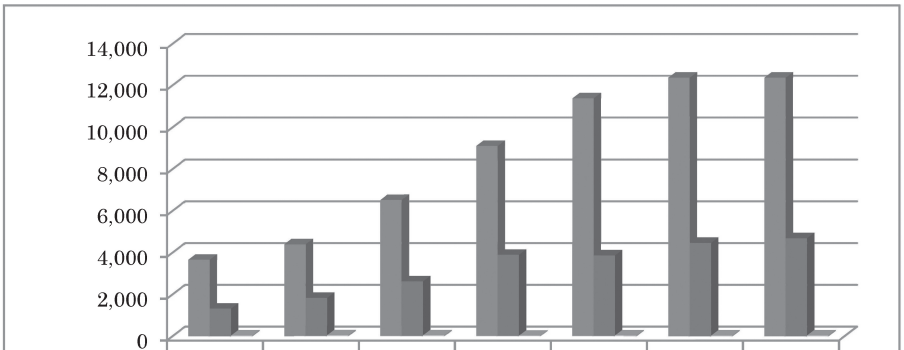
While the improvement in the enrolment and retention rates among girls in basic schools can be attributed to the girl child education campaigns, some of the factors such as the Zambian government's re-entry policy appear to have played a more significant supportive role than others. As indicated earlier in this report, this is a policy that allows school-going girls to return to school after giving birth. The information given in Figure 3 below will suffice to prove this point.

Of the 3, 663 girls who got pregnant in 2002, 1,322 were re-admitted, representing 36.09%. The highest percentage of re-admissions (re-entry) that is 41.68%, was recorded in 2003. The Head teachers and teachers spoken to in this study appreciated the positive effects of the campaigns and the re-entry policy on the enrolment and retention of girls in basic schools. A teacher at one basic school in Eastern Province gave an example of five girls that their school received on *re-entry* policy in 2011 and 2012.

One teacher stated, 'Many pupils have come back into schools' mainstream', while another teacher confirmed the effectiveness of the campaigns though monitoring of the campaign had been rather poor. Other teachers, however, believed that many girls had deliberately taken advantage of the new policy when they remarked, 'It (policy) has brought more problems because a lot of girls think they will be retained later'.

Similar sentiments were recorded in the Copperbelt Province. For example, "A lot

Figure 3: Pregnancies and Re-admissions in Zambia's Basic Schools by Year



	2002	2003	2004	2005	2006	2007	2008
Preg.	3,663	4,405	6,528	9,111	11,381	12,370	12,370
Re-ad.	1,322	1,836	2,626	3,899	3,870	4,470	4,692
% Re-ad.	36.09	41.68	40.23	21.4	36.3	34	37.9

Source: 2006/8 Educational Statistical Bulletin

of people are now aware because girls are participating in education", and "The mode of dressing for girls changed". A good number of teachers described what was happening at their schools as follows: "Most girls who were on streets have gone back to school and are doing very fine". In addition, some claimed that there had been a reduction in pregnancy levels. Others reported, "Our school has become a girls' only school due to campaigns"; "Most girls are free to air their views". Many administrators said, 'Most girls have come back after giving birth', while others stated that more girls had been sent to Grade 10.

To address the problem of school-going girls getting pregnant, the re-entry policy put in place the following measures:

a. Each school should had a trained female Counsellor for girls and a male Counsellor for boys. Each school had counselling on sexual and gender relations and reproductive health education included on the timetable to reduce incidences of teen pregnancies.

b. Schools had to sensitise pupils on the consequences of pregnancy for both girls and boys, i.e. both would be sent on maternity/paternity leave and that the school Guidance and Counselling Department would contact legal bodies for information on legal action and maintenance for the girl and the child.

c. Existing Student Alliance for Female Education (SAFE) Clubs and Child Rights Clubs were strengthened and new ones established in all the schools (Ministry of Education, FAWEZA & UNICEF, 2004, p. 12).

From the aforesaid, it can be concluded that the girl child education awareness campaigns between 2002 and 2006 on enrolment and retention in selected basic schools produced positive results. From the information available in Figures 1, 2 and 3 presented in this report, it can be inferred that this positive trend continued even beyond 2006.

Basic Schools that Experienced the Effects of the Girl-Child Education

The study revealed that all the basic schools in all the Provinces/Districts visited were targeted for the campaigns of Girl-Child education. The responses from all the Ministry of Education Officials interviewed confirmed that there were no specific schools that were targeted for this exercise, as all the schools were reached in this regard. However, the respondents from the Lusaka Provincial Education Office explained that the campaigns were more focused on certain areas where cases of early pregnancies and early marriages were more prevalent such as Chongwe, Luangwa and Lusaka Districts.

The study also revealed that the campaign started as a pilot in some specific places. For example, in Kitwe town of the Copperbelt Province, the pilot started in 1998 at Valley View, Ndeke and Justine Kabwe Basic Schools. This finding was verified by the response

from the Ministry of Education Headquarters Official, who revealed that the campaign commenced as a pilot in six provinces of Zambia such as the Eastern, Copperbelt, among others. The campaign aimed at positioning the girls in Education by addressing cultural beliefs that hindered the girl-children from advancing in their education. In view of the aforesaid, it is clear that most of the basic schools in Zambia experienced the effects of these campaigns.

Basic School Children's Knowledge of Girl-Child Education Campaigns

Focus group discussions were held with pupils in all the schools visited to establish their awareness of the campaign for the girls' education. The study revealed that in spite of some pupils being aware of the campaigns in their schools, others initially appeared not to know that their schools were among those that had been targeted for the campaigns for girls' education. However, a further probe indicated that most of them did not link the measures that were being implemented to the 'Girl Child Education Awareness Campaigns'. One of the measures was encouraging the pregnant girls to go back to school after giving birth. Some pupils explained that they were being encouraged to be morally sound by their Head teachers during school assembly or by their teachers during lesson times. In some cases, some pupils were trained and encouraged to have discussion with their fellow pupils on the issues of girl's education as Peer Educators.

Some of the children gave the following responses: "Our Head teacher encourages us to work hard", "Our teacher in class encourages us to abstain from sex", "Our teacher encourages us during lessons to listen attentively and also see the value of school", "Our head teacher encourages us to be good girls", among others. All in all, it was evident that most of the pupils were aware of the measures aimed at promoting girls' education in their schools.

Teachers' Knowledge of the Girl-Child Education Campaigns

Although this objective initially targeted teachers in the selected basic schools of this study, an attempt was made to gauge the knowledge of other prominent respondents in this regard. The study revealed that all the respondents, that is, basic school teachers, Ministry of Education officials and Non-Governmental Organisations were aware of the Girl-Child Education Campaigns. Further, their responses indicated the roles they played in the various capacities.

The Head teachers' responses revealed that some of them played more than one role. Out of the 15 responses, seven (47%) played the role of sensitizing and/or encouraging girls on the importance of education. Four Head teachers indicated that they played the role of sensitizing the communities while three of them indicated that they implemented the campaigns in their schools. However, only one Head teacher indicated that he had been facilitating at workshops for promoting the importance of girls' education.

While the teachers' responses revealed that most of them, that is 22 out of 45, (49%) played the role of sensitizing the Girl Child in the school, 11 (24%) were involved in sensitising the community. Eight teachers were counselling and guiding the girls while 4 (9 %) did not play any role. Respondents from the Ministry of Education headquarters confirmed the various roles that teachers played in the girl child education awareness.

Owing to their involvement in promoting the girl child education, Non-Governmental Organisation officials also exhibited knowledge of these campaigns. They played various roles such as creating awareness of the importance of promoting girls' education among Parliamentarians. They (NGOs) also recruited many female teachers in order to strengthen advocacy. Parents, too, exhibited sufficient knowledge of the campaigns.

Methods used in the Girl-Child Education Campaigns

Many interest groups used various campaign methods to create awareness of the importance of educating the girl child. For example, The Ministry of Education officials and teachers used the following methods:

a. Parent-Teachers' Association meetings
b. Psycho-socio counselling talks
c. Radio advertisements
d. In-house workshops
e. Drama and poetry
f. School clubs
g. Integration of girls into former boys-only schools
h. Forming classes exclusively for girls under the programme called Programme for the Advancement of Girls' Education (PAGE)
i. Pupil-parent orientations

The NGOs mainly used the following methods to create awareness of the importance of educating the girl-child:

a. Brochures and fliers
b. Television role plays and drama (in places where television service is available)
c. Radio advertisements
d. Community sensitisation through sketches
e. Sensitisation meetings with the local leadership
f. Organisation of role model talks

Various categories of the respondents such as the Ministry of Education officials, Head teachers, teachers, pupils, parents, NGOs officials and community leaders confirmed that these methods used in the campaigns were very effective in creating awareness of the

importance of educating the girl child.

Discussion and Implication of Findings

Overall, the campaign to a larger extent can be described as having achieved its objective of increasing access and retention of the girl-child in school. Not only did it create awareness about the importance of education among the girl-children, but it also encouraged parents and the community in general on the need to send and support the girl-children at school. The success of the campaign can be confirmed by both the statistics emanating from the study including information from the participants themselves. However, success of this nature can only be sustained if the cultural beliefs that hinder the girl-children from advancing in their education are addressed. These include negative self-image reinforced in school, distorted teacher's opinion of the ability of the girl-child, role expectation of the girl-child in the community and so on. It was, however, apparent in this study that none of such beliefs was given prominence nor were steps being taken to improve the situation highlighted.

It should also be borne in mind that the campaign may not have been the only factor that led to this positive development. There might have been other factors that contributed to more girls having access to educational facilities as well as staying there for a longer period of time. For example, the building of more basic schools in many areas could have contributed to the increase in enrolment and retention of the girl-children as it became relatively easier for them to get to school.

It can also be stated that not all areas in Zambia benefitted from the campaigns. For instance, some areas in Zambia still have challenges of inadequate learning facilities whose schools in some cases are located far from human settlements. In this regard, some girl-children still do not have the opportunity to attend school.

The achievement of these campaigns should be replicated in areas that were not reached. Furthermore, the Government should be encouraged to adopt and sustain the 'good' measures, as best practices, in order to increase enrolment and retention of the girl-child.

Conclusion

In this study it has been established that most of the basic schools experienced the girl child education awareness campaigns. It has also been noted that nearly all the respondents (Ministry of Education officials, head teachers, teachers, parents, pupils and NGOs) had adequate knowledge of the girl child education campaigns and their effect on the enrolment and retention rates of girls in basic schools.

It has been observed that stakeholders used a variety of methods in promoting the girl-child's education. It should be noted, however, that some of these interest groups used the same methods. For instance, teachers, Ministry of Education officials and NGOs

officials used radio, workshops, drama, and meeting with parents. These and many other methods proved to be very effective.

As far as the findings of this study are concerned, there was a noticeable positive impact of the girl-child education campaigns on the enrolment and retention rates of the girl child in selected basic schools in Zambia. As stated earlier, the Zambian Government's introduction of the re-entry policy appear to have enhanced the retention of girls in Basic Schools.

Recommendations

The recommendations which are based on this study are as follows:

a. There is need to keep an up – to – date pupil information systems (records) at the Ministry of Education Headquarters, Provincial and District Education offices as well as in schools.
b. Considering the positive achievements of the girl child education awareness campaigns, the Government and other stakeholders should put measures in place to sustain them (campaigns).
c. Since some respondents expressed misgivings over the re-admissions (re-entry policy), the Government and other stakeholders should carry out sensitisation campaigns to highlight the benefits of this policy.
d. It is recommended that in future a similar study should be conducted on a large scale.

Owing to limited resources and time constraints, this study was conducted in selected basic schools in Zambia. Therefore, it (study) might not give us a broader picture of the impact of the girl-child education awareness. Consequently, generalisation of the findings might also be inappropriate. In studies of this nature, findings might be interpreted in different ways. For example, while the researchers' focus was on the impact of the girl-child education awareness campaigns on the enrolment and retention, other people might argue that other factors could affect both access and retention of the girl child in basic schools.

Although the study sought to establish enrolment and retention trends among female pupils in basic schools from 1998 to 2006, statistical information from 1998 to 2001 was not available at the time of this study. Therefore, this information gap might not give a full picture of the developments that took place during the whole period the researchers wanted to cover in the study.

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Factors Affecting Female Students' Academic Achievement at Bahir Dar University

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Abstract

The main purpose of this study was to investigate the on-campus and off-campus factors responsible for female students' low academic performance and consequently high attrition. Based on review of the related literature, basic research questions were formulated. For data gathering, both quantitative and qualitative research methods were employed. The quantitative data were obtained through questionnaire. A pilot study was conducted to validate the instrument using 30 second year university students and was followed by the main study. The final version of the questionnaire was administered for 600 undergraduate students at Bahir Dar University. The qualitative instrument constituted of document analysis, student records, and interview. The SPSS 13.0 was used for data analysis. Statistical techniques such as Percentage, Cross Tabulation, Pearson Product Moment Correlation, t-test and Regression Analysis have been used for data analysis. Though the rate of attrition decreases, the number of female students' attrition has increased. The problems female students encountered constitute personal, university related factors, academic factors and economic factors. Previous academic background (high school) is one of the major factors for their low academic performance. The off-campus factors that affect female students' academic performance include family background, Disco and traditional Music Houses and economic problems. In conclusion, the majority of problems female students encounter and those factors that affect female students' academic performance are personal and the other problems are caused by the university environment.

Introduction

Education is one of the social factors whereby gender disparity is reflected. The number and proportion of educated females is very low. As the grade level of education increases, the number of female students starts to decline. Consequently, higher education remains the level of learning where females are less represented both as students and staff. The very few women that are fortunate enough to join higher learning institutions can be characterized by lower academic performance and higher forced withdrawal. Consequently, such inequity in higher education representation has a serious life-long impact on their opportunities to participate in the country's political power sharing,

economic privileges as well as social representations. Thus, this study focuses on assessing factors affecting female students' academic achievement and causes of higher attrition at Bahir dar University.

Bahir dar University is one of well established public universities in Ethiopia. Its student population is increasing from time to time. Currently, there are about 40,000 students at undergraduate and post graduate level in various modes of delivery. This student number is the second in the country next to Addis Ababa University.

Statement of the Problem

The question of equality in education should not be measured only by the number of enrollment and by the school inputs because some inputs may be of greater importance to certain groups of students. The new definition of equality is stipulated in such a way that the students are equal when the educational outcomes of these students are essentially the same for both males and females. Therefore, it is unwise to think gender equality in education by simply counting the number of female students enrolled in higher education institutions. Equality of sexes can be ensured if the schools identify and solve the factors that affect females' academic performance and thereby minimize female attritions. However, schools and universities, because of their biased treatments and some other external factors, become centers of gender disparity.

For instance, some studies made in USA revealed that children of both sexes start school with roughly similar potential to learn. Their scores on IQ tests were approximately equivalent when gender difference was controlled. Yet, test scores of female students decrease over time until when children move up the ladder in the education arena. This implies that there are on-campus and off-campus factors that differently treat students across gender (Feldman, 1990).

Similarly, the document analysis made on students' results at Bahir dar University has portrayed that the attrition rate of female students at Bahir Dar University has been found to be higher compared to male students. The results in Table 1 revealed that female students' attrition rate has drastically decreased from time to time. The rate of attrition ranged from 39.8% for Faculty of Business and Economics in 2006/7 academic year to 4% for Agriculture and Environmental Sciences in 2011/12. The rate has declined, though inconsistently. However, since the number of females' enrollment is increasing from year to year, significant numbers of female students were still academically dismissed from the university. Attrition rate varied from faculty to faculty. It seems high at Faculties of Business and Economics, Law and Education and Behavioral Sciences. Unlike expectations, the worst attrition rate was not recorded at faculties of Engineering and Medicine and Health Sciences. One of the reasons for the attrition rate to decline may be that the university has set evaluation policy which enforces teachers so as not to give more than 10% percent of failing grade (D and F). Another reason presumed to decrease female students' attrition rate might be that the university has introduced continuous assessment

which is believed to enhance students' engagement in academics and there by increases their achievement.

Table 1: Attrition Rate of Female Students at Bahir Dar University from 2006/7-2011/12

Faculty		Academic Years						
		2007	2008	2009	2010	2011	2012	Total
Agriculture	Enrollment	48	84	103	210	138	275	858
	Attrition	15	17	21	30	6	11	100
	%	31.3	20.2	20.4	10	4.3	4	
Education	Enrollment	53	615	455	1350	514	1251	4238
	Attrition	20	165	55	80	43	68	431
	%	37.7	26.8	12	5.9	8.4	5.4	
Business &Eco	Enrollment	93	380	385	1746	290	782	3676
	Attrition	37	114	84	112	17	57	421
	%	39	30	21.80	6.40	5.90	7.3	
Medicine	Enrollment			6	14	11	35	66
	Attrition			0	1	1	3	5
	%			0	7.10	9.1	8.60	
Engineering	Enrollment	2117	173	150	515	134	1093	2282
	Attrition	52	40	34	50	15	58	249
	%	24	23	22.70	9.70	11.20	5.30	
Law	Enrollment	59	61	48	101	378	395	1042
	Attrition	19	20	11	11	36	37	134
	%	32.20	32.20	22.90	10	9.50	9.40	

From the literature, various factors have been stated to be the causes for lower academic performance and higher attrition rates of female students. For instance, the general institutional environment, the overall interaction and practice the students make with school personnel, institutional rules and regulations, sanctions, and the organizational structure. It is long noted that the relationship between students and their universities is one significant predictor of social and academic development that the structure of the university unfairly treats students based on their background (Apple, 1980).

Stereotypes in higher institutions, based on students' characteristics serve as an important avenue in affecting females' academic performance. Eliminating stereotypical attitudes towards various groups that are represented in the classroom is a recognized avenue to increase females' academic performance and thereby minimize their attrition rate in higher institutions (Banks and Banks, 1997).

Furthermore, teacher-student interactions, peer interaction and lack of adequate orientation are presumed to be factors affecting females' education. Thus, this study plans to identify the major factors that influence females' academic performance in the Ethiopian higher learning institutions.

Traced on the theoretical frameworks and practical and statistical evidences, the following research questions were formulated.

1. What are the on-campus factors that affect the academic performance of female

university students and cause higher attrition rate?

1.1 What is the trend of attrition at Bahir Dar University?

1.2 What are the on-campus factors that affect the academic performance of female University students?

1.3 Are there unfavorable University environment that affect females' education?

1.4 Do female students receive adequate support from teachers and friends?

1.5 Are female students victims of sexual harassment and verbal abuse?

2. What are the off-campus factors that affect the academic performance of female University students?

2.1 What are the surrounding environmental factors that affect females' academic performance?

2.2 Does female students' residence affect their academic performance?

Research Design

This study has focused on the major factors that affect female students' academic performance and causes of attrition in Bahir Dar University. Even though the female students' problems are multifaceted, in this study attempts were made to examine on campus and off-campus factors.

The quantitative instrument was a questionnaire. This instrument was used to collect data about the major problems that challenge female students at Bahir Dar University, and the major factors that affect females' academic performance. The qualitative part constituted document analysis and interview.

Populations, Samples and Sampling Techniques of the Study

Students of Bahir Dar University were the focus of this study. Second year and above undergraduate students were selected for the reason that their stay in the university might have let them clearly understand the factors that affect female students' academic performance and causes of attrition.

Data were collected from six, out of 16, randomly selected faculties. These faculties included Education and Behavioral Sciences, Engineering, Medicine and Health Sciences, Agriculture and Environmental Sciences, Law and Business and Economics.

The questionnaire was distributed to 20 students in the classroom randomly. In the sections where there were adequate numbers of females, 15 females and 5 males were selected arbitrarily in the classroom. However, when the number of female students in the sections was found below 15, the number of male students was increased. In total, 600 (400 females and 200 male students) students from the University filled the questionnaire. The questionnaire constitutes issues about factors affecting female students' academic achievement, their relationship with male students and teachers, the nature of university

environment and availability and types of sexual harassment in the university.

Data Gathering Instruments

In this study, four data gathering instruments were used. They were questionnaire, document analysis, observation and interview. The way such instruments were developed and scored is explained hereunder.

Quantitative Instrument

Questionnaire

The questionnaire was constructed based on theoretical and empirical grounds about factors affecting female students' academic performance and causes of attrition. A total of 179 items were developed. The questionnaire included background information (10), measure of parents education level (10), recreation centers (12), money spending (7), prevalent problems (18), university environment (11), nature of affirmative action (8), attitude towards affirmative action (16), factors for low performance and attrition (17), support from friends (15), support from teachers (11), locus of control (20).

Qualitative Data Gathering Instruments

i. *Document Analysis*

Document analysis was carried out to examine the rate of female students' attrition from Bahir Dar University. To see the trends of female students' attrition, the documents from the Registrar of the University were consulted. For this purpose documents from 2006-2012 were analyzed.

ii. *Interview*

Interview was conducted with University Officials, Gender officers, Dean of Students, and female students. The results of interview were employed to substantiate the results gathered through questionnaire and document analysis.

iii. *Focus group discussion*

Focus group discussions were held with gender office heads, gender club members, female students and students' council members. The issue of discussion was about the problems female students face in the university.

Data Analysis Techniques

In this study, both quantitative and qualitative data analysis techniques were employed. The data gathered through the questionnaire from students were analyzed using mean, standard deviation, t-test, and linear regression analysis. The SPSS 13.00 was employed to analyze the quantitative data.

The data collected through document analysis was analyzed qualitatively through narration and using percentage. The interview and the focus group discussions were also analyzed qualitatively and used to support the findings obtained through questionnaire and document analysis.

Results

This part deals with the presentation of the data gathered through various instruments. The results are presented hereunder.

Factors for Low Achievement and Causes of Attrition

The data obtained from open-ended questions have pointed out that the problems female students face in the university consists 17 types of problems that are categorized under four themes. They are personal, university environment, academic and economic factors as indicated below.

i. Personal related factors
   - Lack of self confidence
   - Lack of adequate effort
   - Carelessness
   - Lack of ability to be competent
   - Homesickness
   - Being addicted to drinking, smoking, disco houses, etc
   - Tension
   - Falling in love easily
   - Inability to become well planned and organized

ii. University related factors
   - Lack of proper reading place where they can use freely
   - The influence of male students
   - The influence from male teachers and other staff members and youth from surrounding environment
   - Lack of proper guidance
   - Academic advising problem

iii. Academic related factors
   - Difficulty of education

- Poor high school performance

iv. Economic related factor

- Shortage of money to support one self

Of these problems, personal factors such as lack of self confidence, lack of adequate effort and carelessness constitute the first, the second and the third crucial problems in order that affect female students' academic achievement and thereby increase their attrition in the university.

In addition to the personal problems, it was reported that lack of support from teachers, absence of concerned people in the university about female students' problems and absence of adequate counseling services are problems mentioned by students.

Sexual harassments, domestic violence, dating violence and stalking are serious problems on faculty campuses. The study has portrayed that 35 percent of female respondents were victims of sexual harassments or attempted sexual assault per year and in nearly most cases it was by an acquaintance, based on ethnicity, coming from same place, study group, and rarely outside of the campus by students. The types of sexual harassments include:

- Showing sexually appealing writings and magazines
- Telling sex related jokes to female students without their consent
- Disseminating female students' photographs.
- Sending sex related messages using electronics instruments
- Touching female students' body during practical works and laboratory training
- Assigning and using sex related nick names to female students
- Harassing females through continuously following their activities
- Hiding learning materials and forcing female students for sexual practice

Of these cases, 65 percent of reported sexual assaults against female students in the university are perpetrated by someone known to the victim, and nearly half of such sexual assaults occur during day time.

Correlation analysis (Table 2) demonstrated important relationships. University Grade Point Average (GPA) is highly and significantly correlated with support from friends, and teachers, favorable perception of university environment and preparatory school leaving certificate exam results. However, students' GPA negatively but significantly correlated with the problems students encounter in the university. That is, the more students believe that they have problems in the university; the lower is their university GPA. The correlation ranged from r= -0.118 with problems students encounter in the university, to 0.091 with support from friends.

Table 2: Correlation among Support Friends and Teachers, Problems Females Encounter in Higher Learning Institutions, their Perception of University Environment, Preparatory School Leaving Certificate Exam and their GPA

GPA	1.00					
Friend support	0.091	1.00				
University Env.	0.071	0.132	1.00			
Problems	-0.118	0.304	0.223	1.00		
Teacher support	0.081	0.365	0.344	0.171	1.00	
Entrance exam	0.209	0.076	0.075	0.103	0.122	1.00
	GPA	Friend support	University Env.	Problems	Teacher support	Entrance exam

The results in Table 3 portray that except students' age the rest of factors, such as entrance exam, conduciveness of university environment, support from friends, support from teachers, and problems students encounter in their university life significantly predict students' academic performance in higher learning institutions of Ethiopia.

Table 3: Predictors of Students' Academic Performance in Higher Learning Institutions

Mode: variable	B	t	Sig.
University environment	-0.092	-2.447	0.015
Problems in the university	-0.098	-2.633	0.009
Support from Friends	-0.113	-2.923	0.004
Support from teachers	0.097	2.462	0.014
Entrance exam	0.226	6.462	0.000
Age	0.036	1.035	0.301

Two t-tests run to determine if there are statistically significant differences between the means of male and female students support services given by their friends and teachers depicted that the mean differences between male and female students are statistically significant at $p< 0.05$ for friends support and $p< 0.01$ for support from teachers in favor of males.

Table 4: t-test on Friends and Teachers Support between Sexes

Source	Male		Female		df	F	Sig
	Mean	SD	Mean	SD			
Support from friends	33.96	27.68	30.7	29.22	598	2.853	0.019
Support from teachers	78.54	9.1	73.59	9.66	598	1.308	0.000

Table 4 portrays that there are significant mean differences between male and female students in the support they receive from teachers and friends in favor of males.

Discussion of the Findings

What is the Trend of Attrition in Bahir Dar University?

The registrar office has attributed decrease in female students' attrition rate (Table 1) to the effective tutorial programs given in the university. Female students may leave university because of sexual harassment and the refusal of administrators to correct it. Feldman (1990) explained that sexual comments or jokes, sexist terms, sexual rumors, graffiti, leering, sexually graphic notes, and physical sexual harassment such as touching, grabbing, or pinching are precipitating factors for female students attrition. The findings of the current study indicated that such problems do persist in the higher learning institutions of Ethiopia. For instance, as it is indicated in open ended question responses, verbal and physical harassment by male students, teachers and other university staffs and rape are mentioned as major problems female students encounter at Bahir Dar University.

This result was substantiated by participants of the focus group discussion (FGD). Some female students reported that girls are mostly victims of sexual harassments by senior male students and some instructors who mostly target to use their grades as a means. The problem related with teachers become serious when we apply for university administration to take measures. The officials request us to give our witness. However, most of the female students did not take courage to expose themselves in front of some people and as a result refused to give their witnesses about what the instructors had committed on them. As a result of these harassments, female students have indicated that they have stopped to go to libraries, laboratories, study spaces and students lounges for recreation. The FGD has also portrayed that the University management is not working enough to help female students in real sense. Their support is verbal and for the sake of reporting believing that it is a policy issue. Practically, the university management is observed marginalizing female education centers, they claimed.

As a result of sexual harassment, students often stay in dormitory; some even miss class, or do not contribute. They may experience difficulty concentrating on academic work or suffer lowered self-esteem and self-confidence (Banks and Banks, 1997). Though the current study has not assessed the direct relationship between female students' level of harassment and their self-esteem, the findings of the current study revealed that lack of self-confidence is the first major factor that affects their academic performance. Lack of confidence might develop on females' dependency on male students which possibly may expose them to deal with males for sexual matters.

Does the University Environment Affect Students' Academic Performance?

Among the 17 factors that affect female students' academic achievements, five of them are directly related with the university environment. This implies that the university social climate is not comfortable for female students which significantly affect their academic achievement. This result contradicts with the theoretical framework that states feelings of personal affirmation and comfort create the conditions of personal connectedness that is essential to students' taking ownership in learning, which, in turn, leads to more sustained attention, effort, time on task and improved task mastery and academic achievement.

The quantitative data analysis has also proved this fact to be true. The correlation analysis has shown that students believes about the conduciveness of the university environment is highly and positively correlated with their GPA (Table 2). The Linear regression analysis has pulled out conduciveness of university environment as one significant variable that predicts female students' university GPA. Besides, peer support and support from teachers, which are practically part and parcel of the university environment, are significant predictors of female students' academic achievement in the university.

The mean difference between male and female students on their perception of the school environment is statistically significant in favor of males. Male students perceived that the school environment is more conducive than their female counterparts.

The results of the current study are not different from the already established theoretical frameworks and research findings. There is growing evidence that the school environment may act as a threat to some group of students. For instance, Brookover cited in Feldman (1990) has proved that unfavorable social environment is likely to distract the female students from the task at hand, to the detriment of performance and to influence their self-concept. Put in a different way, the context of higher education institutions serves as a tracking system to perpetuate the existing patterns of social stratification, benefiting males (Ibid). The school environment in the higher education institutions is a system of stratification that embodies differences of prestige and status among sexes.

While the available literature ascertains that school programs that promote self-efficacy, self-confidence, and high expectations are as important as programs that provide opportunities for higher academic achievement and career success, the current findings have indicated that personal problems such as fear of failure and lack of self-confidence are the first top most important factors that impede female students' academic achievement at Bahir Dar University and probably in higher learning institutions of Ethiopia.

Do Female Students Receive Adequate Support from Teachers and Friends?

It is believed that as students are integrated into and become more interdependent with both academic and social elements of a university, the probability that the student will leave the university declines (Prince, 1993). Astin (1975) also found that involvement was critical to a student's decision to persist or drop out from school. In other words, involvement with faculty and student peer groups encourages participation in social and intellectual life of a college and, therefore, helps learning and persistence in college (Astin, 1993).

Among school factors that promote female students' success in higher education the most critical is sound counseling, and providing staff training to help teachers serve female students more effectively (Nelson, 1993). The significant difference male and female students in getting support from friends and teachers (Table 4) implies that male students received more support from friends and teachers than their female counterparts. In other words, female students received less information, shared less experience about the academic and social life in higher education and less guidance from their friends and teachers. In short, females are at disadvantageous position. The current findings have proven that the greater support female students receive from peers and teachers, the higher is their university GPA.

Peer attitudes and support also contribute to education aspirations among females. A major part of what students learn comes from friendships formed outside the classroom and the strategies of peers for coping with school (Willingham & Cole, 1997). Female students who are parts of peer groups that participate in and are accepted by the school do better in their classes and future jobs than students in peer groups that reject the school and feel rejected by it.

Females with close friends who are school oriented and consider attending College are more likely to graduate. This implies that the support of schools and peers is very important to female students in completing higher education and taking nontraditional career paths (Merten, 1997). The current finding (Table 2) has also proved that peer support and support from teachers have significant effects on female students' academic performance in higher learning institutions. Other findings have indicated that lack of academic support or staff hostility as a reason for female students' leaving the higher learning institutions. This statement was strengthened by the findings of the current study. That is, the support given by teachers to female students was found less than to their male counterparts. Furthermore, the regression analysis has portrayed that the support from teachers affects female students' academic achievement as it is explained by their university GPA.

Most of the Female Education center coordinators indicated that the office is poorly organized and not well equipped with both human and material resources. These offices are running with shortage of budget and this holds true to all higher learning institutions in the country.

Off-campus factors affecting female students' persistence in higher learning institutions

The majority of participants in the recreation places like the Disco Houses were university students. One observation has indicated that nine female students have rented a house outside of the university so as to pass the nights after enjoying in Disco houses. This problem has also been indicated by students as one of the major problems of female students. The interview made with some people (whose identity should not be expressed) revealed that some female students work as sex workers to get money.

Another human right issue to be considered in higher learning institutions is reproductive health right of female students. Some female students give birth in the universities where there is no adequate maternal care. The interview with the personell of the university students' clinics has proved that pregnancy is one of the serious problems that female students encounter in higher learning institutions. The Nurses working in the university clinics have reported that pregnancy is a serious problem in the university. On average, five female students come to the clinics seeking help and advice due to pregnancy cases. Specially, it is sever after freshman students are admitted to the university. This might be attributed to the fact that this is the time that the majority of female students become free of parental control without having adequate awareness about how to deal with opposite sex mates. This issue has been raised by female students as a major problem. The other possible reason may be that female students, immediately after admission, might not get adequate social and academic orientation that helps them to adjust to the requirements of life in the universities, which in turn may expose them for bad senior students.

Other factors that may also affect retention and academic performance include institutional type, financial aid, sense of community in residence halls and self-efficacy. The results obtained in the current study have also affirmed the above findings. Both the quantitative and qualitative results have proved that previous background has significant impact on female students' academic achievement. Younger women were likely to leave school because of family and financial related reasons. Older women were more likely to leave because of practical difficulties or course dissatisfaction. The findings of this study have also portrayed that economic problems and difficulties of education (courses) are some of the factors that affect female students' academic achievement.

When female students do not see possibilities for doing well in school or pursuing postsecondary education or a career, they often leave school and start a family. Feldman (1990) suggest teen mothers do not have to leave school if their families are able to support them and programs allow them to continue taking courses toward graduation. The current study also ascertains the above statements. That is, out of 346 female students who were academically dismissed from higher learning institutions of Ethiopia, the majority (270) have mothers who are household wives and farmers. This implies that one of the factors for female students' low academic performance and high attrition might be their

family background.

Conclusions

Though the rate of attrition decreases the number of female students' attrition has increased. The findings of the study indicated that the problems female students encounter in Bahir Dar University constitute personal, university environment, economic and family related problems. Each of these categories contains one or more specific problems. The first problem is found to be fear of failure. The second and the third problems constitute economic and being placed in the departments they are enrolled. The interview made with female students has revealed that previous academic background (high school) is the major factor for their low academic performance and thereby their dropping out in higher learning institutions. There exists a significant correlation among the support from teachers, support from friends, problems female students encounter in higher learning institutions, and their entrance exam results with their University GPA. The regression analysis has pulled out all the above variables as important predictors of female students' academic performance (University GPA). External factors such Disco and traditional Music Houses have detracted females from their persistence on academic work.

In conclusion, the majority of problems female students encounter and those factors that affect female students' academic performance are personal and the other problems are caused by the university environment. Furthermore, the off-campus factors that affect female students' academic performance include family background, Disco and traditional Music Houses, economic problems and the role of brokers to initiate female students to work as sex workers.

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Examination of Locally and Externally-Initiated Teacher Professional Development (TPD) Programmes for Science and Mathematics Teachers in Ugandan Secondary Schools

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Abstract

This article draws from a study that explored how Ugandan secondary school teachers' competences are continuously developed to cope with the ever changing trends in Science and Mathematics teaching. The study was premised on a framework of professional development that views teacher education as a continuum that includes training, recruiting, retaining, and retraining. The article argues that in Uganda more research has been focused on the first two levels of the continuum, with evidence on the last one remaining less documented. Data was largely collected from qualitative semi-structured interviews with selected policy makers, school administrators, and teachers. The interviews were complemented with an analysis of relevant documents and a workshop with the participating teachers. A thematic analysis of the data revealed three categories of existing Continuing Professional Development programmes in Uganda including those initiated by government agencies and donors; those initiated by schools; and those initiated by individual teachers. The article highlights the need for a critical examination of these existing programmes with a view to ensuring that they reinforce each other.

Introduction and Background

A number of policy changes in Uganda in recent years have impacted on lower secondary education provision. The success in terms of access to Universal Primary Education that was introduced in 1997 was followed by an enormous demand for secondary education. To address this demand, the government introduced the Universal Post-Primary Education and Training (UPPET) policy in 2007. Under this policy, government covers a wide range of expenses for students enrolling in government-aided schools, and bursaries to those eligible (those scoring 4-28 aggregates) in selected private secondary schools in sub-counties without government-aided secondary schools. This policy has far-reaching implications on secondary schools and teachers such as having to cope with large classes and having to deal with learners from multiple abilities and socio-

economic backgrounds, among others.

Preceding the UPPET policy was the science policy which was introduced in 2005. This made all science subjects (biology, chemistry, and physics in addition to mathematics) compulsory at Ordinary (lower secondary) Level (O-Level). This policy was introduced to an already struggling science education sector. Performance in the science subjects as reflected by results of national examinations administered by the Uganda National Examinations Board (UNEB) at O-Level has been unsatisfactory for the past 3-4 decades. The Ministry of Education and Sports (MoE&S) refers to a study conducted by UNEB in 2004 which shows a consistent high failure rate in science and mathematics. The study shows that for five consecutive years (2000-2004), more than 40% of secondary school students failed science and mathematics (MoE&S, 2007a, p.3-4). For example, while 45.1% of the candidates failed mathematics in 2003, only 1.5% achieved Distinction in mathematics. This trend of failure persists to-date. In the recent 2009 O-Level results, science subjects were noted to have continued to register high failure rates with over 50% of the candidates unable to pass with the minimum grade 8 (Daily Monitor Reporter, 2010).

This state of affairs raises the need to explore the quality enhancement measures that are in place to train and equip secondary school teachers, more so the science teachers, with effective pedagogy and school administrators with the skills to create enabling environments for effective learning.

Training and Development of Secondary School Teachers in Uganda: An Overview

According to the official statistics accessible from the MoE&S, there were 50,767 secondary school teachers in total in 2007 (MoE&S, 2007b). Of these 39,520 were male and 11,247 female teachers. The data is not segregated according to the particular level of secondary education i.e. either lower secondary (Ordinary Level) or upper secondary (Advanced level). The minimum qualification for teaching at O-Level is Advanced Level (A-Level) with a diploma in education obtained from a National Teachers' College (NTC). Teaching at A-Level requires A-Level and bachelor's degree or B.A/BSc with a postgraduate diploma in education (PGDE) qualifications, although in situations of scarcity of graduate teachers, diploma holders tend to teach a specific subject across O- and A-Level.

Table 1 below, highlights the level of qualification of secondary school teachers in Uganda. All teachers in category 1-5 (34246 teachers in total) (67%) possess the required qualifications for teaching at secondary school level. The table shows that the majority of teachers (17,520) possess a diploma in education qualification, followed by those in possession of a degree in education (13,735). The qualification of 13,610 teachers (27%) cannot be accounted for (see category 9 below). The rest of the teachers (category 6-8) (6%) are teaching in secondary schools without the minimum qualifications.

Table 1: Secondary School teachers by education level

Category	Education Level	Male	Female	Total
1	Doctorate	37	5	42
2	Masters Degree	858	344	1202
3	Graduate	10315	3420	13735
4	Post Graduate Diploma	1384	363	1747
5	A Level + Cert./ Dipl	13741	3779	17520
6	A Level	2123	313	2436
7	O Level + Cert. / Dipl	256	85	341
8	O Level	109	25	134
9	Not Stated	9560	4050	13610
	Total	**38,383**	**12,384**	**50,767**

Source: MoE&S (2007b)

Although the available accessible data on teacher qualification presented above is not specific to lower or upper secondary teachers, it helps to illuminate the dire need for Continuing Professional Development (CPD) of teachers who are practicing with different levels of qualification. Certainly the need for and execution of CPD would vary across different categories of teachers. It can be observed that some of the teachers have actually upgraded to Masters and Doctoral levels implying that individual initiatives have been considered worthwhile. It can be expected that CPD will be highly demanded by those in category 3-5 that constitute over 60 percent of the total number of secondary school teachers although they possess the required minimum qualifications. Another challenge is to ascertain the best approaches for CPD in stratified staffing situations. A case in point is the 6 per cent without minimum qualifications whose needs would have to be addressed differently – first by ensuring that they acquire the necessary Initial Teacher Education (ITE) and thereafter establish the different sets of skills and knowledge that they may gain through CPD. At the same time, the 27 per cent whose qualification was unknown can create ambivalent conditions concerning the appropriate CPD capacities. Even more challenging in the development of CPD in the case of Uganda are the gender discrepancies in the qualifications of the female and male teachers. In each category the numerical difference between the male and the female teachers would possibly necessitate reflection on whether the Teacher Professional Development (TPD) or CPD can be structured with some gender-mindedness.

Conceptualising Teacher Professional Development and Continuing Professional Development

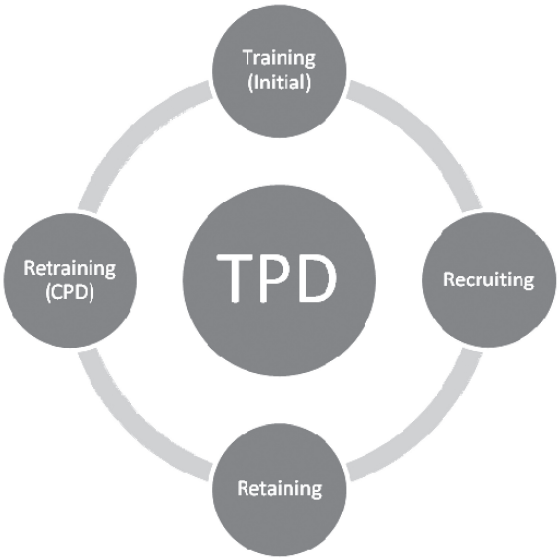
Teacher Professional Development (TPD) is increasingly becoming an integral component of education reforms and educational policy shifts. Indeed, in the developed countries, professional development for teachers has dominated educational policy

changes and research since mid-1980s (Hurd, et al., 2007; Ling & Mackenzie, 2001). This has been premised on the fact that success of any reforms for school improvement hinges on the professional development of teachers (Villegas-Reimers, 2003, p.29). In fact, "teachers are constantly called upon to add more and more tasks and content areas to their curriculum and to their professional role…" (Ling & Mackenzie, 2001, p.89). Yet, at the same time, the trajectories of teacher professional development are as diverse as they are context dependent (Komba & Nkumbi, 2008, p.69). A review of the literature illuminates the national, school and individual teacher initiatives for professional development. (cf. Hurd, et al., 2007; Ling & Mackenzie, 2001).

In African countries like Tanzania, TPD has focused on the improvement of the professional, academic and technical capacities to cope with the developments in science and technology. Although the national government ministry has a department in charge of TPD, the findings reported were based on interviews with the education managers at the local government levels among other informants. Clearly, the role of the local governments, which in this case are part of the national government, shows that there has been some organized engagement and support for professional development (Komba & Nkumbi, 2008, pp.74-76). However, the teachers reported that their schools had not invested much in the process of professional upgrading of their teachers despite the overwhelming increase in the number of teachers who had individually upgraded. The ongoing initiatives illuminate tremendous and systematic efforts to capacitate teachers in the different jurisdictions.

This article seeks to complement the existing literature by applying the conceptions

Figure 1: Levels of Teacher Professional Development



of Mulkeen et al. (2007) who view the professional development of secondary school teachers to include four levels i.e. training, recruiting, retaining and retraining (Figure 1). Their view is that the four levels overlap for the holistic quality enhancement of the teaching force, and none of the four should be prioritised or neglected at the expense of the other. This is the same framework within which we also situate our understanding of the continuum of TPD in the context of secondary school teachers in Uganda, arguing that in most cases more focus is placed on the first two levels, with the last one on retraining remaining on policy papers and at most left to the good will of any interested stakeholder.

Retraining or CPD, the main focus of this article, has been defined as the means of updating, developing and broadening the knowledge teachers acquired during the initial teacher education and/or providing them with new skills and professional understanding (OECD, 2005). It manifests itself in various ways. For example, Conway et al. (2009, p.51) have argued that CPD can be developed to help and support teachers extend and deepen subject matter knowledge for teaching; extend and refine repertoire in curriculum, instruction and assessment; strengthen skills and dispositions to study and improve teaching; expand responsibilities and develop leadership skills; and develop a professional identity. Such a framework does not only help guide the spectrum of CPD but can also be used as a criterion for evaluating any CPD initiatives as a means of ascertaining their impact on the teaching, learning and leadership of secondary school teachers.

The State of Continuing Professional Development of Secondary School Science Teachers in Uganda and Research Gaps

The Education Sector Strategic Plan (ESSP) 2004-2015 highlights the importance of establishing continuous in-service training to enhance the quality of education (Sub-objective 2.2 and Strategies b) (MoE&S, 2005). Tackling CPD of secondary school teachers is even urgent. As noted earlier, the government has targeted the improvement of access to secondary education through the UPPET policy. However, the UPPET policy ought to be combined with quality enhancement measures if it is to lead to desired learning outcomes. Lessons learnt from the previous implementation of the UPE policy point to the need to build in quality assurance measures within an attempt to widen education access. Failure to do so leads to an emphasis on quantity at the expense of quality. It was also noted above that science and mathematics teaching and learning at the secondary level in Uganda faces serious challenges evidenced by the high failure rates. It is therefore indispensable to provide quality enhancement for the science subjects.

CPD for secondary teachers in Uganda and science teachers in particular, is not new. For example, the Secondary Science Education and Mathematics Teachers (SESMAT) Project funded by the Japanese Government has been going on since 2004 (MoE&S, 2007a). From Table 1 above it is also clear that some teachers undertake further training, which can be classified as in-service training undertaken on the teachers' own initiative.

There have been and are still ad hoc programmes in place intended to continuously

up-skill secondary school teachers in various ways in Uganda, but CPD is yet to be appreciated as a crucial component of teacher development. Some teachers interviewed by Mulkeen et al. (2007, pp.52-53), for example, revealed that they had participated in an in-service teacher education program, but felt that the in-service professional development (INSET) they received prepared them to a lesser degree than their initial training.

Apparently, ITE has been arguably the most effective mechanism for TPD as it provides foundational knowledge and skills on which the teacher can build as they operate in their school environments. As Musset (2010, p.3) has rightly asserted, "to teach is a complex and demanding intellectual work, one that cannot be accomplished without the adequate preparation". It is thus worthwhile for education systems to strengthen initial teacher training for all teachers or even make similar arrangements for practicing teachers who may not have minimum qualifications. But equally important is ensuring that teachers continually improve on their practice.

What is unclear is how to harmonise the existing approaches so that mechanisms that permit continuous processes of TPD are coherently harnessed and maintained by keeping in mind the changing needs of the teachers and contexts in which they work. It is necessary to undertake an audit of all existing forms of CPD initiatives with a view to coming up with a holistic framework for continuously developing (science) teachers in Uganda. Accordingly, the research on which this article is based explored issues of teacher professional development at the following levels:

- Self-initiated by teachers
- Locally initiated by schools
- Externally (to the school) but locally initiated by other organizations such as the National Curriculum Development Centre (NCDC) and UNEB
- Externally initiated by donors (such as the SESMAT)

The overarching aim of the research was to explore how Ugandan secondary school teachers' competences are continuously developed to cope with the ever changing trends in science and mathematics teaching. The study is even timely given the fact that the science subjects are now compulsory at the lower secondary level. This is in addition to an expanded secondary education sector following the implementation of the UPPET policy. The specific objectives of the research included the following:

- To find out how practising science and mathematics teachers continually enhance their professional practices.
- To establish the various strategies that secondary schools employ to continually develop their science and mathematics teachers.
- To examine the arrangements that are in place at the national level to continuously develop science and mathematics teachers.
- To find out what externally donor-initiated programmes are available for continuously developing science teachers' proficiency.
- To analyse the perceptions of individual teachers towards the contribution of the

various forms of teacher professional development to their professional practice.
- To assess the ways in which the donor-initiated professional development programmes complement local initiatives (at personal, school and national levels).

Methods

Data was largely collected from qualitative semi-structured interviews with selected policy makers, school administrators, and teachers. The interviews complemented the analysis of relevant documents such as the Government White Paper on Education, the Education Sector Strategic Plan (ESSP), educational policies, reports, documented programmes and activities concerning Teacher Education and Secondary Education, and the Policy instrument on the compulsory teaching of Science. The data gleaned from a number of initiatives i.e. self-initiated by teachers, locally initiated by schools, externally (to the school) but locally initiated by other organizations such as MoE&S, National Curriculum Development Center (NCDC), Uganda National Examinations Board (UNEB), externally initiated by donors (such as SESMAT) was analysed by identifying similar meanings that arose out of the recorded and transcribed responses to the interview questions (Kvale, 1996, pp.187-190; Rubin & Rubin, 2005, pp.206-209). This was supplemented by the themes that emerged from the review of the documents.

Findings

This section presents how the different initiatives (local and external) can be harnessed to coherently and effectively develop the knowledge and skills of Science and Mathematics teachers in a continuous and un-fragmented manner.

Factors that create the need for CPD

There was a general agreement among those interviewed at the different levels i.e. policy, school and teacher level, that CPD was a 'necessary evil'. Factors arguing for the fact that it should constitute any education system in the modern world, most specifically in the context of Uganda are summarized in Table 2 below according to the order of their prominence from the point of view of the respondents:

Table 2: Factors creating the need for CPD

	Factors
1	The dynamic nature of Mathematics and Science
2	Need for new ways of adapting to the changes
3	General low performance in Mathematics and Science
4	General negative attitude towards Mathematics and Science

5	Policy and curriculum change
6	Changing nature of students and their needs
7	Personal development and need to refresh self
8	To develop teacher confidence and interest as they grow in the profession
9	Need to interact with others in the same profession

It was noted by all respondents that as was the case with the dynamic nature of the world which was changing all the time, so was education, including Mathematics and Science. Within the Ugandan context researched, various changes were noted to have taken place in the recent past necessitating changes in which Mathematics and Science are taught. Some of the changes were policy-oriented and others had to do with the changed nature of students taking science subjects.

The ever changing nature of the world and education automatically requires that strategies are put in place by those in charge [in this context, the ministries of education, teacher education institutions, schools and teachers] to continuously provide opportunities of up-scaling the skills and competencies of teachers to adapt to the changes.

All the above, in addition to the general low performances in Science and Mathematics as demonstrated in the earlier sections, make continuing professional development of Science teachers a critical issue. On a positive note, our research (as the following section demonstrates) found that there were many opportunities provided by different stakeholders targeting the professional development of science teachers in different pedagogical and disciplinary areas. What appears to be urgently required is the critical examinations of the overlaps of such provisions to ensure coherence and harmonisation in the CPD business.

Existing CPD Programmes for Secondary Science and Mathematics Teachers in Uganda

As Table 3 below summarises, there are several actors and programmes at the national, school and teacher level, as well as short term-workshops and seminars organised by Higher Education institutions such as Makerere University and other local and international NGOs in the continuing professional development of science teachers in Uganda. One would argue that such initiatives offer a strong foundation to capacitate science and mathematics teachers to do their job effectively. On the other hand, while there are instances where the Ministry of Education has tried to harmonise the INSET time-table to avoid clashes, there still appears to be need for a critical examination of the programmes in place with a view to streamlining and reducing duplication as well as overloading schools and teachers.

Table 3: Existing CPD Programmes and Providers for Secondary Science and Mathematics Teachers in Uganda

Initiated by Government agencies and donors	Initiated by Schools	Initiated by teachers	Initiated by other agencies
SESMAT workshops	Workshops	Teacher associations	Makerere University subject workshops and other projects
Cyber (ICT) programme	Seminars	Further /additional studies	Africa Development Bank workshops
Uganda Communications Commission (UCC) ICT programme	Departmental meetings	Research and publishing	World Vision workshops
NCDC workshops and partnering with teachers	Team teaching	Peer-teaching & assessment	Lottery International lab training
Ministry of Education Technology shows	Science clubs	Consult peers & other schools (locally/ abroad)	Kampala Pharmaceutical Industries (technical)
Uganda National Council for Science & Technology workshops	Support teachers upgrading	Science exhibitions	Other NGOs e.g. Revolution Walk Pure
UNEB workshops & sharing exam findings	Expert teachers from other schools	Outreach activities e.g. UNEB marking	
	Science exhibitions	Joining student discussion groups	
	Collaboration with overseas schools		

At the national level, there are three major initiatives for continuously developing the capacities of science teachers that the Ministry of Education is coordinating with the majority of the funding coming from donor agencies. These include the Secondary School Science and Mathematics Teachers (SESMAT) programme, the Cyber Schools ICT project and the ICT project supported by the Uganda Communications Commission.

The SESMAT (Secondary School Science and Mathematics Teachers) Programme

This is a programme open to all schools (government aided and private) and it focuses on science (Physics, Chemistry, Biology, and Mathematics) Secondary school teachers and trying to make them aware of innovations in teaching and learning science. The programme is sponsored by the government of Uganda in conjunction with the

Government of Japan through its Japan International Cooperation Agency (JICA). The Ugandan government provides personnel (national trainers); training materials and the Japanese government provides technical support, personnel, equipment and apparatus.

SESMAT is premised on the assumption that teaching of Science should be made practical and teachers should be transformed. It provides in service training to science teachers to equip, retrain and develop competencies in them. SESMAT is also based on the paradigm shift from the conventional/ traditional talk and chalk to a more practical and learner centered approach to teaching science and mathematics. The aim is to provide training opportunities to teachers of science, to improve teacher's ability in preparing lessons which results into improved performance in science and mathematics.

SESMAT training programs are conducted during every holiday, and many science teachers from different schools regionally attend training sessions for 2-3 weeks. According to the Ministry of Education officials interviewed, most of the regions of Uganda have been reached by the SESMAT project and many science teachers have benefited.

In order to sustain the programme and to ensure that schools and teachers own it, member schools contribute a small fee of one thousand shillings (1,000/=) per teacher towards the training. For Universal Secondary Education (USE) schools, this money is included within the capitation grant. In support of this view, the Permanent Secretary authorised the collection of 1000/= per child per term (3000/= per year). This money is then remitted to the Regional/District Management Committee and it is used to cater for district training. Teachers don't pay for the training themselves, and the head teachers are obliged to budget for teachers' transport allowances.

The officials interviewed at the national level together with school administrators and teachers all were positive about the contributions that SESMAT had made to continuously improving teachers' professional capacities. However, the teachers and school administrators were also critical of the programme in the following ways:

Some individuals felt that the programme had been imposed on schools, and in turn schools were imposing it on their teachers. One school administrator noted:

> … It is as if the Japanese Government has [Sic] set a condition… and the Government pushes it to Ministry of Education. Commissioners are tough on schools …"Your teachers must participate". Teachers are going to attend not because of interest but because of compliance – it is an instruction from above. [AO-19-05-11-A]

Some teachers felt the programme was not of benefit to them and that the benefits were hidden, with the thinking that perhaps those enforcing its implementation were benefiting personally – leaving unanswered questions such as: "Why are teachers forced to do it?" – (OC-19-05-11-T).

Some felt that based on the fact that teachers can barely survive on their meager

salaries and that they use holiday time to engage in other activities besides teaching so as to supplement their salaries, that the timing of SESMAT training was not favourable to them. Alternatively, they were of the view that at least some of the subscriptions that schools made to the programme, could be used as an allowance for the teachers: "Out of the money they charge, something needs to be tossed back to the teachers to give them motivation to participate" [KG-19-05-11-A].

Cyber School Technology Solutions Project (Digital Science in Secondary schools) and Uganda Communication Commission (UCC) under the Ministry of ICT

The Cyber project is a private firm that was contracted by the MOE&S to train science teachers and supply computers and software to the selected schools. It is sponsored by MOE&S and has its national offices at Uganda Manufacturers' Association (UMA) grounds Lugogo. The project was piloted in 2007 in one hundred (100) schools, and today it covers 200 schools, with plans to expand to another 100 schools. The project organizes training workshops with the aim of training teachers in using digital means to teach science. It uses animations, with the rationale that "*What you can't demonstrate practically in class can be done on computer*" [M-11-NCDC].

Unlike SESMAT, Cyber School is a project that deals with only government aided and specifically selected schools with no deliberate effort to reach out to private schools. It is limited to a specific selection within Government aided schools and is not as open as SESMAT. E.g. every district has 3-4 schools that get access to the equipment from Cyber. So far, 4000 teachers and over 6000 students have been trained. Selection of schools is based on a number of factors; including if the school is connected to any form of power (electricity, generator, solar) and if the school has room where to keep the computers. Such conditions disadvantage rural schools, although Cyber at times gives out computers with solar systems.

The project offers to each selected school six (6) computers under the first pilot and eventually four (4) other computers are offered. On these computers, software is installed customised to the science syllabi for O'level Mathematics, Physics, Chemistry and Biology. Some other software (Virtual labs) where practicals from O'level science subjects are digitised is installed onto computers. In order to enhance the teachers' ICT skills, Cyber Schools Solutions provides a 3 day training, under which all participating teachers receive training and a selection based on performance is made of super teachers. The super teachers receive a further 3 days of training, after which they return to their respective schools and help train other teachers.

Like the Cyber Schools project, the project facilitated by UCC (Uganda Communication Commission) under the Ministry of ICT is an informal programme that has given computers to schools. When UCC gets computers, it writes to the MoE&S and the MOE&S selects schools.

Overall, there seems to be overlaps as well as divergences in the activities of the

three CPD providers at national level in the way they are organized, how they conduct training and the knowledge/skill areas they target (see Table 4 below). While all of them organize short-term training ranging from 2 days to 3 weeks, SESMAT seems to be comprehensive targeting pedagogy and practical skills whereas Cyber and UCC are largely focused on providing computer skills.

Table 4: Organisation, Approach and Knowledge/Skill areas by SESMAT, Cyber and UCC

	SESMAT	**Cyber School…**	**UCC**
Organised	Short-term sessions during holidays (2-3 weeks)	Short-term sessions (3- day training) Training of Trainers (ToT) approach	Short-term sessions
Conducted	Activity-based Peer-teaching Micro-teaching	Practical skills Workshops	Training computer managers
Knowledge or skill areas	Communication skills Leadership skills Learner centred pedagogies Skills for improvisation	Computer skills Management skills	Computer skills e.g. booting

CPD by other Government and Non-Government Institutions

In addition to the 3 government/donor-initiated CPD programmes described above, there are also initiatives introduced and facilitated by other government-associated institutions and departments such as the Uganda National Examinations Board (UNEB), Uganda National Curriculum Development Centre (NCDC), Uganda Council for Science and Technology (UNCST), Makerere University and other non-government organizations.

For instance, UNEB organizes training for teachers in setting and marking national examinations, which participating teachers testified was very useful in up-scaling not only their assessment skills but also subject content. UNEB also shares findings from national examinations annually, which helps teachers and schools to know the weak areas and possible improvements that need to be made in the teaching of various science subjects. On its part, the NCDC recruits some teachers to serve as subject panelists and curriculum

reviewers. Teachers benefit individually from such opportunities and also return to their schools and share the expertise gained from serving as subject panelists and curriculum reviewers. The National Council for Science and Technology organizes subject-specific workshops for teachers and national or regional technology exhibitions, sometimes in collaboration with Makerere University and Ministry of Education and Sports.

Another major actor in the provision of CPD for science teachers is Makerere University, which occasionally organizes subject-specific and sometimes general science courses and exhibitions for secondary school science teachers and students. Normally Departments in the College of sciences organize subject-specific short courses for teachers during school holidays. The School of Education has also been active in providing CPD for practising teachers. For example, between 2007 and 2010, using funds for a British-Council funded partnership project with the Open University (UK), a number of science and arts subject teachers were trained in how to develop open sources resources. The project was code-named E-Learning and Teacher Education (ELATE).

Other providers of CPD have included the World Vision international NGO which organises workshops particularly on "appreciation of the girl child in the study of sciences". Kampala Pharmaceutical Industries (KPI), a manufacturer of science chemicals and equipment runs workshops and lectures on how to use them. KPI also helps SESMAT survive because they emphasise science with the assumption that "if kids leave school having learnt sciences, they go into manufacturing" (Teacher interviewee). Lottery International occasionally offers professional development on laboratory equipment and computer laboratory, while Revolution Walk Pure, an NGO, sensitises students on issues of HIV AIDS and sexuality in some schools.

School-Level and Individual Teacher CPD Initiatives

In addition to CPD programmes for teachers that are externally initiated at the national level and facilitated by donors, there are a number of other initiatives that respondents mentioned to be initiated internally at school and individual teacher levels. The school-level-initiated programmes take the following forms:

- Subject-specific seminars and workshops where distinguished people are invited to come and talk to teachers and equip them with relevant skills such as pedagogy and how to develop teaching/learning aids, professional conduct and innovation in teaching.

- Departmental meetings where teachers of a given subject meet termly or annually to do a SWOT analysis of their subjects with a view to improving how it is taught and learnt.

- Encouragement of learning from peers through team teaching, joint scheme of

work making and lesson planning.

- School initiated-science clubs (physics, chemistry, biology, mathematics) - these help to explain abstract concept to students.

- Schools encouraging and supporting professional development "for those wishing to go for further studies to consolidate on the subject matter they are handling". The support is mostly in terms of giving lesser workloads to teachers who enroll for further studies.

- Supporting Science exhibitions every term where different stakeholders such as parents, local community leaders and MoE&S officials are invited to see and give feedback on how sciences are being taught.

- Linking the school and teachers to other schools internationally. For example, one school in Kampala had developed an exchange program with secondary schools in Norway. The collaboration was focused on water conservation and treatment.

- Through national and regional headteachers' associations, teachers are encouraged and supported to join subject networks that potentially develop their capacities as science teachers, for example the Joint Mock Associations to which teachers are members. It also organises subject-specific workshops within the district inclined to sciences.

In addition to the school-initiated CPD programmes, individual teachers reported to also have taken their own initiatives to keep themselves abreast of the changing trends in knowledge and pedagogy of the Sciences. Some individual initiatives included the following, among others:

- Joining teacher subject associations, which provides opportunities for learning with and from peers.
- Peer teaching where more than one teacher is involved in teaching students for a particular lesson and joint setting and marking of exams.
- National Examiners within schools discussing with junior and non-examiner colleagues.
- Those who go for in service training sharing their new knowledge and skills with colleagues.
- Joining science student clubs and discussions, which encourages further interactions with students and learning from one another.
- Enrolling for further studies including Postgraduate Diploma programmes,

Masters and PhD.
- Researching and writing books and pamphlets which encourages reading and keeping updated on the new knowledge in the subject.
- Taking initiatives to attend science exhibitions that are organized nationally or by other schools
- Applying to become examiners - marking and setting regional and national examinations

Methodology used and Knowledge areas targeted by the different CPD providers

There are some overlaps in the way CPD is organized at the different levels (See Table 6 below). For example both the external CPD organized by government institutions or donor-funded projects and those which are initiated at school level use short seminars/ workshops as a method of delivery. However, at school level seminars/workshops seem to be supplementary, while government, donors and other agencies use them as the primary and almost only methodology or approach to CPD.

In terms of knowledge areas and skills targeted at the different levels of CPD delivery, the list is quite expansive (also refer to Table 5). Issues of pedagogy, assessment, ICT and instructional materials development seem to be cross-cutting. The fact that the same knowledge areas are emphasised at the different levels would mean that each level re-enforces the other. On the other hand, it could imply duplication of initiatives. Given resource scarcity it could be useful that different providers specialise in delivering professional development in their niche areas. This would point to the need for round-table dialogue among the different providers to establish areas that could possibly be harmonised to minimise duplication, where possible.

Table 5: How CPD is organised at the different levels and the targeted knowledge areas at each level

	School-initiated	Teacher-initiated	Govt & donors	Other agencies
How Organised	Departmental meetings SWOT analysis 1 day seminar/ workshop focussed on an identified need Local expertise and guest speakers Team planning and teaching	One-on-one consultation Peer teaching Individual research Evening or holiday study	1-2 weeks workshops (mainly during holidays or weekend) by selection & invitation Area of focus chosen by agency Sharing evaluation reports	Short-term workshops & training
Knowledge / Skills targeted	Pedagogy/ methodology Assessment/ examination skills Instructional materials design (creativity) Professional conduct Practical & science application Technical e.g. equipment handling	Assessment/ examination skills ICT Science concepts & content General e.g. leadership, communication, innovative, etc. skills	Pedagogy/ methodology Assessment /examination skills Instructional materials design (creativity) Practical & science application Technical ICT Science concepts & content Curriculum issues	Practical & science application Technical ICT Science concepts & content General e.g. leadership, communication, innovative, etc. skills

Overall, from Table 5 above, it appears that at school and individual teacher levels, CPD is more long-term and could be more sustainable e.g. through continuous departmental meetings, peer-teaching, individual research, etc. compared to that which is externally delivered through once off and short-term workshops by other agencies. It can be argued that sustained CPD takes place at the school and individual teacher level and that knowledge and skills obtained from participating in the external CPD programmes is useful if it is effectively reflected upon and contextualised at the school and individual level. The following section offers insights into what teachers perceived to be the

knowledge and skills gained from the different CPD programmes and how it impacted teaching and learning.

Perceived Knowledge and Skills Gained from CPD Programmes

In Table 6, a summary of the knowledge and skills that teachers who had participated in CPD programmes were presumed to have obtained and found valuable in their professional work is presented dichotomized into internally-initiated and externally-initiated CPD. The knowledge that was most significant for the teachers was basically related to the use of learner-centred approaches in teaching science and mathematics. Such knowledge was attributed to the externally-initiated CPD owing to an examination-oriented education system of Uganda.

Table 6: Knowledge and skills gained from CPD programmes

	Knowledge	Skills
Internally-initiated e.g. Cyber	Management skills for example, how do you keep computers working CYBER	Skills of how to handle equipment (MoE&S) Computer skills (MoE&S)
Externally-initiated e.g. SESMAT	Practical approach to teaching science and mathematics under SESMAT Learner centered approach to teaching under SESMAT	Innovative skills under SESMAT "ability to use whatever exists to conduct science lessons e.g. plastic bottles" (MoE&S) Leadership skills Communication skills

Innovative skills can be considered as crucial in enabling teachers to improvise under conditions of scarcity that have typified sub-Saharan African contexts. Moreover, the advantages that can accrue from learning in groups during CPD sessions enabled teachers to get acquainted with valuable skills in leadership that are transferable to school or classroom contexts as they teach.

The perceived gains from CPD have been articulated in a range of ways. First, the results from national examinations have been steadily improving through reduction in the percentage of those failing science and mathematics. Second, there was adoption and adaptation of alternative methods and approaches to teaching. More specifically, traditional ways were being supplemented with constructivist approaches that enabled the learners to construct meaning as teaching was taking place. On the whole, this facilitated learning within and outside class. Third, in the interim reports about the Cyber project, most comments were positive. For example, it is claimed to have increased students'

interest in science subjects. Schools had given testimonies that for the first time they had been able to get first grades. However, such impressive perceptions cannot be taken wholesomely. It has been argued that whereas there had been attempts to monitor the impacts of externally-oriented initiatives e.g. SESMAT, there was hardly any empirical evidence that it had actually impacted on teaching although there were various claims of improvement in teaching as a result of CPD.

Even then, several measures had been put in place to ascertain the impacts of CPD. There was use of standard instruments such as questionnaires to ascertain teachers' capabilities before and after training. The questionnaires attempted to obtain information on the extent of motivation of the teachers and on how useful the lesson had been to their daily professional practice. It has to be emphasized that information that was used to gauge the effectiveness of the training were also given to the learners to obtain their views on whether there had been any change in their learning.

Challenges in the Provision of CPD

There are a number of challenges at two levels: school and policy-making levels. At the school level, challenges were noted in the discrepancies between CPD ideals and the reality on the ground (e.g. resource constraints); heavy workloads/large classes which lead to lack of time for CPD; overcrowded/irrelevant syllabus/curriculum; the examination-driven education system; deep-rooted negative attitudes towards science subjects; teachers' assumption that participation in CPD does not have such personal gains as promotion and increased salary. Similarly, the challenges at policy level arise from the fact that CPD programmes (mainly donor-driven) have not been well-institutionalised which makes continuity doubtable. In addition, internal coherence among departments at the Ministry of Education and Sports needs strengthening – for instance, the lack of harmonisation between UNEB & NCDC syllabi. The other challenges include the concentration on government-aided schools only; and the fact that CPD activities take a top-down approach i.e. from the Ministry of Education to the schools.

Conclusions

Based on the finding of the research reported herein, we suggest that

- CPD should become part of the national school calendar to ensure that every teacher benefits.
- Curriculum review with a focus on meaningful and relevant content should be ongoing.
- There should be strong efforts to harmonise the teaching syllabus (NCDC), the

examination syllabus (UNEB) and CPD activities.

- There should be strong efforts to coordinate CPD with a supportive/conducive environment at the school level in order to increase the gains from CPD.

- Schools and teachers need to be provided with resources for any effective change at the classroom level to take place.

- There are multiple providers of CPD which are positive efforts but which sometimes duplicate their programs and activities. Thus there is a need for a more coherent approach to CPD.

Overall, the recommendations stated above are consistent with the views of Ling & Mackenzie (2001), Hurd et al. (2007) and Villegas-Reimers (2003). These earlier scholars illuminate the importance of CPD and the increasing centralization of CPD initiatives by national governments through focusing on specific curricula issues. This trend has in certain instances yielded positive results in contexts where processes have been harmonised especially at the policy level. Yet at the same time, CPD at the school and individual levels is a key feature in the Ugandan case that should be harnessed. In fact, it is at variance with other related contexts in sub-Saharan Africa (see for example, Komba & Nkumbi, 2008, p.74-76). These dimensions could sustain the complementary benefits of locally and externally-initiated Teacher Professional Development programmes for science and mathematics teachers in Ugandan secondary schools.

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Teachers Implementing an Educational Policy and Implications for Pupils' (Especially Girls') Access, Performance and Retention

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Abstract

Based on a socio-cultural perspective on educational policy as practice, this study used interviews, classroom observations and document analysis to investigate the case of four teachers' implementing an educational policy and implications of their practices for first and second grade students' access to, performance and retention in school, especially girls. Results revealed that a) teachers interacted mainly with the pedagogical and the content knowledge; b) the classroom atmosphere was more collaborative and "student-centered"; c) teachers facilitated knowledge building from students' experiences; d) students became relaxed, inquisitive and responsible for their learning; e) girls participated in the classroom more often than boys while the repeater-rate was almost non-existent; and f) female parents and illiterate mothers became involved in their children's learning process (e.g. helping in homework, visiting school to inquire about their children's work). It is concluded that the teachers' interaction with the policy had positive implications for pupils' (mainly girls') learning.

Introduction

The necessity of an education reform aiming at designing a national language policy in Niger was felt a decade after the country's independence in 1960 with the creation of the Commission Nationale pour la Reforme de l'Education (CNRE) [National Commission for Education Reform] in 1972. After its first meeting in February 1974, the CNRE recommended the inclusion of national languages in education. In May 1978 their second and last meeting adopted a policy project for bilingual education, using French and national languages in school.

Inspired by these recommendations and the positive trends that the 1973 UNESCO pilot study on the use of Hausa (i.e. the primary language in Niger with 57% native and over 80% total speakers) as the medium of instruction in primary school in the city of Zinder had shown (Alidou, 1997; Herbert, et al., 1999), the then Niger military regime created experimental bilingual schools across the country in 1979. Five national languages (Hausa, Zarma, Kanuri, Fulfulde and Tamasheq) were used as media of instruction alongside French in these schools. Already in 1974, the military ruler had declared that Niger schools needed to be "socially integrated and economically available" (Herbert, et

al., 1999, p. 16). However, the newly-created schools remained experimental in spite of the popular outcry for reforming the whole educational system and the official resolutions taken at the 1990-1991 national conference for seeing this happen.

It was not until June 1, 1998 that a presidential decree put into law an education reform policy known as LOSEN (French acronym for *Loi d'Orientation du Système Educatif Nigérien* [Niger Education System Reform Law]). The 1998 reform law highlights two major points: a) the inclusion of national languages as media of instruction in primary schools (Articles 10 and 19) and b) the change in the primary school curriculum and, to some extent, the pedagogical practices that were used in the classrooms to reflect the socio-cultural realities of learners' immediate environment (Article 15).

This paper exposes the results of a case study of four teachers implementing this learner-sociocultural-reality-based national curriculum as mandated in the national reform law document and the implications of their practice for pupil access, performance and retention. The paper pays special attention to implications for girls since the reform policy and its accompanying documents aim specifically to:

a) Identify and eradicate "hurdles to socio economic and cultural development, pedagogical shortcomings and other obstacles to the development of full potential of girls and women in the learning process" (LOSEN, Article 14); and
b) Increase girls' access to school by raising the rate of school attendance to 52 % from 28.9 % in 2002 (MEBA, 2003) by 2015.

The paper answers the following research questions:

1) What policy content do teachers respond to during their interaction with the reform law document?
2) How do bilingual schoolteachers interact with the education reform policy?
3) How do the various teacher responses to policy manifest themselves in pedagogical practices?
4) How do resulting pedagogical practices manifest themselves in students' (particularly girls') learning?

Investigating and developing knowledge on teachers' reaction to educational policy, especially in the context of Niger where this study is the first on these bilingual school teachers, can: (a) help policy makers value teachers participation in the policy process rather than 'dropping' them sets of laws and regulations from above to apply to their teaching practices; and (b) Inform teacher trainers as to how to address content of teacher training workshops for improving teaching practices as a whole since teachers constitute the cornerstone of any educational reform effectiveness.

First, the paper consists of a presentation of the conceptual framework that informed the study followed by a literature review highlighting the existing knowledge on teachers' various responses to policy, curricula and pedagogical innovations. Next, are the methodological and analysis of findings sections. We have analyzed the findings following each of our research questions, and ended the discussion with results that appeared as by-products of the study but are important as implications of the teachers'

practices while interacting with the policy.

Before proceeding, we need to acknowledge that, throughout the paper we have loosely used 'interaction', 'response', 'reaction' and their verbal counterparts 'interact', 'respond', and 'react' interchangeably in speaking of the four teachers and the reform policy. Also, we have sometimes used 'reform based national curriculum' to refer to the 'bilingual education policy' under study throughout this report.

Researching Policy as Practice: A Conceptual Framework

The 1998 national reform policy in Niger, like any other policy in social fields, constitutes a linear model of educational policy. It, therefore, "assumes that policy processes begin with problem identification, then moves through stages of policy formation and adoption, which is followed by implementation and ultimately by evaluation" (Porter & Hicks, 1995 cited in Levinson & Sutton, 2001, p. 5). As such, it pushes the less powerful education stakeholders such as parents, students and teachers back to a second-class status. It expects, for example, for teachers to adjust their pedagogical practices to fit the new rules that were handed over to them (Levinson & Sutton, 2001). Furthermore, other models see the relationship between policy and practice as one in which the former is "an instrument of governance [full of power] and the latter is classroom instruction [devoid of any power] or 'political resistance' " (Wells & Serna, 1996 cited in Sutton & Levinson, 2001, p. 5).

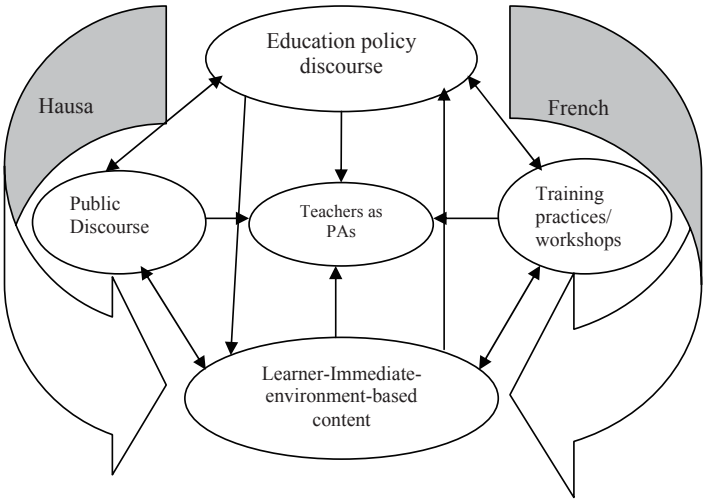
From these two perspectives, research on policy and practice only focuses on how the 'powerless' actors such as teachers "do or do not implement state policy, [and] the way that they act upon what has been given to them from above" (Street, 2001, p. 148). This case study challenges this 'linear' perspective of educational policy research in that it puts the teachers and the students at the center of investigation. In so doing, it uses what Sutton & Levinson (2001) described as the 'socio-cultural perspective on educational policy as practice' as its ideological/ epistemological approach.

According to Levinson & Sutton (2001), the socio-cultural perspective on the educational policy as practice is "a locally informed, comparatively astute, ethnographically rich account of how people make, interpret, and otherwise engage with the policy process" (p. 4). It is particularly relevant to this study in that it is concerned with the social approach to cultural practices in education and investigates the interaction of the powerless and silenced actors of the educational reform such as teachers with the policy itself. It is important to document how the four teachers in this study "interpret and […] engage with" the educational policy since teacher participation in any policy process and, specifically in the policy implementation phase, is very crucial to any educational reform (Mantilla, 2001).

The following figure illustrates my representation of the socio-cultural perspective on the educational policy as practice which guides this case study. In essence, it is a depiction of our (the researchers') perspective on how teachers as key actors (put in the

center here) interact with the policy-based knowledge that they received from teacher training practices during the policy implementation curricular workshops. The expression 'policy-based knowledge' does not refer uniquely to the subject matter and pedagogy knowledge from the Hausa endogenous practices of the immediate milieu of the pupils (Hausa was the medium of instruction in the studied schools). It also includes the western type of knowledge that teachers had received from pre-service training practices and policy-based workshops, which took place in the French language.

Figure 1: Our Representation of the Socio-Cultural Perspective on Educational Policy in the context of this study (PAs stands for policy appropriators) (adapted from Chekaraou 2009, p. 61).



Although we are aware that teachers may have various responses vis-à-vis the education policy under study, to respect the spirit of the socio-cultural perspective on policy as practice, we put teachers as policy appropriators at the center of the model. This does not in any way mean that appropriation is the only response to policy discourse that we expect teachers to have. The participant teachers possessing each his/her own personality, natural predispositions and background knowledge as a teacher, diverse responses as reported below in the literature review, may emerge. As researchers, we remain open to such prospect.

Interaction with the Policy and Implications

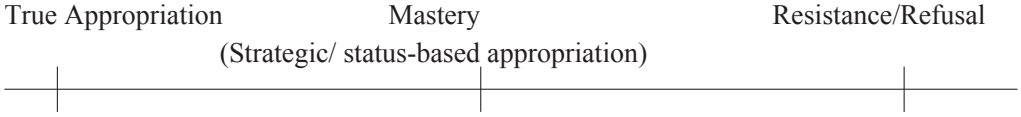
Research has suggested many ways through which teachers could interact with policy. For example, Sutton & Levinson (2001) saw appropriation of educational policy by lower ranking stakeholders such as teachers as the expected outcome of the interaction of teachers with policy at its implementation level. Appropriation, they argued, "highlights

the way creative agents 'take in' elements of policy, thereby incorporating these discursive and institutional resources into their own schemes of interest, motivation and action." They summarize the definition to contend that, "[a]ppropriation is a kind of taking policy and making it one's own" (p. 3). Levinson & Sutton further argued that, "[e]ven outright resistance to a policy can be conceived as a kind of appropriation insofar as it incorporates a negative image of policy into schemes of action" (p. 3).

In addition, in their study on whether pedagogical ideals were embraced or imposed in Guinea's language arts and reading classrooms, Anderson-Levitt & Alimasi (2001) found many ways in which stakeholders responded to these ideals. Warning against the likelihood of confusing appropriation with mastery in that mastering "a tool or an idea is to know how to use it [while to appropriate means] to make someone else's tool or idea one's own [and that] one can master an idea without appropriating it" (p. 37), Anderson-Levitt and Alimasi's (2001) findings suggested various ways through which the Guineans might have embraced pedagogical ideals in schools: a) true appropriation (i.e. making an idea or tool one's own); b) mastery (i.e. know how to use an idea or a tool); c) strategic appropriation (i.e. mastery for the sake maximizing loans and grants from different donors; d) status-based appropriation (i.e. mastery for the sake of appealing to the status that these ideals offered; e) adoption (i.e. embracing the ideals "as is" without deep conviction or expertise, simply wanting to appear as experts by borrowing "buzzwords" to apply in their context and d) resistance (i.e. outright refusal to master or adopt).

Anderson-Levitt & Alimasi (2001) summarized their findings regarding responses to pedagogical ideas in Guinea on a continuum consisting of three main types of responses. True appropriation remained on the left foremost end and resistance, i.e. simple refusal, on the right. Between the two would lie closer to true appropriation, mastery, which took into account the strategic and status-based appropriation as well as adoption without any conviction to appear as experts of western knowledge even if it was simply for the sake of status. Figure 2 provides a summary.

Figure 2: True Appropriation, Mastery, and Resistance Continuum (Anderson-Levitt & Alimasi, 2001, adapted from Chekaraou, 2009, p. 63).



Alongside with the previously discussed studies, Murtadha-Watts (2001) reported on a study in which multiple layers of policy were analyzed to raise questions on the negotiated terrain of curriculum policy formation as district level decisions were made and accountability measures put in place. Two female African-American education leaders asserted that "resistance to normative processes in schools" was the only way to

provide children in city schools with meaningful education. These leaders became socially critical in that they spoke and acted across and around established racist and inequitable educational systems to "push for policies that could be used for creating greater equity in schools" (p.119).

Murtadha-Watts' (2001) contention that resistance on the part of educational leaders helped provide students with better learning opportunities than they would have otherwise received, echoed Levinson & Sutton's (2001) suggestion that resistance could be seen as part of the process of appropriation since it could allow the resisting actors to think of and apply alternative ways in their day-to-day practice.

Along with Murtadha-Watts, in a study on a seven-year old project (NEU) that aimed at improving quality in education in Guatemala through "an active teaching-learning process, […] and appropriate curriculum to meet the rural needs" (p.127), Mantilla (2001) discovered that teachers in her study not only participated actively in designing the curriculum but they were also depended upon in the endeavor. The teachers appropriated the reform to improve their day-to-day pedagogical practices and interaction with the students in that they: a) Innovated new methods of grading students so that no student failed; b) Developed "cognitive self-awareness", i.e. they established cohesiveness and group solidarity due to what they called teachers' circles where they would meet, discuss and critique their practices together; c) Identified with the new system by referring to it as "our"; d) Worked for "social integration", i.e. they worked together with students, community, parent, donor agencies to make decisions about the education reform; and e) Preserved their "territory" (i.e. innovations that they initiated) through accepting an open "tension" with policy makers who supported the old system.

An example of the new methods the teachers initiated was a flexible promotion system according to which a child who did not finish a given instructional unit for advancement to the next grade would be allowed and encouraged to return the following year until completion of that unit when s/he would then move to the next grade. The system benefited children because it allowed them to move forward at their own speed. Policy appropriation by teachers in Guatemala's NEU resulted in expanding the NEU project. Mantilla suggested that this type of appropriation provided teachers with feelings of personal growth, change and satisfaction. It also contributed to emergence of better teaching practices, which were conducive of better learning for learners. For instance, teachers moved from "lecturer" to "facilitator" in the classroom.

To sum up, many ways of interacting with policy or pedagogical ideals emerged from existing studies including appropriation, adoption, mastery and resistance. Of the various responses, appropriation seems to lead to better teaching practices and subsequently provide better opportunities for learning. Mantilla (2001) brought about another aspect of teacher responses vis-à-vis policy: identification with policy so as to refer to everything as "our". Teachers had a sense of "ownership" (Fullan, et al., 2005) of this public good that was the policy they interacted with. Following this literature review, one needs to wonder how the four teachers in our study respond to the reform

based national curriculum in Niger. What implications can be drawn from these teachers' practices for those whom the policy is supposed to benefit, i.e. the learners?

Methodology

Sites and Sampling

The study was carried out in two schools where Hausa was the medium of instruction, one in an urban center and the other in a rural town. Choosing schools in an urban and a rural area would give us a good source of data comparison. The urban school was located in the capital city, a cosmopolitan area where various cultures intermingled even though Hausa was used in the school while the second school which was located in a rural town next to a provincial city, offered the likelihood of collecting data from a school that was surrounded by typically rural socio-cultural practices. The difference in the location of the two schools may be reflected in the classroom teaching practices under study since the curriculum and the pedagogy were pegged into the socio-cultural practices of the immediate milieu of the pupils.

The teachers (N=4) were selected through purposive sampling. Every school had its own assigned teachers for the year to such an extent that selecting a given school for research also meant opting for its teachers as participants. Following this arrangement, a primary school teacher would be assigned to a classroom for the whole year. Therefore, having selected four teachers as participants, we had no choice other than doing observations in the four classrooms in which they taught.

Although this study was a case of four teachers in their classrooms, the choice of the socio-cultural model of analyzing policy as practice (i.e. aiming at capturing a holistic picture of the teacher interaction with the policy) required that we also heard from all other school stakeholders including: Head teachers (N=2, one of whom was Teacher-Participant 3), ministry officials (N=2), students (N=20), elementary school teachers' union representatives (N=2), executive members of the national teachers' union (N=2), parents (N=13), 1 regional school inspector, 3 officials of the German project (GTZ) in charge of funding and following-up the policy implementation, representatives of the French project for advancement of education in Niger (ADEN) (N=2), and curriculum planners and teacher trainers from the ministry office in charge of pedagogical practices, textbooks and the promotion of national languages, who were also teaching material writers (N=3).

Data Collection

Data was collected from interview, classroom observations and document analysis. The ten-to-fifteen-minute-per-participant interviews were semi-structured, i.e. centered on key guiding questions. Seven out of ten parent participants were unexpectedly female and

legal guardians. In Niger, one would expect fathers to respond to calls from their children's school administration. Regarding the classroom *observations* we spent two weeks in every classroom from 8:00am to 12:00noon and 3:00 to 6:00pm. We also observed out-of-classroom practices such as the manual activities (e.g. pottery with clay), physical education tasks and free-time play among pupils. *Document analysis* consisted of reading students' classroom records as well as policy and related documents.

During both interviews and observations, but much more so during observations, we took notes by placing a vertical solid line on each page of our notebooks with the inscription "Descriptive notes" (raw data as is) on the top left side and "Reflective notes" (interpretive notes serving as simultaneous data analysis). We audio recorded data to ensure accuracy.

Results and interpretation

Question 1: What policy content do teachers respond to during their interaction with the policy?

Table 2: Two Types of knowledge for teacher interaction (adapted from Chekaraou, 2009, p. 183)

Pedagogical Knowledge	Content Knowledge
Teaching methods and approaches teachers used: ▪ Active Method; ▪ Lesson plans; ▪ Thematic Approach; ▪ Goal-oriented pedagogy; ▪ Global method (Whole Language method).	Use of endogenous knowledge: ▪ Themes of study; ▪ Knowledge from field trips and inquiry homework questions; ▪ Games and Folktales; ▪ Materials of teaching from local environment; ▪ Ethics – politeness and respect for elders; ▪ Self as a role model.

Table 2 reveals two types of knowledge that emerged as the policy content with which the teachers interacted. My interviews with policy makers and implementers revealed that they merely expected teachers to adapt their teaching to the content and pedagogical knowledge. These results take us to our next research question.

Question 2: How do bilingual schoolteachers interact with the education reform policy?

All four teachers involved in the study adapted the pedagogical and content knowledge although to a higher degree the latter in the case of Teacher-Participant 4. However, this adaptation varied in degrees. Thus, adaptation, which denoted an ability

to understand, apply and adjust to theoretical principles, thus, involving application and adjustment, revealed itself as an umbrella term, which could involve three levels: a) Adoption (Teacher-Participant 4), the lowest level of adaptation denoting a mindless application of rules; b) Mastery (Teacher-Participants 1 and 2), the mid level of adaptation involving a deeper level of understanding of theory and its application in such a way that the master was able to generate strategies through acquired theory even without supervision; and c) Appropriation (Teacher-Participants 1, 2 and 3), the high level of adaptation denoting a deeper understanding of theory crossing over into commitment, belief, motivation and resonance with deeply felt conviction, which reaches a level of identification with the theory, thus making it one's own.

The latter qualities of a teacher (i.e. commitment, motivation and resonance with deeply felt conviction reaching to identification with the theory) concerned mainly Teacher-Participant 3 (TP-3), whose interaction with the policy put him a degree higher in appropriation than Teacher-Participants 1 and 2. We called him a natural appropriator. Natural appropriation resulted from the interplay between the prior professional skills of this teacher, i.e. the pedagogical knowledge he brought with him to the workshops, his natural predispositions, level of alertness and his eagerness for learning new knowledge taught in workshops.

The advent of this concept of natural appropriation brought out yet the concept of 'pedagogical-content knowledge'. For Schulman (1987), pedagogical-content knowledge is "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding" (p. 8). TP-3 was that special teacher who knew how to skillfully combine content and pedagogy knowledge in his classroom. As a result, he qualified, in our view, as the owner of pedagogical-content knowledge.

Teacher educators agree with Schulman (1987) that the ultimate goal of any teacher education and training should be the mastery of the pedagogical-content knowledge by teachers. TP-3 revealed himself not simply as a master of this type of knowledge but its appropriator. He revealed himself to be an accomplished and efficient teacher. Because this teacher emerged as a natural appropriator and consequently the sole owner of pedagogical-content knowledge, we conclude that appropriation is the potentially natural outcome of policy even though it was part of adaptation: The higher the level of appropriation of policy by a teacher, the more likely his success as a teacher, as exemplified by TP-3. Therefore, this study supports our putting appropriation at the center of our representation of the socio-cultural perspective of policy as practice.

Question 3: How do various responses to policy manifest themselves in pedagogical practices?

Implications for Teacher/ Student Roles and Classroom Climate

Table 3: Teacher/ student roles and classroom climate in bilingual schools (adapted from Chekaraou, 2009, pp.158-9)

Teacher is a …	Student is …	Classroom is …
▪ Guide: A guide who would follow students' every step in the learning process. His/her only job: Probing questions so as to lead students to discover what was intended for them to learn; ▪ Classroom power sharer; ▪ Comfortable person in the class. Not omniscient. Students also participate in building knowledge; ▪ Care giver. Encourager to the inattentive and shy to be expressive and share accounts of their experience.	▪ Responsible for and main actors in their learning; ▪ Full of sense of responsibility and alert; owner of quick thinking skills; ▪ Center of focus in the classroom; ▪ Free to participate, express themselves, and bring own experience and knowledge in the classroom; ▪ Relaxed. Not intimidated; ▪ A sharer. Eager to share own knowledge with class; ▪ Inquisitive Encouraged asking questions.	▪ Democratic as opposed to "dictatorial," Teacher shares power in the classroom with the students. He does not impose them anything; ▪ Relaxed and friendly; ▪ Busy due to every student wanting to give his/her point of view; ▪ Reflective of multiple perspectives on everyday life due to number of shared experiences; ▪ Sharing makes class collaboration-oriented especially during tasks given by teacher.

For anybody who knew about the "dictatorial" role of the teacher in the Niger French-only classroom (Moumouni, 1994) as the only person who detained knowledge and had the capacity of distributing it, Table 3 exhibits a big revolution. Teachers used teaching techniques that allowed their roles and those of the students to be conducive to better teaching/ learning practices, teacher attitudes and inquisitiveness from the learners (Table 3). Furthermore, learning in such a relaxed, collaborative and democratic atmosphere enabled students to contribute to their own knowledge build-up. For example, what teachers referred to as the "inquiry technique". Students would be assigned some questions related to the *Langage lesson* (i.e. language art conversation around a given theme) of the day. They took these questions home and responded to them with the help of their parents or family members. The various students' responses would be examined and discussed in class during the next session. The technique served as a bridge between the students' learning in the classroom and their lives in their home and community. This approach made learners be responsible for and the main actors in their learning. Thus, learners, parents and the community contributed to the subject matter learned in school. Because of the inquiry technique, learning in bilingual schools, became, therefore, learning as inquiry.

In addition, the Active Method, as the pedagogical approach used in these schools, showed a high correlation between the use of Hausa as a medium of instruction and students' freedom to express themselves without feeling intimidated. As the language of classroom interaction, this native language impacted the teacher-student relationship in a way that positively affected classroom behaviors. For instance, fourth and fifth grade teachers in School A, who were former French monolingual schools teachers believed that bilingual students were impolite compared to the monolingual students that they had taught before. Upon asking my participants whether they believed so, all disagreed, arguing that one should expect students whose native language was being used as the medium of instruction not to feel intimidated by the presence of a teacher in the classroom. Teachers who were not cognizant of this fact might see this as disrespect for their authority and rank as the only owner of knowledge.

One teacher echoed this view in a more detailed way in the following statement:

> It is not indiscipline. In bilingual schools, the children do not feel blocked or intimidated. The teacher is not authoritative, acting like a dictator who imposes everything on the students while they [the students] are not given time to express themselves freely. No [we make use of] the teaching method consisting of letting the students express themselves freely, go do something practical and receive all the necessary means to explore what is in their immediate environment without imposition. In the bilingual classroom, the teacher guides the students. As a result, children are inquisitive, open-minded and have time and freedom to communicate with and ask clarification questions of their teacher. It is not like in traditional French monolingual schools in which it is the teacher who monopolizes knowledge while children remain inactive, as consumers only (Chekaraou, 2009, p. 162).

This quote implied that teachers should not mistake the free teacher-student interaction that encouraged students' expressiveness in bilingual schools for indiscipline. Rather, it reflected the positive outcomes of learning coming from the use students' native language. Students no longer felt as intimidated as students in the French monolingual schools where an expressive and inquisitive child would be seen as lacking discipline.

Furthermore, this teacher meant that the use of a foreign language (i.e. French), which was unknown to children until they enrolled in school to teach them, intimidated them by putting the teacher in a position of being the only knowledgeable and, thus, powerful person in the classroom. Children would bring their background knowledge to the classroom, but due to their not knowing the language of instruction, they would feel powerless and intimidated. Freire's argument (Semali and Kencheloe, 1999) that the use of children's native language in an Active Method approach guarantees their success in learning, supports my participants' making connection between native language instruction and the proactiveness of the bilingual students in the classroom and their feel-

free-to-express-themselves attitude towards their teachers. They were not afraid to ask questions because they posed these in a language that they knew and spoke with their parents.

Given the Niger social norms that encourage a child, especially a girl child, to "shut it up" when adults were speaking, the use of the Active Method in these classrooms might have encouraged the children in the study to learn better. The active teaching approach provided students with a better learning environment. Above all, this "free" learning environment, in turn, enabled learners to express themselves freely without any fear of reprimand, thus, the positive impact of this method on the learning environment.

Question 4: How do resulting pedagogical practices manifest themselves in students' (girls') learning?

Table 4: Classroom interaction of girls versus boys (1)

Lessons *(Langage)*	**# of utterances**	**Teacher utterances**	**Group utterances**	**Boys' utterances**	**Girls' utterances**	**Not Specified**
#1	128	57	33	14	**18**	6
#2:	191	88	40	26	**30**	7
Total	319	145	73	40	**48**	13
First to speak during lesson introduction & when T asks new questions	18	NA	NA	7	**8**	2

This table highlights the following points:

- Girls tended to be as active as or more active than boys (18 utterances versus 14 for boys in the first lesson while 30 utterances versus 26 for boys with a total of 48 utterances for girls and 40 for boys);
- Girls almost always started speaking when teacher introduced a lesson or concept and asks questions; and
- All teachers agree that girls are more active than boys during the interviews.

Table 5 (A & B): Impact of policy on girls' retention & achievement (passing from grade 1 to grade 2)

A: Urban, Passage from grade 1 to grade 2			**B: Rural, Passage from grade 1 to grade 2**		
N= 27	Boys = 16	**Girls = 11**	N= 42	Boys = 25	**Girls = 17**
Av. grade/10	5.73	**6.4**	Av. grade/10	6.46	**6.05**
≥ 5.0	12 = 75%	**8 = 72.7%**	≥ 5.0	16 = 64%	**13 = 76.47%**
≥ 2.0 (pass)	13 = 81.25%	**9 = 81.8%**	≥ 2.0 (pass)	25 = 100%	**17 = 100 %**

Table 5(A) shows that nine girls out of eleven in the urban school passed from grade 1 to grade 2 while 13 out of 16 boys passed. This put the girls at 81.8% pass rate while boys had 81.25%. Table 5(B) shows that 100% of girls and a 100% of boys passed to grade 2 in the rural school. More girls, however, had a passing grade superior to 5 out of 10 (76.47% versus 64% for boys).

Table 6 (A & B): Impact on urban versus rural retention (passing from grade 2 to grade 3)

A: Rural school: Pass rate from grade 2 to grade 3			**B: Urban school: Pass rate from grade2 to grade3**		
N= 23	Boys = 14	**Girls = 9**	N= 29	Boys = 17	**Girls = 12**
Av. grade/10	5.23	**6.3**	Av. Grade/10	5.24	**4.47**
≥ 5.0	7 = 50%	**7 = 77%**	≥ 5.0	10 = 58.82%	**3 = 25%**
≥ 2 (pass)	13 = 92.8%	**9 = 100%**	≥ 2 (pass)	16 = 94%	**11 = 91.66%**

Table 6(A) shows that 100% of girls in the rural school passed to grade 3 while 92.8% of boys passed. It also shows that 77% of girls had a passing grade superior to 5 out of 10 while only 50% of boys had such a grade. In the urban school (Table 6B) only one girl and one boy were repeating grade 2 although only 25% of girls had a passing grade superior to 5 out of 10.

Tables 4, 5(A & B) and 6(A & B) imply that not only did the quality of instruction improve in the classrooms since both girls and boys exhibited more participation, higher passing grades and an almost non-existent repeater rate but also and, above all, girls' participation seemed to be higher than boys in the classroom. As a result, bilingual schools were contributing to girls' attendance and retention in school especially with a repeater rate almost non-existent. The government's policy objectives of seeking to increase "the rate of school attendance from 38 to 57% in rural areas and from 41.7% in 2002 to 60% (nationally) by the year 2015" and the "girls' access to school by raising the rate of school attendance to 52 % in 2015 from 28.9 % in 2002, were, therefore, being reached as supported by the trends in the above tables.

Implications for learners outside of the classroom

Female Parents' Involvement Versus Expected Social "Norms"

This study indicated that female parents were very active and interested in the schooling of their children. Before arriving into the study field, we did not expect to have access to female parents for them to be our participants. As a result, we anticipated to interview fathers. This judgment was based on the premises that, in the context of this

study, male parents were de facto representatives of their respective families in public. Much to our satisfaction, seven out of ten parents who responded to our invitations were women. Two of the three male parents volunteered to be interviewees because they were teachers in the schools each of whom had a child in the first grade. The third male parent was one first grader's uncle who happened to be her guardian because both her biological parents migrated to Cote d'Ivoire and left her to attend school in Niger.

In addition, all parents who returned their children's grade books were exclusively women. These parents had even developed rapport with the teachers who were very well acquainted with them and spoke to them frequently about their children's schooling. Moreover, in teaching materials, female parents were featured as having the leading role regarding their children's education. I mentioned earlier that in an oral French lesson by TP-3, the dialogue centered on a mother who knocked at the door to inform the teacher that her son was absent because he was sick. These trends were certainly not typically endogenous, but that the mother, instead of the father, was the sole parent who consulted with the teachers about her child's schooling might further encourage children, in particular girls, to see school as worthwhile and relevant, thus improving their motivation, self-confidence and attendance.

Most importantly, the tendency to enable female parents to be at the fore front of their children's schooling, were positive changes that could help fight negative stereotypes against females in the society. In essence these changes helped portray women not as caring for household chores only but also as agents of change, actively pushing for the betterment of their children's education. That six of the seven participating female parents were uneducated or partially educated housewives, was an indication of the break-up of old societal norms defining mothers as witnessing rather than actively participating in their children's learning. Only the seventh, a nurse, had twelve years of schooling.

This parental involvement in their children's education also contributed to bringing in a new social order in Niger society. Henderson & Berla (1995) claimed that parental involvement of this nature "is pivotal to children's learning" in the US and was the best predictor of student success at school, not income or social status. They added that "[w]hen parents are involved, students achieve better, regardless of socioeconomic status, ethnic/racial background, or the parent's education level".

In addition, the parental involvement helped bridge the gap between school and the local environment. Parents had an opportunity to see the western school not as an island with a completely different lifestyle that threatened the existence of the local culture[1] (Wynd, 1999) but, as most parents reported, as part of the local environment which, rather than threatening the culture, revitalized and enriched it. Some female parents even dared to threaten to transfer their other children who were in the French monolingual schools to

[1] Even the representative of the French agency in charge of promoting education in Niger recognized that school [monolingual French school as it has been since independence in 1960] rendered parents hopeless because of its lack of *contextualization* [taking into account the socio-cultural context of the pupils] and flexibility.

bilingual schools as was the case with this woman who said:

> May God protect [my daughter from the eyes of the envious]! Right after I registered her in Hausa school, I realized that she became more alert, open-minded and smarter than her older sister that has been attending the other school [pointing at a non-Hausa-French school about 200 yards away]. Even when they are practicing writing at home, it is clear the little sister who is attending Hausa school is better. Sometimes she has to teach her sister some things, such as math or writing. I am very proud of her. Actually this morning I made a decision that I will transfer her older sister here (Chekaraou, 2009, p. 174).

This statement reflected the view of almost all parent participants. Many of them expressed pride in their children for attending these schools that valued their language, culture and life activities.

Breaking Gender Stereotypes

Female parents' agency regarding their children's schooling logically contributed also to breaking gender stereotypes because it enabled children not to grow up believing that the only domain reserved to women was the kitchen and the chores at home. In addition, the teachers' gender neutrality in assigning tasks in the classroom contributed strongly to self-confidence and self-esteem in girls. Elsewhere in Africa, teachers were reported to make comments that put down girls in the classroom (Odaga & Heneveld, 1995). In the bilingual Hausa-French schools, on the contrary, no case of a teacher putting down a girl was recorded during this study. Instead, teachers treated girls and encouraged them to participate in classroom activities as well as boys. That our observation data (Tables 4, 5 (A & B), 6 (A & B) above) showed a tendency for girls to participate more frequently in teacher-student interaction constituted another avenue for doing away with gender stereotypes against girls. TP-3 confided to me that girls were more active in the classroom and had better grades than boys though he did not know the reason.

Conclusion

Although focused on four teachers in only two Hausa-French bilingual schools, this case study pointed to positive pedagogical gains for teachers and students both inside and outside of the classroom. With teaching based on the Active Method, the bilingual classroom became more democratic for students to be able to express themselves and interact properly with their teachers who also remained guides rather than "dictators". Consequently, students saw their learning experience improve with girls participating in the classroom as well as or even more often than boys. Results also included parental involvement, female parents' agency and contribution to fading out negative stereotypes

against girls in school. At the governmental level, these modest results also suggested that bilingual schools contributed to providing equal access to schooling and knowledge through an equitable treatment of girls in the classroom and in the learning process. In so doing, bilingual schools contributed to retaining children (especially girls) in school by reducing the repeater rate to being almost non-existent. It is our hope that more studies focus on education policy implementation at the classroom level especially that such lower ranking policy stakeholders as teachers, students and parents tend to be overlooked by researchers.

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The Development of Teacher Professional Identity at the University of Dar es Salaam: Perceptions and Influencing Factors

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Abstract

The success of quality assurance in higher education depends on how well it is organised and the extent to which the stakeholders accept and own it. Indeed, how academicians perceive themselves, their profession, and others in the profession is reflected in their practice which in turn affects the quality of education being provided. This research investigated how various categories of university lecturers perceived their identity, and how the inception of professional development program has influenced the construction of professional identities. To achieve its research objective, the study deployed a mixed methods research of interviews and questionnaire design to collect pertinent information from 67 faculty members of the University of Dar es Salaam. The study established that the formation of teacher professional identity (TPI) has largely been influenced by the level of training in pedagogy, academic training, and practical experience as an academician. Continuing professional development programs have had little impact because of their sporadic occurrences. Similarly, the monitoring and evaluation of teaching, learning and assessment that is undertaken under the name of quality assurance is negatively perceived by some respondents as an imposition and encroachment on teacher autonomy. Four of the five dimensions of teacher professional identity identified by Wenger (1998) were observed in the respondents' narratives, namely identity as negotiated experiences, identity as community membership, identity as learning trajectory, and identity as nexus of multi membership. The research findings suggest the need for more and systematic sensitisation of academic staff; sharing of a common understanding; use of professionals in curriculum, psychology and educational management; and systematic induction of newly-recruited staff.

Introduction

In recent years, universities in East Africa under the umbrella of the Inter-University Council of East Africa (IUCEA) have seen the need to harmonise and ensure the quality of the programmes they offer (IUCEA, 2008). Towards this end, a regional Quality

Assurance initiative was introduced for quality assurance co-ordinators in East African universities at the IUCEA headquarters. The primary aim was to support the universities in implementing good practices for quality assurance, application of standards and criteria as formulated by competent authorities, development of an adequate internal quality assurance (IQA) system in sync with international development frameworks, and promotion of quality through the use of self-assessment instruments for IQA in the teaching and learning process. In fact, the training of quality assurance co-ordinators is based on a model for the self-assessment of teaching and learning which requires professional expertise in education, for example, curriculum design, programme specifications, formulation of expected learning outcomes, organisation of the programme, didactic concept, student assessment and/or evaluation. Programs for teacher development in the areas of pedagogy and the use of ICT in teaching and learning have been mounted for academic staffs.

However, the success of this intervention in higher education generally depends on how well it is organised and the extent to which the stakeholders accept and own it. Equally important in this process is how academicians perceive themselves and their profession as well as how they perceive others in their own professions, attitudes reflected in their practice, which in turn affect the quality of the education delivery. It is assumed that the teacher professional development program has an influence in the development of professional identity of staffs at the university. However, there has been no systematic study that examined how the staff perceive such a program and what influence the program and other factors have in the development of teacher professional identity. As a consequence, our understanding about how different factors influence university lecturers' self-perception is limited and remains unsupported by empirical evidence. The controversy surrounding teacher preparation models in Tanzania (Levira & Mahenge, 1996; Dasu, 2001; Galabawa, 2001; Kalugula; 2001; and Wangeleja, 2003; as well as the unsettled relationship between pedagogy and content (Mosha, 2000; Rajabu, 2000), and the triple roles of the university lecturers as well as lack of lecturers' professional bodies in higher learning institutions pose more questions than answers on how to characterize teacher professional identity in Tanzania at a general level and in higher learning institutions in particular.

This research aimed at investigating how various categories of university lecturers perceive their identity, and how the inception of professional development program has influenced the construction of professional identities. This study established that the formation of teacher professional identity has largely been influenced by the level of training in pedagogy, academic training, and practical experience as an academician, Continuing professional development programs have had little impact because of their sporadic occurrences. Similarly, the monitoring and evaluation of teaching, learning and assessment that is undertaken under the name of quality assurance is negatively perceived by some respondents as an imposition and encroachment on teacher autonomy. Such sentiments could be a reaction against the managerialist conditions imposed under the

university's institutional transformation program that began in the mid 1990s (Mukandala, 2012). Four of the five dimensions of teacher professional identity identified by Wenger (1998) were observed in the respondents' narratives, namely identity *as negotiated experiences*, identity *as community membership*, identity *as learning trajectory,* and identity *as nexus of multi membership*.

Research Objectives and Questions

This research undertaking focused on the construction of teacher professional identity in higher learning institutions in Tanzania and how the inception of teacher professional development initiatives and quality assurance practice influenced the construction of professional identity in these institutions. The following research questions were used to realise the research objectives:

- How do university lecturers perceive their professional identity? Which factors define teacher professional identity?
- How does professional identity vary across time?
- What institutional factors have influenced the construction of teacher professional identity?

Review of Relevant Literature

Conceptual Overview

The literature on teacher professionalism suggests an intricate relationship between teacher professionalism, teacher professional standards, teacher professional development and teacher professional identity. John Craig and Catherine Fieschi (2007) define teacher professionalism as a set of collectively held norms that regulate the teaching profession according to values and practices that are embedded in the experience of shared professional goals and relationships. Similarly, teacher professionalism is described as comprising the focus on teachers' work; becoming professional in one's outlook, knowledgeable and committed; developing professional judgment, professional ethics and ethos that pervades schools; and teacher identity (Commonwealth Secretariat, 2012). In both the definitions we can see the interconnection between professional standards (e.g. norms and values), commitment to the standards (i.e. teacher professionalism), and ability to develop within the profession (i.e. teacher professional development). According to Epstein (1978), identity is essentially a concept of synthesis, integration and action that "represents the process by which the person seeks to integrate his (sic) various statuses and roles, as well as his diverse experiences, into a coherent image of self" (p. 101). Indeed, it is a result of practice, reflection on that practice, and continuous professional development. In particular, identity has five dimensions: (i) identity *as negotiated experiences* where we define who we are by the ways we experience our selves through

participation as well as the way we and others reify our selves; (ii) identity *as community membership* where we define who we are by the familiar and the unfamiliar; (iii) identity *as learning trajectory* where we define who we are by where we have been and where are going; (iv) identity *as nexus of multi membership* where we define who we are by the ways we reconcile our various forms of identity into one identity; and (v) identity *as a relation between the local and the global* where we define who we are by negotiating local ways of belonging to broader constellations and manifesting broader styles and discourses (Wenger, 1998, p. 149).

A profes*sional is a person who has completed a programme* of rigorous initial preparation involving specialised knowledge as decided by the profession, and who has been approved by the profession as a registered practitioner with the right to exercise autonomous, professional judgment" (Hooley, 2007, p. 50). Thus, professional identity is reinforced by the existence of a regulatory body. Usually, the use of the term "professional" helps to make distinction between professionals and non-professionals. In this respect, professional identity is linked to "the concept of profession and of the professional" (Munoz Palm, 2008, p. 113). In the teaching context, professional identity depends on three-pronged main characteristics: (a) expertise in one's area of specialisation, (b) moral integrity, and (c) expertise in didactical terms. Of course, other significant attributes include specialised knowledge, code of professional ethics, professional autonomy, organisation and regulation, and public service provision (Carr, 2000; Shon, 2006). These characteristics are central in all professional undertakings; they act as a framework within which every professional works; and they are instrumental in the attainment of the goals of professional communities.

Overtime, scholars have been revisiting the concept of teacher professional identity. For example, Marcelo (2009, pp. 9-10) highlights four revised characteristics that are relevant shaping teacher professional identity. First, professional teacher identity is an evolutional process that draws on the interpretation and re-interpretation of experiences. In this perspective, *professional teacher identity is continually being defined and redefined*. Second, professional identity is not global in character. Indeed, the conduct of professional teachers depends on the environment or context, or local particularities to which they are responding. In other words, teachers—as a professional group—are not homogenous; they differ considerably. Third, closely related to the second characteristic, professional teacher identity is a function, or a result, of sub-identities which are not necessarily related. Fourth, professional identity is instrumental in making teachers motivated, committed, satisfied, or in short, making them good teachers. We opine that these attributes have implications for quality issues in educational institutions.

The Role of Professional Identity

Scholars share the view that professional identity is important in the education sector (Marcelo, 2009). Through professional identity teachers perceive themselves, hence

creating a sense of camaraderie and professional connection and recognition. As such, professional identity is a function of teachers' efforts to define themselves and others (Marcelo, 2009, p. 9). The definition is geared towards marking a distinction between professionals and other groups of people. Professional teacher identity is also shaped during pre-service preparation, as new recruits are initiated into the basics of professional teaching. The other identity shaping factor is the professional context in which teachers assume work in their post-training professional undertaking. Nevertheless, the world of work for a teacher is not an end in itself; rather, it constitutes a beginning towards teachers' re-education programmes in their respective areas of specialty. Continuing professional growth is a necessary condition for enriched professional teacher identity. Similarly, the available literature reaffirms the importance of professional identity in reinforcing quality issues in the education sector. Quality in higher education refers to effective teaching and learning, resulting from adequate resources, including teachers' competence (Okebuka and Shabani, 2007). Adequate and quality resources facilitate quality teaching and learning. It has also been established that competent teachers in their respective areas of specialty help to produce quality graduates. Indeed, professional identity and quality are inseparable. "Quality assurance and enhancement are essential processes in all learning environments" (Bardi, 2009, p. 6). Thus, as Bardi points out, "any work on quality assurance needs to start from teachers' own perceptions and opinions about what quality means in their specific teaching contexts" (p. 6).

The Construction of Teacher Professional Identity

Many of the university lecturers have had no formal training in pedagogy. They were recruited to teach on the basis of their high GPAs. These will gain teaching experience as university lecturers through trial-and-error. Few of these lecturers recognise that their lack of professional teaching training constituted a challenge that needs to be addressed through exposure to pedagogical training. For the majority of these lecturers in Tanzania, possession of a strong basis in the academic disciplines such as Mathematics, Chemistry, Engineering, Political Science, Linguistics, or Geography is considered a sufficient teaching credential. However, some of the university lecturers in the schools of education and other faculties have had prior professional training in education in their undergraduate and even post-graduate university education (for some even diploma level education prior to joining the university) in addition to acquiring academic content in one or two disciplines. These often tend to have graduated with B.A.s/B.Scs. with Education or B.Ed. (Arts/Science), or PGDE prior to their employment at the university as TAs, assistant lecturers, or lecturers.

There has been much debate in Tanzania on which model of teacher preparation produces the right kind of teachers. At the primary and secondary school levels, conceptions about the best curriculum revolve around the primacy of knowledge of subject matter over pedagogy, and vice-versa. Levira and Mahenge (1996), Dasu (2001),

Galabawa (2001), Kalugula (2001) and Wangeleja (2003) have emphasised pedagogical competence in the preparation of teachers over knowledge of subject matter. On the other hand, Mosha (2000), Rajabu (2000) and the TDMS report (2007) emphasise knowledge of the subject matter over pedagogical competence; they see such knowledge as a critical ingredient in the preparation of teachers even as they are exposed to pedagogical issues. The replacement in 2000 of a Diploma in Education curriculum that had teaching subjects with one that had no teaching subjects was short-lived because in 2007 the Diploma in Education curriculum with teaching subjects was reinstated. This u-turn actually affirms the importance of both pedagogy and knowledge of subject content in the promotion of quality teaching. The lesson that can be drawn from this development is that the best curriculum in the preparation of teachers benefits from both aspects. Indeed, an ideal curriculum requires a combination of an academic component (Viebahn, 2003), a pedagogical component and some reflective and practical experience (Lewin & Stuart, 2003). Such a combination can make the teacher knowledgeable and effective as well as confident and efficient. And yet, over the years, at the University of Dar es Salaam, the conception of the professional teacher appears to lean towards either orientation. This study, therefore, sought to investigate lecturers' perceptions and influencing factors on their professional identity.

Research Methods

Qualitative and quantitative methods were used to investigate the University lecturers' perceptions of their identity. In-depth interview and questionnaires were the research tools to collect the required information. The interview guide sought views of the respondents with regard to their perception of own identity, views on efficacy of the internal quality assurance system, involvement in the professional development programs at the campus, impact of the programs on professional development, and recommendations to the university management. The questionnaire required respondents to indicate the degree of agreement and disagreement to various statements by circling (or marking) the appropriate number 1 to 5 where 1 = strongly disagree, 2 = Disagree, 3 = Indifferent, 4 = Agree, 5 = strongly agree. The statements focused on perception of own identity, whether there was change in identity over time, what caused the change, views on the internal quality assurance system, how it was implemented, and views on professional development programs. The focus was on the meaning that lecturers attached to quality assurance, their role in it, and how they perceive themselves (Edson, 1997).

The University of Dar es Salaam (UDSM), as a premier institution of higher learning in Tanzania, was used as a case study. The target population included all lecturers involved in the professional development programs at the University of Dar es Salaam. Purposive and random sampling procedures were used to identify lecturers with different levels of experience, academic qualifications and areas of specialisation. Each participant was seen as capable of expanding the variability of the sample. As this was only a case

study, the findings cannot be over-generalised to apply to all other university lecturers in the country without qualification, or considering their operational environment. The background and sample characteristics of research participants are summarised and presented in Table 1.

Table 1: Background characteristics of participants in the study

Characteristics	Profile	Number of participants
Gender	Male	41
	Female	20
Academic rank	Assistant Lecturer	41
	Lecturer	04
	Lecturer Senior Lecturer	06
	Professor	04
Specialisation	Arts & Social Sciences	26
	Natural & Applied Sciences	13
	Education	22
	Others	05

Information generated through the use of interviews was transcribed word for word to make it more readable and detailed. Then categories developed depicted different ways in which a certain phenomenon was conceived (Marton & Booth, 1997). This process is also known as coding done at three levels (Strauss & Corbin, 1990). *Open coding*, the first level, involved identifying, developing, labelling and grouping concepts to form categories of the phenomenon found in the data; *axial coding*, the second level, involved an intense analysis of each category; and *coding*, the final stage, entailed selective coding. A core category of qualitative information was determined and analysed in relation to other major categories. Quantitative data, on the other hand, was analysed with the help of the Statistical Package for Social Sciences (SPSS).

Research Findings

The results of the research findings arsing from the interviews and questionnaire are presented and discussed under four major headings in light of the research questions: (i) what factors define teacher professional identity? (ii) How do university lecturers perceive their professional identity?; (iii) How does professional identity vary across time?; and (iv) What institutional factors have influenced the construction of teacher professional identity?

What Factors Define Teacher Professional Identity?

Professional identity

In this section, the focus was on how lecturers at the University of Dar es Salaam perceive their professional identity. A questionnaire was administered with the lecturers. The research findings suggest that the majority of the participants involved in the study largely tended to identify themselves primarily as teachers rather than as researchers or consultants.

Teacher professional identity

Participants were asked through in-depth interviews about a number of aspects that touched on the development of teacher professional identity. These included minimum requirements for one to qualify as a professional teacher, professional certification and experience, adherence to professional code of conduct and membership to professional bodies. The respondents provided several attributes as essential in defining and characterising professional teacher identity at the University of Dar es Salaam as narrated below.

Training and/or education: Training and/or education was identified as a crucial attribute for all professionals in the teaching enterprise. Every university teacher was expected to be knowledgeable and competent in not only the content of their specialised subject matter but also the pedagogical aspect. This finding is, indeed, in line with what other scholars indicate as knowledge base resulting from education or training in particular period in a recognised institution with an approved curricula (see, for example, Carr, 2000).

Professional certification: Certification assumes the existence of an authority responsible for certifying teachers with appropriate credentials on successful completion of their training programme and teaching probation. The respondents affirmed that professional certification was an indicator of qualification in a particular area of specialisation or programme. Indeed, certification is one of the gate-passes to the corridors of professional teachers' community.

Professional experience: The respondents also cited experience as an important attribute in cultivating professional teacher identity in Tanzania. They indicated that a certified teacher is supposed to work for some time before gaining the stature of a professional teacher.

Adherence to a professional code of conduct: The research participants acknowledged the importance of a code of professional teacher conduct. The enforcement of a

professional code of conduct by a professional body, they said, can preserve and sustain the sanctity associated with the teaching profession in addition to ensuring that its members rendered verifiable quality services. In fact, they were of the view that the code of professional conduct can serve as both a custodian of the values of the professions and deterrent for members bent on contravening the code through, for example, indecency, fraud in student assessment, or abuse of their authority as teachers by getting involved in sexual liaisons with their students.

Membership in a professional association: The respondents also indicated that every teacher must be a member of a professional association. Such membership to a professional association was seen as central to cultivating teacher professional identity. As one of the respondents put it:

> […] *Why do other professions like engineering have professional associations? If the person has training, has internship, why should someone practice without membership to a professional body? I think it is because they want to protect their profession from being tarnished by un-professionals; they want to maintain quality services* (Senior Lecturer).

The inference is that professional associations do not only bring together individuals with shared common professional interests but also foster professional etiquettes and standards that improve and sustain the cherished image of a given profession.

Professional humility: The university lecturer respondents identified humility among teachers as vital in cultivating a positive professional teacher identity in Tanzania. The respondents said that teachers with humility should be self-critical, eager to learn, helpful and available to their students and colleagues, and devoid of arrogance, egotism and self-aggrandisement.

The other attributes the respondents identified as characterising teacher professional identity included loving the teaching job, loving the students and serving as role models to the students, other teachers and the community at large.

In other words, teacher professional identity is defined largely by both external and internal attributes. The external attributes include certification, teaching experience or membership to a professional association. And the internal attributes embody the drive to conduct oneself ethically. On the whole, these professional attributes draw upon a professional code of conduct and commitment to provide good service to the students.

How Do University Lecturers Perceive Their Professional Identity?

Differences in the perception of professional teacher identity were investigated

based on the categories of the research participants by rank, gender, or professional specialisation.

Gender: Gender was one of the characteristics that helped to determine the perception of the lecturers on the professional teacher identity from a gender-perspective. Information in Figure.1a is a summary of the research findings from a gender perspective based on response frequencies from the questionnaire.

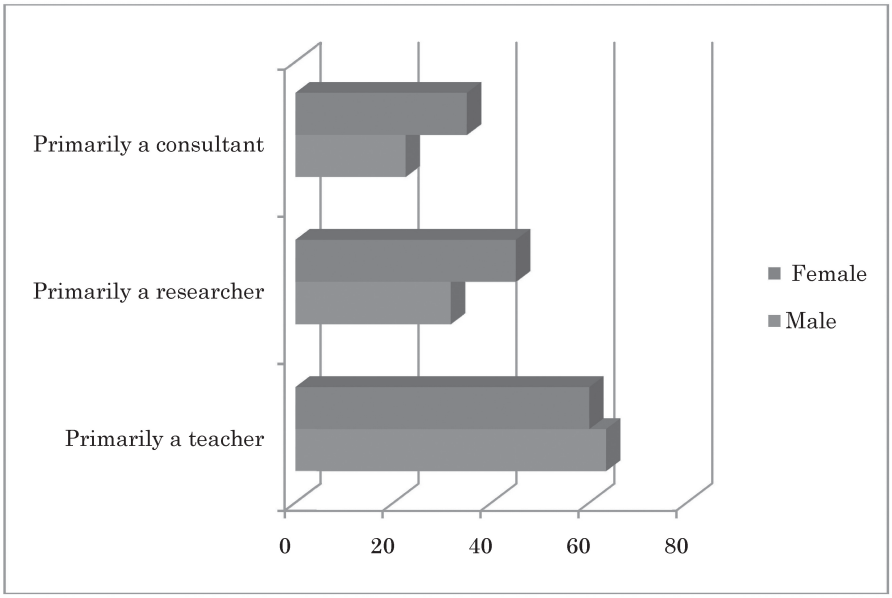

Figure. 1a: Gender-based Self-perception of Professional Identity

The findings show that male respondents tended to identify themselves more as teachers than anything else. Female respondents, on the other hand, tended to identify themselves as researchers and consultants. Nevertheless, for both male and female respondents, consultancy (and services to the community) featured last. One can deduce that the respondents were not as actively in consultancies as they were in other University roles—teaching and research.

Academic specialisation: The participants' expertise or specialisation was also used as a parameter to determine their perception of professional teacher identity. Information in Figure.1b is a summary regarding their identity on the basis of faculty's academic specialisation.

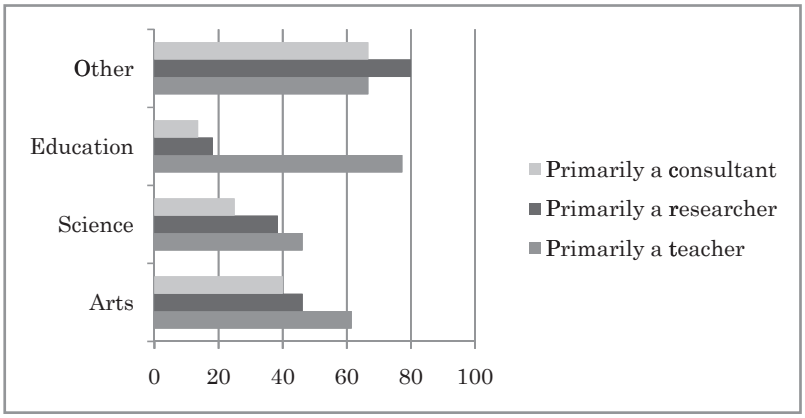

Figure. 1b: Academic Specialisation-based Self-perception

Data in Figure.1b suggests the following observations. Although there were slight variations across academic specialisation, the academic staff identified themselves first and foremost as teachers. Unlike other academic members of staff, the respondents from the Faculties and School of Education (77.3%) identified themselves more as teachers than as researchers (18.2%), or as consultants[1] (13.6%). This was also the case with the academic staff in the College of Arts and Social Sciences (CASS) and College of Natural and Applied Sciences (CONAS). However, there was a significant change in perception among respondents from other disciplines, such as University of Dar es Salaam School of Business Studies (UDBS). In the UDBS category, the respondents identified themselves more as researchers (80.0%) than as teachers (66.7%) or consultants (66.7%). Note that even their identification with consultancy was far much higher than we witness with other categories of the University staff who took part in the study. One possible explanation is that academic members of staff in CASS and CONAS were generally initially trained as teachers. In fact, their academic units had components integrated in the BA and BSc with Education teacher education and training programmes.

Staff academic rank: As already indicated, the faculty respondents were drawn from tutorial assistants, the lowest ranking teaching staff, with professors, being the highest

[1] According to the University of Dar es Salaam (UDSM) (2007, p. 104), the concept of consultancy embodies service to the public. In this regard, "consultancy (and service to the public) generates income supplements to staff and therefore helps to retain them at the University and reduce the brain drain from the University. It enhances linkage of the University with the productive sector. Through University-industry collaboration, the University comes in contact with the society and the real drawbacks hindering productivity. Consultancy also maintains contact with industrial and political developments relevant for the various academic fields". From the foregoing, there is little doubt that consultancies are a source of revenues and income to the University and individual lecturer. Specifically, in addition, every University don is expected to undertake "consultancy" alongside research and teaching. As such, this conceptualization is 'parochial' in character; and therefore its use in this paper does not indeed intend to demean what other scholars hold about it.

ranking faculty at the University. The academic rank helped to establish the perceptions of university lecturers from all the academic categories. Information in Figure.1c provides a summary of the perceptions of these respondents on the basis of their academic rank.

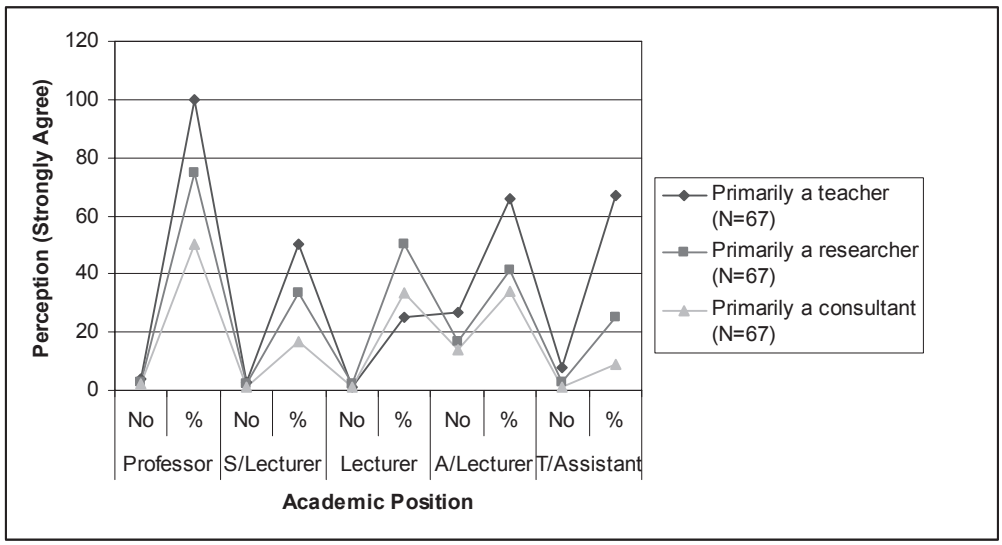

Figure. 1c: Academic Rank-Based Self-perception of Professional Identity

From Figure 1c, we can make the following observation. Regardless of the academic rank, the university lecturer respondents tended to consider themselves primarily as teachers. The reasons they provided varied according to the teaching experience and academic specialisation. The professors and senior lecturers in their responses regarded themselves more as teachers than researchers or consultants because they spend more time teaching and less time undertaking research and consulting activities.

Also, the faculty respondents specialising in natural and applied sciences tended to regard themselves more of teachers than researchers and consultants. In addition to having a heavy teaching load, this perception can be attributed to the research environment in the university and the country at large, which is generally not conducive for promoting and sustaining research among these science-based teaching professionals. For example, there are no chemical industries, to enable them to provide consultancy and put their research ideas into practice. Another stumbling block, as senior academics indicated, was limited research funding, with proposals submitted to solicit for funding not even getting any feedback:

> *I am more of a teacher and I like the teaching part. Concerning research, we are writing proposals on very important research topics with significant implications in our society but we don't get any feedback, so why should I keep on writing research proposals? I know it is important that we should research for us to publish [and gain academic promotions]; some of the proposals are not even being implemented.*

There is no research without funding as research requires money for it to be effected. So, I would say, research is hindered by the fact that we don't get funding, let alone feedback on our proposals (Associate Professor Interviewee).

The respondents also raised the issue of lack of transparency in the allocation of research funds. With regard to consultancy, senior academics complained that the 25 percent consultancy fee, set by the University Consultancy Bureau for every consultancy undertaken, was too high.

As for Assistant Lecturers and Tutorial Assistants, they indicated in their responses that they regarded themselves primarily as teachers. Unlike other categories of University faculty, this junior faculty had even less research and consultancy opportunities due to their inexperience and the fact that they had yet to establish themselves in their field to have useful contacts and recognition. At the University of Dar es Salaam, such lower ranking academics tend to draw on limited research endeavours that were part of their fulfilment of the research component of their undergraduate or Masters Studies.

The perceptions on teacher professional identity held by academic staffs at UDSM correspond to a dimension in Wenger's (1998) identity typology *as negotiated experiences* where we define who we are by the ways we experience ourselves through participation as well as the way we and others reify ourselves. However, analysis of the respondents' narratives suggests the existence of other dimensions as well, as the following quotations illustrate.

I am not seeing those who excel in teaching benefit from ... what do we call it…? Professional development…? Yes ...upward mobility. The emphasis is there… you have to teach well, examine students well, and all that stuff…which is good. But I don't see how these people are rewarded. I am sure there are good teachers around. I don't know, I can be corrected, but most good teachers don't move upward very rapidly. While people who may not be doing good work in teaching but may be focus more on research and consultancy they move up very rapidly. That is what I see that the University needs to consider (Senior Lecturer in Science Interviewee).

The preceding comment illustrates a dimension described by Wenger known as identity *as learning trajectory* where we define who we are by where we have been and where we are going. However, the comment below intimated by a professor from Arts and Social Sciences illustrates another dimension called identity *as nexus of multi membership* where we define who we are by the ways we reconcile our various forms of identity into one identity.

To me as a professor, I'm an institution; supposed to be an institution and that is why they give us parking spaces and so on. But so far in the UDSM, professors are not institutions. We are not mentoring the students the way we are supposed to mentor them. In terms of consultancy, yes I can say I'm doing consultancy, because the consultancy of two thousand dollars that is not consultancy. It must

be good money to hire many people, go to the field and produce viable findings for development. (Professor interviewee from Arts and Social Sciences).

How Does Professional Identity Vary Across Time?

The majority of respondents believed that their professional teacher identity had changed over time as the data in Figure.2 illustrates.

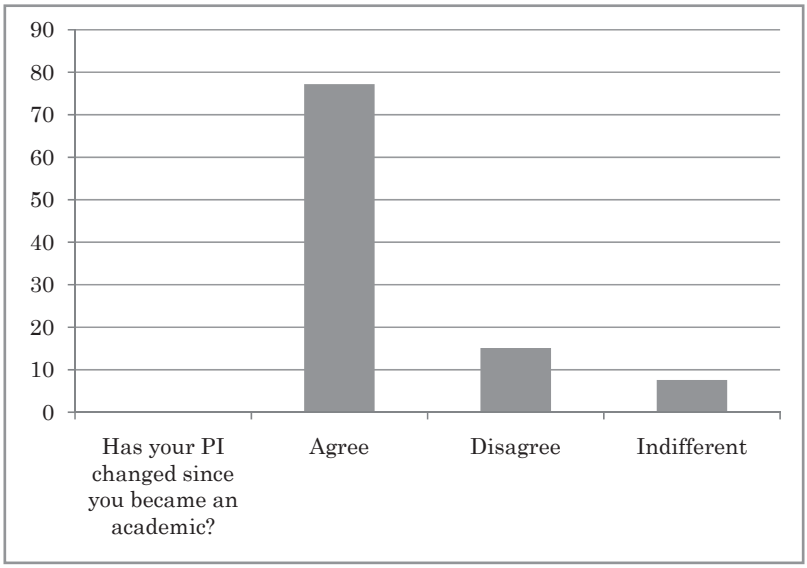

Figure.2: Change of Professional Identity

As the data suggests, 77.2 percent of the respondents expressed the view that their professional identity had changed. Ranked according to the frequency of occurrence, factors which contributed to the change of identity were seen as exposure to new challenges, interaction with colleagues, interaction with students, experience in teaching, training in content, training in pedagogy, interaction with mentors, access to and use of new educational technology, and short professional course attendance. In particular, the respondents identified training in pedagogy, access and use of educational technology and attending short courses as significant influencing factors that had helped to make a difference. On the whole, however, most of the respondents acquired their professional teaching identity through practice, that is, in the process of carrying out their teaching duties. The opportunities to benefit from meaningful short courses on teaching and new teaching media, which the respondents identified as helping to make a difference, were rather limited for the large number of faculty across the huge establishment of the University of Dar es Salaam. The respondents also said that professional identity was moulded by self-discipline, personal effort, and international exposure.

Which Institutional Factors have Influenced the Construction of Professional Identity?

The academic staff respondents were also asked to share their views on the concept of quality assurance at the University of Dar es Salaam, its relationship to fostering professional teacher identity and the three cardinal academic roles. The goal was to gauge whether quality assurance promoted or hindered professional teacher development. The outcome based on their responses suggests that the members of faculty had positively embraced the Internal Quality Assurance (IQA) as illustrated by Figure. 3.

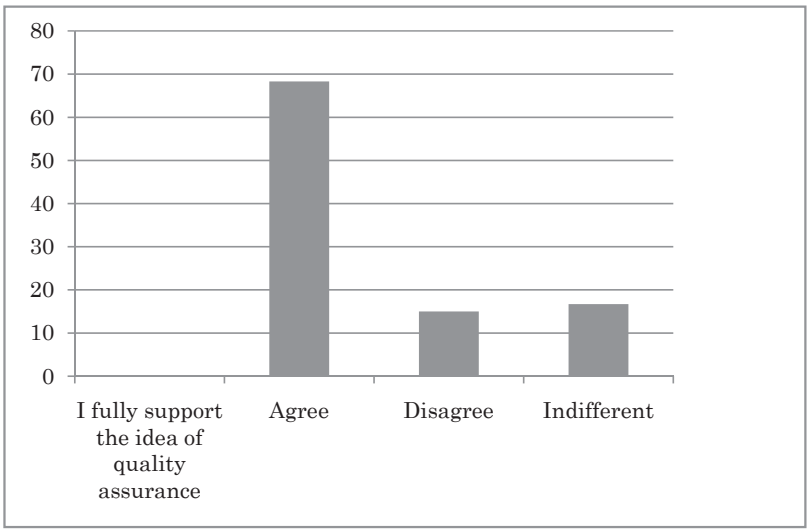

Figure. 3: Support for Internal Quality Assurance

The idea of internal quality assurance is associated with control of the quality of products, standardised performance, accountability to stakeholders such as students, parents, and the general public. And yet, some respondents had some misgivings about IQA. In fact, these respondents were hostile to how IQA was being enforced by the University. As one of the respondents explained from experience:

> *The idea of quality assurance is definitely good because you need to control the quality of whatever products or programme you are offering. But it is equally important that whenever you do it you should be systematic. I know during the 1990s we also had quality assurance whereby heads of section or departments or tutors would come and sit-in at the back of the class and listen to what one was teaching. After attending to you, they would call you and tell you about your teaching or approach; they would tell you where to improve and that sort of things. These checks were not like people coming in secretly, and listening to whatever you are doing without notifying you, like auditing. It was something like volunteering,*

and it was handled in a friendly atmosphere. That was something that I liked very much. …there has to be quality assurance, but, the thing is, it sounds like catching them when unaware. I feel very uncomfortable when someone walks in while I'm teaching, and standing at the back of my class without notifying me beforehand. I don't like that. The use of students' evaluation forms is also subjective because whenever you are strict they are not going to get negative assessments. They will not give you the marks that you deserve. … I really don't like the classroom testing way of observation… (Professor Interviewee).

In fact, the implementation of IQA at the University is generally adversely affected by incompetence of some of the officers appointed to undertake the job, as some of the respondents pointed out. To redress the situation, the respondents recommended that a more systematic University-wide sensitisation of academic staff at all levels be undertaken. The respondents also said that there was need to incorporate issues of common understanding of professional teaching and use of professionals well-versed in curriculum issues, psychology and educational management in these IQA. On the whole, the general consensus was that the IQA approach at the University should be research-based and more innovative, with systematic induction being provided to newly-recruited staff.

Conclusion and Implications

This study sought to investigate factors influencing the development of teacher identity and how academic staff perceived their professional identity. The research findings show that academic members of staff at the University of Dar es Salaam identify themselves primarily as teachers rather than researchers. The research and consultancy components are generally secondary. The perceptions vary according to gender, academic specialisation, and seniority. The respondents said teacher professional identity is defined by both external and internal attributes. External attributes include certification, teaching experience or membership to a professional association, while internal forces draw on the internal drive for one to conduct oneself ethically as guided by commitment to teaching and adherence to established professional code of conduct. Also, it was established that changes in professional teacher identity are associated with exposure to new challenges, interaction with colleagues, mentors and students, teaching experience, training in content and pedagogy, as well as access to and use of new educational technology, and short courses. On the whole, the respondents fully supported the idea of internal quality assurance (IQA) because it helps to enhance education quality. Their reservations focused on how IQA was being implemented at the University, which they want improved to make quality assurance more meaningful in the definition of one's professional teaching identity. In line with the suggestions of the respondents, this study concludes that there is a need for a more systematic University-wide sensitisation of academic staff, sharing

of a common understanding of professional teaching, and use of professionals well-versed in the curriculum, psychology and educational management in the IQAs, as well as systematic induction of newly-recruited staff.

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Exploring the Processes and Outputs of School Grants: The Case for Direct Support to Schools in Malawi

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Abstract

In a growing number of countries of the developing world, there has been a shift in policy from fee paying to fee free education for the basic education level of schooling. This has necessitated the introduction of grants directly to schools to mitigate delays in procurement of goods and services by centralized education management systems. In Malawi Direct Support to Schools (DSS) was introduced in 2006 to enable schools purchase teaching and learning materials and perform small scale maintenance and rehabilitation. The research reported in this paper analyzed the processes and outcomes of DSS in the schools. The aim was to explore the mechanisms for grant administration, the challenges encountered and the impact of the grant on quality of education and grassroots participation in school management so as to inform the Primary School Improvement Plan (PSIP) grant which is to replace DSS. The findings of the study have shown that the mechanisms for grant administration are participatory and therefore conducive to accountability. The grant has helped improve education quality through ensuring that teaching and learning materials are available; improving the learning environment; increasing local participation in school management; increasing the financial management skills of head teachers and SMC; and improving parental attitudes to schooling. However the impact of the grant has been negatively affected by criteria for allocation, grant amount and delays in its disbursement.

Introduction

The policy shift from fee paying to fee free education for the basic education level of schooling adopted in order to increase access to education is not a strange phenomenon in countries of the developing world including Malawi. Due to this policy shift however, schools have lost income which was brought by the students in form of school fees, relying solely on central government for provision of teaching and learning resources. With practice showing that central government provision may not necessarily be efficient there has been an equally growing trend for these countries to provide grants straight to schools so that they buy some of the much needed resources on their own. The provision of school grants, albeit in various forms, is currently common practice in many African countries that adopted the fee free policy. Literature shows that the introduction of school grants has not spared Asian countries which have adopted decentralized financial policies

similar to those of African countries (UNESCO, 2012).

Different models of school grants, sometimes to serve a varied range of purposes, have been implemented in the various countries. In Ghana for example, schools receive several types of grants with the capitation grant being the main one. The Capitation grant serves several purposes including catering for various levies such as examinations, sports, textbooks, culture; compensating schools for loss of income from students' fees, and empowering schools and communities in school management. In Kenya schools receive funds in form of a Free Primary Education Grant, a School Facility Grant and a Constituency Development Fund Grant. In addition, Kenyan schools in some cases receive grants from NGOs, Community Based Organisations, Harambees, well wishers and parents. Uganda on the other hand uses her own model where the school receives grants for a wide range of purposes including teachers' salaries, scholastic materials, construction, rehabilitation and maintenance, extra curricular activities, school lunch and contingency funds. There are also isolated incidents of schools getting donations from NGOs, school alumni, parents and PTA (Byagamusha & Nishimura, 2008).

The Malawi Government, just like many governments in Africa introduced Free Primary Education (FPE) in 1994. This was a big political policy and as would be expected, was received with mixed reactions by different stakeholders. The immediate impact of the policy was the sudden increase in enrolment of pupils from 1.9 million to 3.2 million in the 1994/95 academic year. Over-age children who had never enrolled for school or dropped out due to lack of school fees had enrolled at this time. Over the years enrolment continued to increase and access to primary education was improved tremendously. However, the challenge was that the available resources for teaching and learning remained static, so that the quality of education was greatly affected. As a result FPE led to other problems such as absenteeism, repetition, dropout, poor performance and overall low retention of pupils.

Having observed the myriad problems facing the primary education sector as a result of FPE, the government of Malawi continued to look for strategies to improve access, quality, and relevance of education which are goals within the National Education Sector Plan (Government of Malawi, 2007). One such strategy was the introduction of Direct Support to Schools (DSS) in 2006 more than a decade after the introduction of FPE. DSS has been implemented by the Malawi Government with support from the World Bank and DfID since 2006 as one way of helping address the teaching and learning resource challenges facing the schools. At the time when this study was being conducted, the Malawi government was piloting a new initiative, the Primary School Improvement Plan (PSIP) which is an initiative for sustaining DSS by the Malawi Government. The study reported in this paper was thus felt to be important in informing the design and implementation of PSIP.

At the time when the Malawi government was grappling with the challenges emanating from the increased enrolment due to the introduction of FPE, a national decentralization policy was approved in 1998, the purpose of which was to facilitate

grassroots participation in decision making processes for all public sectors including education. Specifically, the national decentralization policy was approved with a view to (Government of Malawi, 1998):

- Create a democratic environment and institutions in the country for governance and development at the local level which facilitate participation of the grassroots in decision making,
- Eliminate multiplicity in administration
- Mobilize the masses for socio-economic development at the local level.

In the education sector, decentralization policy strengthened grassroots participation through creation of School Management Committees (SMC) and Parents Teacher Associations (PTA) which would take part in the management of the schools (Government of Malawi, 2004). Within the decentralized environment therefore, DSS was meant to serve two purposes: support the purchase of teaching and learning materials and small scale school maintenance; and that of strengthening grassroots participation in school management.

Direct Support to Schools: purposes, criteria and amounts

As implied in the foregoing discussion, Direct Support to Schools (DSS) is a grant that is being implemented by the Malawi Government, with support from the World Bank and DfID since 2006. According to DSS policy guidelines (Government of Malawi, 2006) the grant started in 2006, twelve years after the introduction of Free Primary Education, under the Education Sector Support Project (ESSUP 1) of the World Bank and was funded through the International Development Agency (IDA) grant. Whilst the initial purpose of DSS was to help schools purchase basic teaching and learning materials in order to enhance the quality of teaching and learning, this was reviewed after the implementation of two cycles of the grant to include maintenance and rehabilitation as well. The review of purposes was implemented when the United Kingdom Department for International Development (DfID) joined World Bank in school financing resulting in the enhancement of the DSS grant (Government of Malawi, 2008). The purpose of DfID additional funding was to help schools perform small scale maintenance and rehabilitation works. Thus while the teaching and learning materials only grant was given by World Bank between 2006 and 2008, from 2009 to-date, schools in addition, received maintenance and rehabilitation grant from DfID.

The DSS guidelines show that in 2006, all schools received the same amount of US$200 showing that no criteria was used to distinguish the schools with respect to how much they should receive. This was however changed in the following year and subsequent years when the grant was given based on enrolment whereby schools were categorised into enrolment bands as shown in Table 1. The higher the enrolment, the

bigger the amount of grant allocated.

Table 1: DSS funding in the first three years

Year/ Enrolment	Band 1 Enrolment 10-500	Band 2 Enrolment 501-1500	Band 3 Enrolment 1,501-3,000	Band 4 Enrolment 3,001-4,5000	Band 5 Enrolment 4,501 above
2006/7	$200	$200	$200	$200	$200
2007/8	$170	$192	$214	$220	$257
2008/9	$514	$600	$693	$784	$874

Source: Government of Malawi, 2008 US$= MK140

The remarkable increase of the grant amount in 2008/9 shown in Table 1 was caused by the additional maintenance and rehabilitation grant from DfID rather than an upward adjustment of the grant to the extent that DSS amount has remained the same to-date, a situation that creates challenges as will be discussed later.

The DSS guidelines show that the grant was clearly earmarked for the purposes of purchase of teaching and learning materials and school maintenance and schools were provided with a list of eligible items for purchase, showing very limited autonomy in the use of the grant. The guidelines however also show that there was a small discretionary grant that was given to schools for which the school would have some autonomy in its use. Table 2 summarises the intended purposes of DSS grant.

Table 2: Grant amounts and intended purposes from 2008/9 onwards

Grant purpose	Band1 Enrolment 10-500	Band 2 Enrolment 501-1500	Band 3 Enrolment 1,501-3,000	Band 4 Enrolment 3,001-4,5000	Band 5 Enrolment 4,501 above
Teaching and learning materials	$171	$189	$214	$236	$259
Maintenance and Rehabilitation	$286	$343	$400	$457	$514
Discretionary	$57	$68	$80	$91	$103
Total	$514	$600	$694	$784	$874

Source: Government of Malawi, 2008, US$= MK140

But how are DSS grants disbursed and what processes are followed at school level in order for the grant to achieve its set purposes? An equally important question in this study was on what has been the impact of the grant at school level so far? This paper explores the processes and outputs of DSS in primary schools in Malawi. While the processes will shed light on the mechanisms for grant administration and the challenges encountered, the outputs will shed light on the impact of the grant on the quality of education and on grassroots participation in school management. This study was important at this time

in order to inform the design and implementation of the new Malawi Government PSIP programme.

The research questions that were of interest in the study are as follows:

1. What are the mechanisms for disbursement and use of DSS at school level?
2. What monitoring and control processes are in the schools receiving DSS funds?
3. What is the impact of DSS funding on education quality?
4. What challenges do schools experience as a result of DSS funding?
5. How might DSS funding be improved for better impact on education quality in the schools?

Conceptual framework

The execution of the study was guided by the decentralization processes that are governing both the formulation and implementation of education policies in Malawi. In the decentralized setting for primary education there are two levels of administration – the Central level (Ministry Headquarters) and the District Assembly (DA) (Nampota & Beckmann, 2011). Within the DA, the actors are the District Education Manager (DEM), the Zonal Primary Education Advisor (PEA), School Management Committee (SMC) and Parents Teacher Association (PTA). The central level is responsible for policy formulation and implementation, the inspectorate, establishment of standards, training, curriculum development and international representation so that respondents at this level would be useful to discuss the intended purpose of DSS. DAs are responsible for, among other things, actual delivery of education services by primary schools in accordance with policies, standards and criteria set by the central Ministry Headquarters to ensure quality of education and would be useful to obtain data regarding the frequency and timeliness, and mechanisms of the DSS grant. The DEM has to, among other responsibilities, prepare district education plans, estimates for local education authorities, monitor day to day operations of education institutions, post teachers, appoint head and deputy head teachers of schools and prepare budgets and account for all expenditures in the district. The PEAs advise heads of schools and teachers on professional matters, inspect schools, assist DEM in accounting for expenditure and determine budget requirements in the zone. The SMC oversee the development and execution of school action plans while the PTA holds the SMC accountable for all activities in the school.

As seen from the foregoing discussion, at school level, management involves three groups of people, teachers, SMC and PTA. The three groups are responsible for day to day running of the school. Such groups interact with suppliers during the procurement of materials using DSS funds. The processes that take place at school level, involving interaction of head teacher, teachers, SMC, PTA and suppliers was of interest in the study. Since these processes do not operate in isolation from the other levels of the decentralized structure, respondents to the study included participants at DEM and PEA levels.

As shown in the research questions, an area of equal interest in the study was the impact of DSS on education quality. A review of literature has shown that defining education quality has always been a challenge to many educators, perhaps as a result of the many elements that influence it. In a paper *Defining Quality in Education*, UNICEF (2000) recognised five dimensions of education quality as identified by the Dakar framework for action on Education For All (EFA) founded on the rights of the child: learners, environments, content, processes and outcomes. Chapter 1 of the EFA Global Monitoring report for 2005 (UNESCO, 2004) synthesised the various definitions of education quality and developed a framework that could be used both for monitoring education quality and policy formulation. This framework distinguishes the learners, the outcomes and the context (external environment) as dimensions of quality. However, it lumps together the content, processes and school environment or school context as enabling inputs although some of these could be outputs. Furthermore it expands the environment to global contexts for education. The framework is summarized in Figure 1 which delineates inputs from outputs.

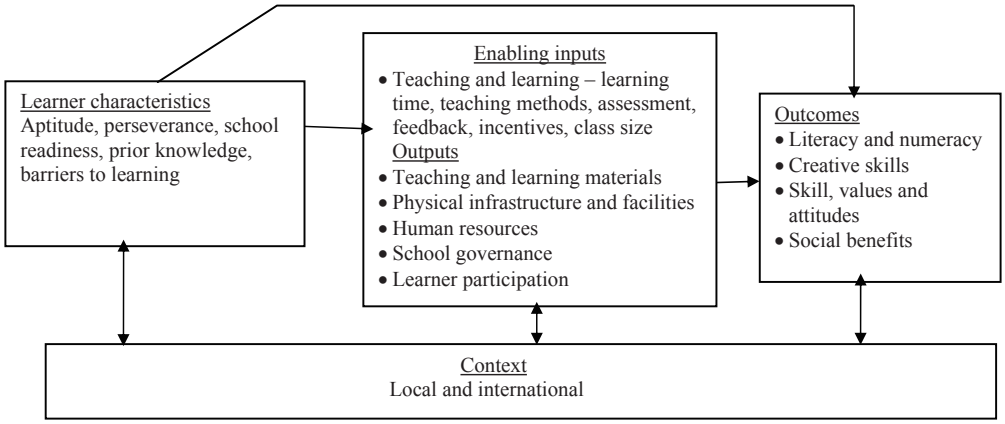

Figure 1: Quality framework, adapted from UNESCO, 2004

The DSS funds as described earlier target provision of teaching and learning materials and rehabilitation of school infrastructure. Provision of teaching and learning materials and rehabilitated infrastructure should have an impact on teaching and learning and therefore quality of learning. As such, DSS grant was essentially covering the enabling inputs component of the framework. While some of the enabling input characteristics would form the outputs of the grant, for example, availability of teaching and learning materials, improved school environment, community participation in school management, the outcomes would include knowledge, skills and attitudes of different stakeholders such as teachers, learners, school management committees. No literacy and numeracy assessment were carried out in the study so that impact of the grant on this

outcome could only be approximated. However, the knowledge, skills and attitudes gained by SMC and PTA could be discerned from the findings of the study.

Methodology

The study was situated within the qualitative interpretative paradigm with interviews, Focus Group Discussions (FGDs) and document analysis used as main data collection methods. Semi-structured interview guides focusing on mechanisms for DSS disbursement, procurement processes, benefits, challenges and impact of the grant were developed. The interview guides were pilot tested at one school and refined accordingly.

The purposive sample comprised six schools from three districts of Old capital, City and Lakeshore. Two schools reflecting urban and rural settings were randomly selected in each district. The spread of the schools to three districts was necessitated by the nature of the DSS grant which is administered at District level. The numbers of district administrations sampled were thus deemed equally important as number of schools visited. For anonymity, the names of both the districts and the schools are pseudonyms and are summarized in Table 3.

Table 3: The sample

District	Name of school	General description
Old Capital	Songano	Enrolment- 2,517 (50% Girls); 24 teachers (18 females); Generally poor infrastructure
	Mutuwa	Enrolment – 1,262 (48% Girls); 9 teachers (2 females); 7 classrooms in fairly good condition; use of make shift classrooms
City	Limwe	Enrolment – 2,553 (45% Girls); 29 teachers (26 females); 16 classrooms in fairly good condition, TLM present
	Bayani	Enrolment - 11,021 (52% Girls); 99 teachers (50 females); 16 classrooms in fairly good condition, double shift
Lakeshore	Salumwa	Enrolment - 566 (49% Girls) 6 male teachers; 4 classrooms, in poor condition, no functional toilets
	Maluka	Enrolment - 1,251 (53 % Girls); 11 teachers (9 female); 15 classrooms in poor condition

At district level, interviews were conducted with the District Education Managers (DEMs) and sometimes coordinating Primary Education Advisors (CPEAs). In total, two DEMs and three PEAs were interviewed. At school level, the sample included head teacher, teachers, and SMC and PTA members. Individual interviews were conducted with head teachers to ascertain the amount of grant received and how it was used at the school. Similar questions were addressed to groups of teachers, SMC and PTA separately, one in each school. In total, six head teacher interviews and six group interviews each for

teachers, SMC and PTA were conducted.

An analysis of the DSS manuals and documents both from the Ministry, district and school levels was also conducted in order to get a fuller picture of the grant mechanisms. This analysis centred on mechanisms for grant administration, the amount and uses of the grant.

Data were analysed by first grouping the findings into the two categories of process and outcomes and outputs of the grant. Within each category, themes were drawn and all data analysed according to the themes. For example, on the process, the themes were mechanism for grant administration and monitoring processes while outcome and output indicators became themes for the second category.

Findings

The findings from the study show that in general, the mechanisms for DSS administration followed to a large extent, the guidelines set by the Ministry of Education (Government of Malawi, 2008) although there were some areas where guidelines were not adhered to. Similarly quite significant contributions to the schools' functioning and quality have been made with DSS over the years although there are areas where improvements need to be made in order to enhance impact. These issues are discussed in detail beginning with the processes.

The Process of DSS grant

The general understanding by different respondents in all the three districts was that DSS grant does not reach the school in form of cash. Rather, the grant reaches the schools in form of a cheque that is made payable to the supplier of the materials purchased.

Mechanisms for DSS grant administration at school level

The findings of the study show that DSS grant is disbursed according to the process described in the DSS guidelines (Government of Malawi, 2006) which is; first the Education Development Management Unit (EDMU) prepares payment instructions for Ministry of Finance to advise NBS Bank (the commercial bank where the special account of the project is kept), to release funds to the National Local Government Finance Committee (NLGFC); second, the NLGFC transfers funds to the District Development Fund (DDF) Account at the respective District Assemblies across the country; third, the funds are released to each school. The responses from the District and school level respondents more or less reflected this understanding although with some minor differences where some respondents could not mention the MLGFC, for example DEM City district, and most of the school level respondents just said that the funds come from government to the DEM and then to the supplier.

With regards to mechanism for procurement of materials, there was consensus amongst respondents of the different districts that schools are asked to come up with a list of needs for the year in a participatory manner involving teachers, SMC and PTA. Based on the needs, the schools are asked to source three quotations from shops and make a tentative choice of shop to purchase the materials from. Schools are then expected to submit the quotations to the District Education Office (DEO) together with the minutes of the meetings where they decided on what and where to buy. Once the quotations are scrutinised and approved by the DEO a cheque is issued to the supplier although in the first year of the grant the cheque was issued to schools that would later present it to the supplier. Once the money is accredited into the supplier account, schools are called to collect the materials purchased.

In the Lakeshore district, while head teachers and teachers were aware of the mechanism as explained above, there was a general outcry that in 2009, the schools were directed to get quotations from specified shops and the materials were bought by the DEO as expected. However, contrary to the agreed mechanism the DEO collected the materials from the suppliers and delivered them to the schools. Respondents therefore complained that it took a long time before the goods were delivered to the schools and also that most of the goods were not of the quality that they wanted and there were instances when these did not come at all. For example, at Salumwa School, teachers said that *they gave us iron sheets of different sizes than what was on the quotations; we wanted to buy hoes and were given handmade instead of factory made ones*, "*makasu osula*", *and we wanted some paint but never got any*. At Maluka School goods brought were perceived by the school actors, not worth the money allocated to the school as some things on the quotation were not delivered and they also received expired cement. Most of the respondents were of the view that schools should be allowed to buy the materials on their own or even given the money directly. The DEM for the district however could not corroborate the story and neither was he able to provide an explanation as he was new at the school.

Not all these anomalies were observed for the other two districts. The only one which is shared is that of the DEM selecting suppliers to get quotations from in the first cycle of the grant. However this was improved in subsequent years so that for 2011, the schools had autonomy to choose the supplier. This is what teachers at Bayani School had to say: *this year, schools were free to get quotations from any shops but last year schools were told which shops to get quotations from*.

While the mechanism for DSS distribution and implementation went on well in most schools in the City district, some shortcomings were noted. The City DEM for example complained that *some schools had to be pushed to get quotations because most of them found it difficult to understand government procurement procedures*. Although most parents and SMC chairpersons expressed satisfaction with the issuing of cheques to suppliers instead of providing cash to the schools because they said, *money is evil*; they nevertheless observed that it took a long time between the time the school got quotations and the release of cheques to suppliers. For instance, in 2011, Limwe School obtained

quotations in February but only received the goods in April and this resulted in collecting fewer goods because prices were hiked.

Monitoring and control processes

Generally, most respondents in the schools visited explained that monitoring and control on the use of DSS grant at school level was mainly done by the head teacher, SMC and PTA. However, not much was explained on the way the monitoring was done in some schools except in a few schools. For instance, at Limwe School teachers explained that the SMC and the head teacher check when the materials arrive and are being used although it was found that the SMC did not know much about it. Generally however, it was observed that there was some laxity in the monitoring of the grant as most schools relied on showing the materials bought to different stakeholders but no records were kept as to how they were being used. In one school, Salumwa School, parents and the SMC/PTA reported that a committee made up of one representative each for SMC, PTA, parents and the chairperson of village policing was chosen to check the development activities and look at how the materials were used but this could not be verified as teachers never mentioned it.

There were two areas where monitoring as spelt out in the guidelines (Government of Malawi, 2006) were not adhered to by all schools visited. One area was where the head teacher and SMC chair were expected to complete a Purchase Form in triplicate with receipts and invoices after the purchase which did not happen in all the schools visited. Half the schools however kept delivery notes instead and these were shown to the research team. The second area is where the head teacher is expected to display on a flipchart the materials purchased and display the "Stock Control of Materials form" to show how the materials are being used. It was found that the materials purchased were displayed only in one school, Songano, and none of the schools displayed the Stock Control of Materials Form. Although there was evidence that in some schools a meeting of parents and pupils is held to showcase the purchased materials and an explanation given in terms of how they were used, lack of the two displays raised concerns not only among the local school actors but also the DEM and Ministry Headquarters. These concerns were however not followed up with any punitive measures to the head teachers of the schools concerned as might be expected.

In general, it was observed that in all the six schools, SMC monitors any maintenance or renovation works taking place so that they may check on appropriate use of the materials procured. However, for all schools, the DEO was found to rarely visit the schools to monitor progress or use of the procured materials. The DEO's interest centred on submission of balanced receipts by the school, an area which creates accountability flaws especially in schools where only the head teacher collects materials without involving other members of the larger school management team.

Besides limited adherence to monitoring of use of materials at school level, the study also found that there was no evidence of auditing for DSS funds in the visited

schools. It is possible that this happens at DEO level using the balanced receipts sent by schools. This is one area that might need to be looked into critically.

Outputs and Outcomes of DSS Grant

The findings of the study have shown that DSS funding has impacted positively on some of the outputs and outcomes that are important to education quality although the impact has been to a limited scale due to the small amounts of the grant received.

Learning environment, teacher and learner motivation

Improvements in the learning environment emanated from the maintenance and rehabilitation grant that saw many schools rehabilitate classroom floors, doors, and broken windows. For SMC and PTA, this improved the safety and discipline of the learners as they could no longer go out of the classrooms through the broken and open windows. This was experienced particularly by schools that had very poor infrastructure:

> *When the windows were open, learners could get out of the class through the windows, a practice that resulted in some injuries and disturbance of others in class. With the rehabilitated windows this is no longer practiced*. Interview with SMC, Songano School

In addition, the rehabilitated windows and doors meant that no passersby would go into the classrooms when unattended and do all sorts of mischief while the learners are away. Learners would thus come back to a clean classroom unlike the case before when they would have to clean the dirt inflicted by passersby. This had the impact of increasing learner motivation to go to school in all the schools.

The improved learning environment had an impact not only on learner discipline, motivation and safety but also on teacher motivation. Teachers woke up to learners who were now more disciplined than before and the learners no longer talk to outsiders while the teacher is teaching. In addition, teachers are happy to leave their charts in the classroom without fear that someone would steal them. In some schools like Maluka and Songano, teachers' houses were painted using DSS money. Such teachers were happy to stay in better houses and even the painted classrooms were a better teaching and learning environment for both teachers and learners, even though this often involved a simple use of lime not necessarily proper paint.

The general impression was that DSS has had some impact on enhancing learning. Apart from provision of teaching and learning materials that increased teacher motivation to teach, DSS money was used to rehabilitate broken desks for learners. Teachers felt that the change from sitting on the floor to sitting on the rehabilitated desks motivated learners more especially the older ones. This could in the long run lead to better learning.

Teaching and learning

DSS led to greater availability of teaching and learning materials, at least compared to the time when school solely depended on the central Ministry to provide them. As would be expected therefore, different respondents agreed that the DSS fund had improved the teaching and learning situation at the schools sampled. This observation was backed by different understandings. The first understanding was that pupils learn better when they see real examples or their exemplifications on charts. They even scramble to be nominated to name something they see as a real object or on the chart. As discussed earlier therefore, learners got motivated to learn because they could see these representations and therefore learn in a meaningful way. The second understanding, mentioned largely by teachers, was that availability of different teaching and learning materials enhanced teacher motivation and as a result they were able to use a variety of learner-centred teaching methods which research has shown that leads to meaningful learning. Head teachers said that availability of teaching and learning materials eased their management task as teachers were motivated. There is a need however to substantiate these findings with classroom observations and further research.

Achievement of literacy and numeracy, which would have been a good measure of the impact of DSS, was not measured in the study. This happened realizing the difficulty of attributing any changes to DSS alone as there are many factors that affect achievement. At Songano School however, DSS helped in the rehabilitation of a classroom that was used as a hostel for students who were about to write their school leaving examinations in order to provide them with more time to study than is available to them when they go home. At that school, student performance and selection to secondary school had improved in subsequent years, something that might be attributed in part to DSS. Although similar impacts have been reported as a result of financial decentralization policies in some Asian countries as well, it has been quickly noted that such improvements are usually of small magnitude (UNESCO, 2012).

Stakeholder participation

The mechanisms for grant use at school level as described earlier involved SMC and PTA members. The findings of the study suggest that DSS enhanced the involvement of these stakeholders in school management and more importantly, it increased the speed with which decisions were made at school level which is in line with Government recommendations (Government of Malawi, 2004) and findings from Asian countries involved in similar reforms (UNESCO, 2012). The head teacher of Maluka School observed that DSS grant had helped improve the relationship between the community and the school '*since we were identifying issues affecting the school and budgeting together*'. The PEA for the zone added that this relationship led to increased ownership of the school by the community:

DSS helped empower the community to make decisions about the school on their own thereby increasing community ownership of the school. Interview with PEA, Maluka School

Acquisition of skills, values and attitudes

The involvement of different stakeholders in the management of the DSS grant led to acquisition of knowledge, skills and attitudes. For example stakeholders especially head teachers, SMC and PTA executive members gained financial management skills as they prepared a budget and procured goods amounting to the money that was allocated to the school. In addition, the SMC and PTA improved their attitudes towards ownership of the school and the learning of their children. This was achieved largely from the trainings they received but also through monitoring use of the materials purchased using DSS grant.

Challenges and suggestions for improvement

The foregoing discussion has shed light on the benefits and challenges of the DSS grant in as far as its contribution to education quality is concerned. The respondents in addition mentioned some suggestions to improve the grant. Since benefits have been discussed in the previous section, this section discusses the challenges and suggestions for improvement as summarized in Table 4.

Table 4: Challenges and suggestions for improvement

	Challenges	**Suggestions for improvement**
Process	Delays in grant disbursement	Disburse grants on time
	Price fluctuations and lack of cooperation by suppliers	
	Lack of record keeping by the schools	Retrain stakeholders in record keeping
	Laxity in monitoring of grant	Enhance monitoring of grant
Outputs	Grant amount too little	Increase grant amount
	Grant does not come regularly	Grant should come regularly
	Grant is earmarked	Increase autonomy in use of grant
		Grant should be transferred directly to the school
		Involve parents, learners in grant administration

Table 4 shows that a number of challenges were experienced particularly with the process and outputs of the DSS grant. The process challenges as mentioned by respondents include: delays in grant disbursement which meant that immediate needs are not properly met since goods arrive when these are no longer urgent; price fluctuations

by suppliers where lower prices are given in the quotation and raised when goods are being collected; suppliers who provided quotations but were not selected in the previous year were not cooperative to give more quotations in subsequent years. In addition, the researchers noted that record keeping of the items bought through DSS was poor. Only one of the six schools had data for the teaching and learning materials purchased using DSS funds and none of the schools was sure of the specific amounts of money allocated for teaching and learning materials as well as for maintenance purposes.

Output challenges were that the DSS grant was too little for the teaching and learning materials and maintenance needs of the schools. Worse still, the grant was not regular and almost always came late.

Based on the challenges raised by the respondents, a number of suggestions for improving DSS were made in all the six schools visited. The most widely mentioned was that the amount of the grant should be increased as it was perceived not to be sufficient for the needs of the schools.

> *The money is too little for our needs. It should be increased and should be used for activities that will help the school sustain itself such as construction of a school hall*.
> Interview with parents, Mutuwa School

A related recommendation was that the grant should be disbursed to the schools every year and should be given timely so that schools can plan for it. The flip side of the recommendation for increased DSS grant was that the criteria for DSS disbursement should not only be based on school enrolment but rather on prioritized needs of the school. This was mentioned by head teachers and teachers of mostly rural schools that had many needs. What this meant was that prioritized needs of the school were beyond the amount of money given.

A second set of recommendations, which was mentioned by almost all the respondents, was that DSS grant should be transferred directly to the school and not to the DEM so that the school should buy what it needs straight from the shops. For example the head teacher of Limwe School said that *the process being used currently has a problem in that sometimes expensive items are bought from the recommended Asian shops than the local shops around*. Obviously, the Lakeshore district actors were more upbeat on this since as argued earlier, their items were not only sourced from shops where they were directed to, but also the DEO actually purchased the items on their behalf and distributed them. This, according to the SMC chair and teachers of Limwe School, would ensure *timely delivery of goods and purchase of all items identified by schools*. The challenge with this proposal, though plausible, is that it would create some form of mistrust, but where the SMC and head teachers are working well; this could be one good way forward.

A related recommendation was that DSS grant should include money for transport. There were slight variations in explaining this recommendation among schools and actors. For City schools, the general view by SMC and teachers was that the grant should include

money for transport while for the head teachers of the same schools the issue was to do with DSS transport money being given in a timely manner. This is indicative of the fact that transport money might have been included in DSS grant only that it was not disbursed on time and with some transparency. The DSS guidelines however do not indicate any transport money. Rather, they include discretionary money which no respondent mentioned in the schools.

There were a number of recommendations to do with accountability of the DSS grant. One recommendation from parents of almost all schools visited was that involvement of parents, learners and PEAs should be emphasized in DSS.

> *There is need for emphasis on reporting to various stakeholders by the school in terms of how DSS money is used. Besides, there is need for proper monitoring to ensure that the materials bought are put to good use*. Interview with PEA for Salumwa School

There were recommendations that these actors should be trained adequately on the grant.

> *The DSS people should follow the example by PSIP. Training is important and They should not train only very few people but include more parents and learners. This is important so that all stakeholders know clearly what they are supposed to do*. Interview with SMC, Limwe School

The second recommendation came from PEAs who argued that there was need for emphasis on reporting by the school in terms of how DSS money is used. Besides, there is need for proper monitoring to ensure that the materials bought are put to good use.

> *PEAs should not be sidelined in the monitoring of the grant. We are the people who know the schools better and we know the type of people surrounding the school*. Interview with PEA, Maluka School

Other respondents suggested that there should be a proper monitoring and auditing component. Other suggestions were not pertaining to the process of DSS. Rather, perhaps frustrated by the DSS process, the suggestion was that government should consider bringing the needs of the schools directly to the schools instead of the money. However, this would lead to the same failures that were noted before DSS funding was put in place. The other suggestion was to have flexibility in the use of DSS funds by not having the money earmarked.

Conclusion

The findings of this study have shown that DSS grant has made some difference in the schools, although not so much on the outcomes. In terms of teaching and learning for example, DSS has enabled schools purchase basic teaching and learning materials that made a difference in the nature of the lessons from both the teacher and learner perspective. The improved classroom environment motivated both learners and teachers. Involvement of SMC and PTA in the decision making processes has increased the participation of stakeholders in school management in line with decentralisation policy. However improvements on the grant are inevitable in areas such as increased amount, regular and timely disbursement and more visibility in monitoring and evaluation, if the grant is to make more desirable impact.

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