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List of Acronyms and Abbreviations

ACA	African Curriculum Association
ACAJ	African Curriculum Association Journal
AES	Alternative Education System
AIDS	Acquired Immunodeficiency Syndrome
ALP	Accelerated Learning Program
ANS	Approximate Number System
CECs	County Education Centres
CLS	Curriculum for Sustainable Learning
CLT	Communicative Language Teaching
COBET	Complimentary Basic Education
EFA	Education for All
EFL	English as a Foreign Language
EMIS	Education Management Information System
EOC	End of Cycle
ESD	Education for Sustainable Development
EUCEA	Inter-University Council for East Africa
FoNS	Foundational number sense
GPCEA	Global Peace Culture Exchange Association
HIV	Human Immunodeficiency Virus
IBE-UNESCO	International Bureau of Education
ICT	Information Communication Technology
IDP	Internally Displaced People
MIE	Malawi Institute of Education
MLA	Monitoring Learning Achievement
MoES	Ministry of Education, Science and Technology
MoEST	Ministry of Education and Sports
MTN	Mobile Telecommunication Network
NAPE	National Assessment of Progress in Education
NCDC	National Curriculum Development Centre
NGO	Non-Governmental Organisation
NTCs	National Teachers' Colleges
ODeL	Open, Distance and eLearning
OECD	Organisation for Economic Co-operation and Development
PAD	Project Appraisal Document
SESEMAT	Secondary Science and Mathematics Teachers
SF4	Skilling for the Future
STDMS	Secondary Teacher Development Management System
TIE	Tanzania Institute of Education
TTISSA	Teacher Training in Sub-Saharan Africa
UBOS	Uganda Bureau of Statistics
UN	United Nations
UNEB	Uganda National Examinations Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UOTIA	Universities and Other Tertiary Institutions Act
UPE	Universal Primary Education
UPPET	Uganda Post-Primary Education and Training
URT	United Republic of Tanzania
WEF	World Economic Forum

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Foreword by the ACA Chairperson

African Curriculum Association is revived from African Curriculum Organisation that existed in the 1970s. The member States of the African Union Organisation (AUO) in Nigeria, Lagos founded African Curriculum Organisation (ACO) to mitigate the post independent education challenges. This commendable mission resulted from the Conference of African Ministers of Education held in Nigeria.

It is assumed that through education and training the African continent can realize the African vision of ensuring Pan Africanism and creating new Africa. This is well articulated in the ten year Continental Education Strategy for Africa (CESA 16-25) envisioned by AU 2063 Agenda. Thus a reason for the revived African Curriculum Association (ACA). ACA is committed to advance the 1970s -1990s achievement of ACO through CESA curriculum cluster by supporting the Africa-wide curricula needs and processes.

ACA's core mandate is to ensure quality education, through the existing mechanism of the ministries of Education and RECs, and partnership with development partners.

The research report titled: "History, Contributions to Curriculum Development, Dormancy and Revival of the African Curriculum Organisation funded by Open Society Foundation (OSF) outlined the benefits of ACO as;

1. Organised quite a number of capacity building programmes
2. Trained curriculum developers through short and long term courses around the continent.
3. Trained members in techniques of Data Collection in Educational Research and Curriculum Development (Ibadan, Nigeria: September, 1976).
4. Trained in techniques of Curriculum Development (Dar es Salam, Tanzania: November/December, 1977).
5. Trained in Curriculum Material Production (Banjul, the Gambia: July/August, 1978).
6. Trained in Curriculum for Early Childhood Education (Nairobi, Kenya: July/August, 1979).
7. Trained in Environmental Education in the School Curriculum (Lusaka, Zambia: November/December, 1979).
8. Trained in Curriculum for Teacher Education (Lusaka, Zambia: November/December, 1980).
9. Trained in Curriculum for Primary Science (Maseru, Lesotho: September, 1981).
10. Trained in Book Production Techniques (Ibadan, Nigeria: March, 1983).
11. Trained in Book production Techniques (Eastern and Southern Africa: Domasi, Malawi: April, 1984).

The research report further indicated a need for reviving African Curriculum Organisation (ACO). All the people that were interviewed during the investigation agreed on the strategic importance of ACO revival related to the improvement of curriculum planning, development and evaluation on the continent.

However, the report explored that the revival and sustainability of ACO, will be based on the expectations that Member States will take over the funding of the organisation activities through the African Union or any other arrangement it may deem possible. The research report concluded that the revival of ACO was possible through a conference or a seminar of curriculum practitioners. In May 2018 the conference that revived African Curriculum Organisation(ACO) was held in Uganda and was spearheaded by National Curriculum Development Centre Uganda. It was attended by 140 delegates from 16 African countries including a representative from African Union.

On December 12th 2018 the Curriculum Cluster was launched at African Union and African Curriculum Association (ACA) was nominated to coordinate the cluster. The cluster is chaired by African Union Commission, co-chaired by South Africa, coordinated by African Curriculum Association and Senegal was nominated as a member of the committee. Among its roles as a coordinator of the Curriculum cluster, ACA will;

1. Harmonize African curriculum development to standardize and have a responsive, relevant and innovative curricula for African countries through
   a) sharing of best practices from African countries and beyond that are doing well in curriculum matters
   b) Curriculum and assessment specific training programmes for member countries
   c) Rigorous training of curriculum specialists, Examination officers and all relevant groups
2. Minimize inconsistences in curriculum by collectively participating, and supporting each other (member countries) on curriculum reforms and designing and development of curriculum support materials.
3. Establish a network of communications among curriculum development centres.
4. Organise and/or facilitate joint training programmes, workshops, seminars and regular meetings on curriculum and carry out evaluation of curricula
5. Promote production and exchange of curriculum and curriculum research materials.
6. Set up technical working groups for specific projects in curriculum development and research.
7. Establish a working relationship with other clusters at African Union.

African Curriculum Association (ACA) is fully recognized by African Union. In this regards, its role in improving the quality of education in Africa was recognized at the THIRD ORDINARY SESSION OF THE SPECIALIZED

TECHNICAL COMMITTEE ON EDUCATION, SCIENCE AND TECHNOLOGY (STC-EST) 13th DECEMBER 2019 ADDIS ABABA, ETHIOPIA. It has so far developed synergies with UNESCO- IBE, OSF, UNESCO IICBA, and Organisation of Educational Cooperation (OEC), Open University of Tanzania (OUT). It has created collaboration with CESA clusters.

ACA has so far held two international conference and it has the pleasure to present some of the papers presented in the two conferences in this Journal. This will be the practice every year. During its first conference in 2018 it was agreed that every year a conference will be held in one of the African countries but due to COVID -19 the conference that was supposed to be held in the Gambia was called off. Nonetheless, the conference is scheduled to be held in the same country in November 2021. The preparations are done in consortium with UNESCO- IBE, Gambia Ministry of Basic & Secondary Education, The Gambia Curriculum Research, Evaluation and Development Directorates (CREDD)

Grace K. Baguma (Dr.)
Director, National Curriculum Development Centre, Uganda,
ACA Chairperson

Editorial Note

Dear our Esteemed Reader,

Welcome to the first-ever African Curriculum Association Journal (ACAJ)! The Journal brings to you carefully selected peer-reviewed articles from the 1st and 2nd African Curriculum Association Conferences held in Entebbe Uganda 28th to 31st May 2018 and in Accra Ghana 27th to 31st May 2019 The articles cover key contemporary thematic areas influencing the theory and practice of curricula on the African Continent. The articles focus on various policy, technical and operational strategies in curriculum (is it only implementation?) implementation. The exciting country-specific cases provided by various authors in this journal provide benchmarks for various countries.

Siima explores Skilling for the Future (S4F) a project in Uganda that was born out of the realisation that open-source digital learning materials were not enabling learners to relate classroom knowledge to their immediate environment. Consequently, mathematics, a poorly performed subject was digitised to improve learning outcomes. The author analyses the methodology locally used to digitise senior one mathematics and the preliminary results from the trial of the digitised materials, a product by teachers and programmers that never had prior experience in digital content development.

Mushi examines learning and curriculum for sustainable learning based on empirical findings from third year undergraduate college teachers. The four pillars of sustainable learning developed by UNESCO (1996) defined as learning to know; learning to do; learning to be and learning to live together are expanded to eight. A survey of 211 participants revealed 90% learning perspectives from a behaviourist's paradigm. A participatory approach to development of curriculum for sustainable learning was suggested reflecting to the Education 2030 agenda, implementation strategy, which establishes legal and policy frameworks toward promoting participatory governance and coordinated partnerships at all levels and across sectors. A renewed policy and partnership toward transforming communities into knowledge citizens to serve the future generation is proposed as a strategy.

Nampijja is in favor of purposefully integrating indigenous knowledges in the Africa curriculum. Decolonization, she argues is a solution to the compartmentalized poor quality curriculum and dismal graduate performance. Using a comparative analysis, she demonstrates that although branded 'primitive,' graduates of indigenous knowledge are better than those from contemporary education systems in terms of being development-oriented. The paper broadens the spectrum of rethinking and reconstructing the curriculum in Africa, with a special consideration for adopting indigenous orientations in the aims, methods, focus, pedagogy, assessment modes and social ethics ideologies.

Ndawula and **Mono** explore the challenges and mitigation measures in the implementation of the Accelerated Learning Program (ALP) in South Sudan. The empirical study reveals shortage of financial resources to implement infrastructural development, enhance teachers' motivation, and improve staff capacity as key implementation challenges. Conversely, low household income, competing family needs, responsibilities outside school, insecurity and poor academic performance were the challenges ALP learners faced in attending the program. The proposed mitigation measures included; working hand in hand with development partners, building of post primary institutions, construction and revitalization of country

education sectors, and peace building to avert challenges to the program. It was recommended among others that more resources be provided for teacher training, lasting solution to the political problems be sought, inspectorate and the supervision departments be equipped with relevant skills and government to construct more ALP centres.

Kyagaba examines in-service teacher training and effective implementation of the new lower secondary curriculum in Uganda. She notes that although it has been cited that by scholars that the quality of the teacher largely determines the quality of the educational system, in-service teacher education during the recent curriculum reviews in Uganda, has continued to be neglected due to inadequate planning and funding for in-service teacher support. Kyagaba investigates how the current teacher competence will foster learner achievement in the new competence-based lower secondary school curriculum. She places specific focus on teacher requirements for effective teaching of a competence-based curriculum. The study findings show that in-service teachers will require specific pedagogical practices as well as change of attitude towards curriculum change.

Ssembajjwe and **Kiberu** analyse the relationship between rewarding practices and the quality of educational leadership in higher institutions of learning in Uganda. He hypothesizes that rewarding practices have a bearing on the nature and quality of leaders to be attracted at strategic, functional and operational levels in higher education leadership. Using a correlational study design, the findings revealed a strong positive significant relationship; that is, institutions with highly paid academic leaders boosted with non- financial rewards attract more highly qualified leaders unlike those with fewer benefits. He concludes that higher academic institutions are at risk of failing to have good leaders if their rewarding practices are weak

Saka examines the potential for early grade mathematics instructional materials in the development of foundational number sense as in Malawi. Foundational number sense (FoNS) is the learners' ability to flexibly work with numbers and quantity. Using textbook research methodologies to explore whether there was adequate content to make learners foundational number sense-aware and the eight categories of FoNS as the interpretive framework, findings indicate that much as the current grade 1 mathematics instructional materials cover a lot of content on early number, there are several gaps identified in the study. The findings imply that learners are denied adequate opportunities to become aware of foundational number sense, a detriment to their mathematics development journey. He recommended revision of the instructional materials to incorporate content needed to promote learners' FoNS.

Somé-Guiébré examined the inconsistencies between the textbook and the syllabi used in teaching English as a foreign language in Burkina Faso and the extent to which they hinder language acquisition. This paper highlights the discrepancy and understand the extent to which that discrepancy hinders the acquisition of the English language in 5e, the second year of middle school. The findings show that the inconsistency between the 5e textbook and syllabus is a significant source of hindrance to the English language learning in Burkina Faso, as teachers end up focusing on teaching grammar to the detriment of the other aspects of language learning that could highly contribute to the development of communicative competence.

Fred Musisi analysed the University teacher training programs for Secondary teachers. Using data collected from two public and two private Universities, the

Ministry of Education and Sports and the National Council for Higher Education the article shows lack of a unified curricular for teacher education as well as absence of guidelines that could guide universities on curriculum development.

Skilling For the Future: A Home-grown Digital Content Development Concept by Siima Gilbert Gift

Abstract

Integrating ICT in education and using ICT as a tool for learning is a major technological revolution of the 21st Century. This has promoted learner-centred pedagogy which allows learners to learn from anywhere at any time. A lot of learner-centred digital content has been developed to support this approach to learning. Education systems in low income economies have not been at the fore front in developing digital content partly due to lack of the required expertise. As a result few teachers have resorted to using freely available digital education resources to support teaching and learning while the majority have not bothered at all. Use of open source digital materials comes with challenges to users such as unfamiliar examples, unfamiliar language accent, not being aligned to the curriculum. The skilling for the future project aimed at equipping teachers with skills for developing digital materials, a skill that every teacher is expected to have for the future education driven by technology. The teachers were supported through the process that emphasised use of existing content authoring software. The digital content developed on the project was preferred by the learners compared to open source content because it used familiar examples and voice over, was interactive, user friendly and customised to the needs of learners in Uganda where it was developed and used.

Key Words: Digital content, eLearning, ICT integration, Interactive learning, Learner-centred digital content

Background

Mathematics is one of the traditional subjects that have been taught on the Ugandan curriculum since the introduction of education. It is the mother of all science subjects and held in high regard by all learners and educationists. Given its importance, it is one of the compulsory subjects for every child in Uganda up to senior four.

In our daily life, mathematics is greatly used by all especially in the area of financial management. Its importance ranges from the ability to count money, determining the balance when buying items to managing businesses and enterprises where one needs to calculate the return on investment. On the school curriculum, mathematics is an important subject vested with skills for interpreting information in medicine especially the dosage, interpreting the information of quantitative nature that is presented in newspapers, magazines and national reports (Breslich, 1966). Through this subject the learner acquires knowledge and skills to interpret complicated numerical data, to understand quantitative studies of social phenomena and to recognize fallacies in conclusions (Breslich, 1966). This knowledge and skills are needed by every individual. This therefore makes mathematics an important subject for comprehension of national messages and reports that are important for the livelihood of every citizen. At a higher level, mathematical models are used to make predictions in education research and statistical inferences in all sectors.

Students of mathematics do not pick all these skills at a single stage. The curriculum allows the learners to develop these skills over a period of time throughout the different stages of the academic ladder. With the spiral design of the curriculum, the

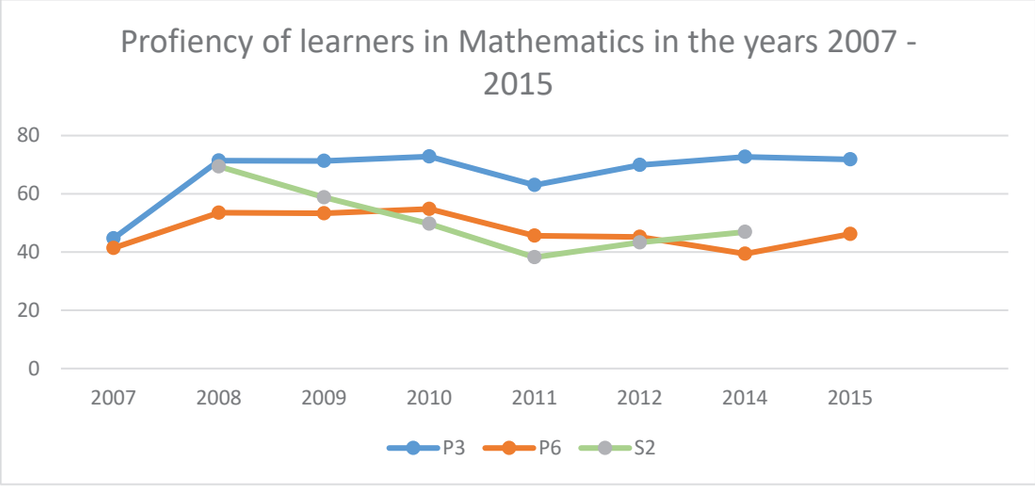
learner keeps building on the already acquired simple skills as they progress to more complex applications of the same skills in different and more complex situations (Dowding, 1993). This directly means that the learner needs to fully understand the simple skills taught at lower levels of education if s/he is to fully understand and apply the complex mathematical concepts at a later stage.

The current context

At the moment, mathematics is one of the best done subjects at pre-primary and primary levels of education (Kyagaba, Opaman, Kizito, Kennedy, & Bbosa, The Acheievement of learners in Early Grade Reading in selected district of Uganda: Baseline report, 2016). As learners progress from one level to the next, the percentage of learners who are rated proficient in mathematics keeps reducing. The percentage of learners proficient in mathematics is relatively high when learners join secondary education. As they progress, many develop bias towards the subject and get demotivated. The reduction in number of students proficient in the subject at secondary level of education is partly attributed to interactions with learners in higher classes who have already developed the bias and think it is a subject for the naturally gifted.

In addition to learners' contributions, some teachers openly confess that the subject was difficult during their time and continues to be difficult. Those who teach the subject do so in abstract terms. In the end, some learners are not able to appreciate and later on acquire the necessary skills in mathematics. By the time the learners go through the four year lower secondary education cycle, a lot of negative publicity has been done against the subject. This is supported by NAPE reports as shown in Figure 1 below. The percentage of learners rated proficient in mathematics between the years 2007 and 2015 in Primary 3, Primary 6 and Senior 2 during the National Assessment of Progress in Education (Kyagaba, Opaman, Kizito, Kennedy, & Bbosa, 2015), (Kyagaba, Opaman, Kizito, Kennedy, & Bbosa, 2014), (Kyagaba, Opaman, Kizito, Kennedy, & Bbosa, 2013)

Figure 1: Figure showing percentage proficiency in mathematics over 6 year in P3, P6 and S2



The reduction in the number of learners competent in mathematics at every academic year and cycle has had an effect on the number of teachers qualified to teach the subject. This is because for one to train as a teacher of mathematics at primary and secondary levels of education in Uganda, they must have passed the subject at Uganda Certificate of Education (UCE) and Uganda Advanced Certificate of Education (UACE) respectively.
The table below shows the performance of candidates in mathematics at the Uganda Certificate of Education (UCE) examinations for the selected years.

Table 1: Performance of candidates in Mathematics at UCE for the years 2017-2019

Year	Cumulative percentage of candidates by grade			
	Distinction (D2)	Credit (C6)	Pass (P8)	Failed
2017	3.4%	33.3%	62.9%	37.1%
2018	4.4%	33.3%	60.7%	39.3%
2019	3.9%	32.6%	60.7%	39.3%

Source: UNEB Examination reports for the years 2017, 2018 and 2019.

Table 1 above shows that mathematics has consistently registered low performance among candidates at the end of cycle examinations in the three years. The situation has not been any different for the many years before 2017. It is important to note that in each of the three years, more than a third of the candidates failed to attain the minimum required Pass 8 level (UNEB, 2019; UNEB, 2018; UNEB, 2020).

Efforts have been made to improve the learners' achievement of learning outcomes in the subject. A number of these efforts used the power of technology such as "Transforming computer labs into learning labs" with support from UNICEF in 2018; "Improving learning outcomes through ICT" a project implemented in Apac district with support from International Institute for Communication and Development (IICD); "Helping teachers use ICT for teaching" a project in Western Uganda and West Nile (December 2010 – December 2015) and many more. The participants in these

projects have not been able to sustain good practices and initiatives beyond the project timelines.

The problem

Candidates' performance in mathematics at UCE continues to be very low across the country with one in every three children failing to attain the minimum required Pass 8 level (UNEB, 2018; UNEB 2019; UNEB 2020). This record is not good for a subject that is central for comprehension of national messages and reports that are important for the livelihood of every citizen.

Some interventions have been made by partners in education in Uganda to improve learning outcomes in mathematics using the power of technology. Open education resources have been used to boost teaching and learning of sciences and mathematics because they are the same concepts taught world over. Whereas the open educational resources used were considered to be learner-centred, and interactive learning, where they were used have not lasted beyond the project timelines. Some of the reasons shared as to why such resources get abandoned include not being aligned to the national curriculum, use of foreign language accent and use of unfamiliar examples among others.

With this background, NCDC with support from MTN foundation partnered to digitise or customise digital content in mathematics for senior one making use of classroom teachers in Uganda to lead the digitisation process. In so doing, the participating teachers would acquire knowledge and skills for producing digital content locally, a skill needed for the future classroom driven by technology.

General objective

The general objective of this project was improving learner outcomes in mathematics at senior one through interactive, eLearning content.

Specific objectives

The Objectives of the trial exercise we to:
develop digital content that is aligned to the national curriculum using local expertise
determine the appropriateness S4F digital material from the teachers and learners perspectives,
determine how the use of S4F digital material influenced the teaching and learning of mathematics,

Methodology

How the digital materials were developed

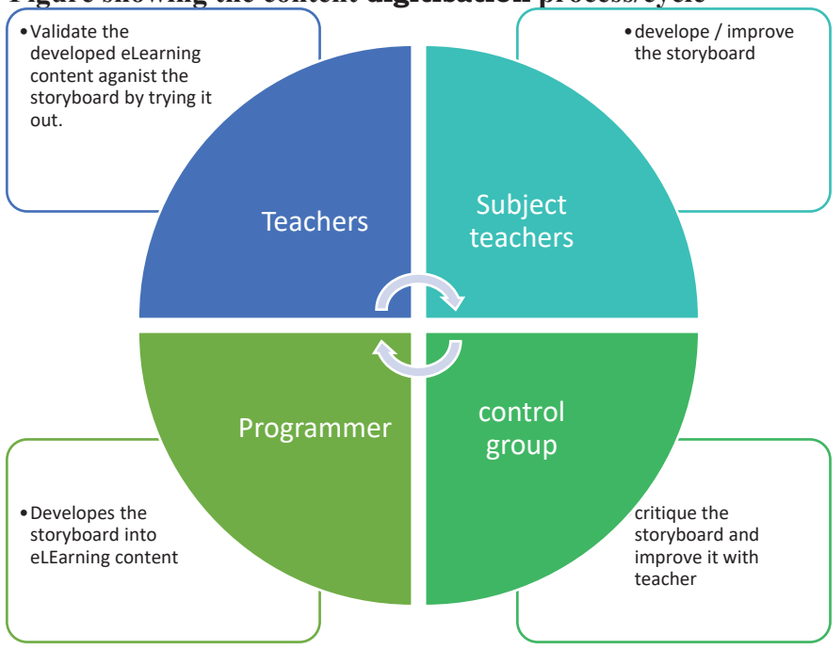
The task to develop digital materials came at a time when staff at the National Curriculum Development Centre (NCDC) of Uganda did not have specialised training in development of digital materials for learning. All there was were two personnel trained in ICT skills and pedagogy for teaching the subject.
To kick start the project a project lead team was formed. The project lead team carried out an internet research for a user friendly authoring tool (software) for creating interactive eLearning content. The criteria for deciding which authoring tool to use depended on whether the tool could be used by teachers who did not have a background in programming. Two authoring tools of Adobe Captivate and Articulate Storyline were chosen for implementing the project. These two tools were chosen because they did not require the user to have prior knowledge of computer programming, had a lot of inbuilt activities that needed user customisation and sufficient documentation to follow in form of tutorials for new users.

The content authoring tools were purchased and a project lead team took time to study them and how they could be used to create eLearning content. A lot of learning on how to use the tools took place with support from internet videos. Through these videos, the team was able to learn how to create simulations, interactions, quizzes with all sorts of questions, upload images and text content.

The project lead team had some members with background training in mathematics which was the subject of focus for the project. Some members of the team had not had advanced training in mathematics. In order for them to be useful on the project, there was need to bring on board people who are authorities in the subject to create learning activities for digitisation. The project lead team therefore developed guidelines for creating a lesson storyboard.
Storyboarding was new to all team members but with time the team started appreciating the need to think of the actions of the learner while using the digital material and document them. These later became very helpful at the time of developing the eLearning lesson activities for creating the user interactions.

With the help of guidelines for developing storyboards, a panel of teachers was constituted. These were practicing teachers teaching the subject in the schools. The panel was oriented on how to prepare a storyboard for digitisation using the guidelines developed by the lead team. This was so because the teachers were used to teacher-centred approaches and yet digital materials were expected to be learner-centred. The learners were expected to interact with the materials and learn on their own or with minimum support from the teacher/instructor. Benchmarking on already developed eLearning materials was very helpful.
The entire digitisation process is summarised in Figure 2 below.

Figure 2: Figure showing the content digitisation process/cycle



The process of developing the eLearning materials followed the following order;
Developing the Storyboard
Critiquing from the learners point of view
Programming the storyboard

Validating the eLearning material
Developing the storyboard

This process was carried out by mainly teachers qualified to teach the subject. With guidance from the syllabus the teachers identified the appropriate learning activities to be digitised to support learning. These were to be as close to the local environment as possible. The teachers were charged to make the learning activities engaging, encouraging reflection on what has been learnt and gave learners control of their learning process.
The storyboard had a number of sections. Some of the key sections were
the text meant to appear on the screen when one is using the content,
the image to support the text,
text that should be recorded as audio and will be played in the background
an indication of what the learner will be doing while on a given page to give the programmer a sense of the interaction to be developed.

Critiquing storyboards
This session was led by what was referred to as the control group on the project. The control group was mainly made up of teachers and subject specialist who were biased against the subject. A quick survey was made among the subject teachers at NCDC and other support staff to identify the subject they did not like while in high school. Majority of them did not like mathematics because of how it was taught. This earned them an invitation to be part of the control group. Their major task was to critique the storyboard to make sure it made sense to a person who did not know mathematics since the end users will be using it to learn. The approaches used had to appeal to this group of people in order to minimise on the monotony and boredom to students at a later stage.

Programming the storyboard
After critiquing the storyboard, it was passed on to a programmer to convert it into a digital lesson. Although this process involved mainly those who had learnt how to use the authoring tool for creating digital lessons, teachers also participated by giving additional explanation to the programmer. It is at this point that the eLearning activities were created.

Validating the eLearning material
The eLearning materials were then sent back to the teachers who developed the storyboard with support from the control group to validate whether the final product met the intended learning objectives or not. In case it did not, some adjustments were made to make the digital lesson a better lesson and it goes through the cycle again.

The eLearning materials were tried out in 19 schools across the country. The schools that participated in the trial were randomly selected from those that had had partnership with MTN foundation and therefore were considered to have the necessary hardware. The trial exercise started with an orientation of teachers from the participating schools. Each school sent two teachers of S.1 mathematics and an administrator (the school head teacher or a representative) for the orientation exercise. During the orientation workshop, participants were introduced to the digital materials and given a chance to interact with them at a personal level and ask questions. The teachers and administrators were guided on how to use the materials for classroom based teaching and individual learning in their respective schools. At the end of the workshop, each school was given copies of the digital materials on a removable storage device to try out with their learners in their respective schools.

Subject specialists from NCDC followed up with seven (7) out of the 19 schools to make observations on how the implementation was being done. These schools were randomly selected from three regions in the country out of five. This was to enable the digital content developers obtain first-hand information on how the digital materials were being used in the field.

Two questionnaires were designed and used to collect feedback from participating students and teachers. The data gathered was used to supplement what was obtained through the lesson observations and focus group discussions. The data collected from the trial schools was analysed using EpiData software.

All participating teachers were invited for a focused group discussion (Feedback Workshop) where they presented reports on the topics they had been assigned and suggested different ways through which the digital materials could be improved.

Findings

This section of the paper presents the findings of the trial exercise that were obtained after analysing the data. The findings discussed are from the data that were collected through observations, feedback from the learner's questionnaire and teacher's questionnaire as well as information obtained through the focused group discussions.

Distribution of respondents

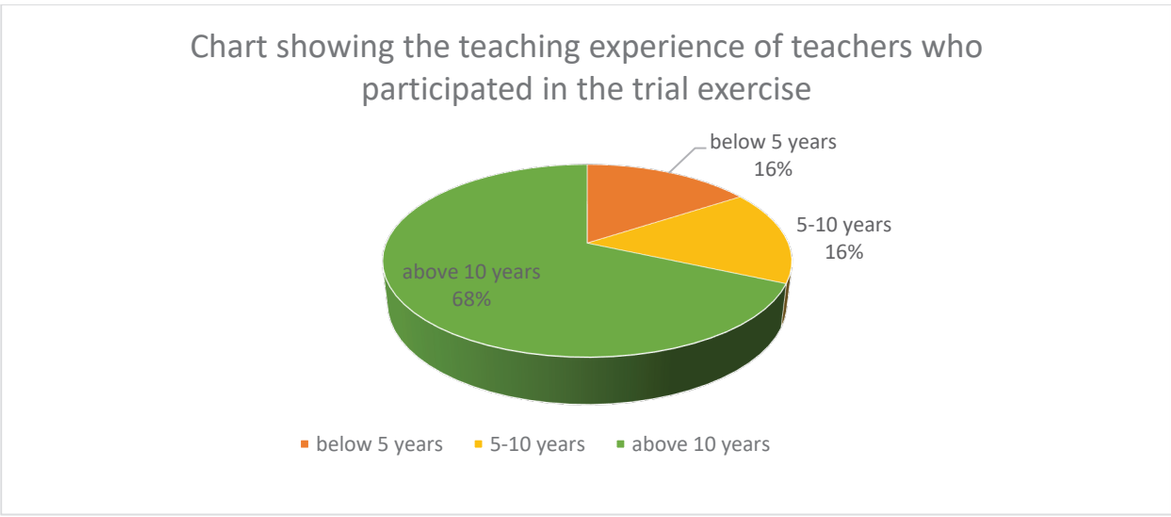
Teachers who participated in the trial exercise

24 teachers participated in the trial of S4F digital materials. 19 teachers returned the questionnaire of which 13 were male and 6 female. The teachers were drawn from both private and government aided schools.

Teaching experience of participating teachers

The experience of the teachers who participated in the trial exercise cut across a wide range of experience. A majority 68.4% of the teachers had been in the teaching profession for more than 10 years as shown in Figure 3 below. This implies that majority of the teachers who participated in project had a wealth of teaching experience. They were therefore the right cohort for making a meaningful contribution about the quality of the S4F product and the appropriate advice on how to improve it.

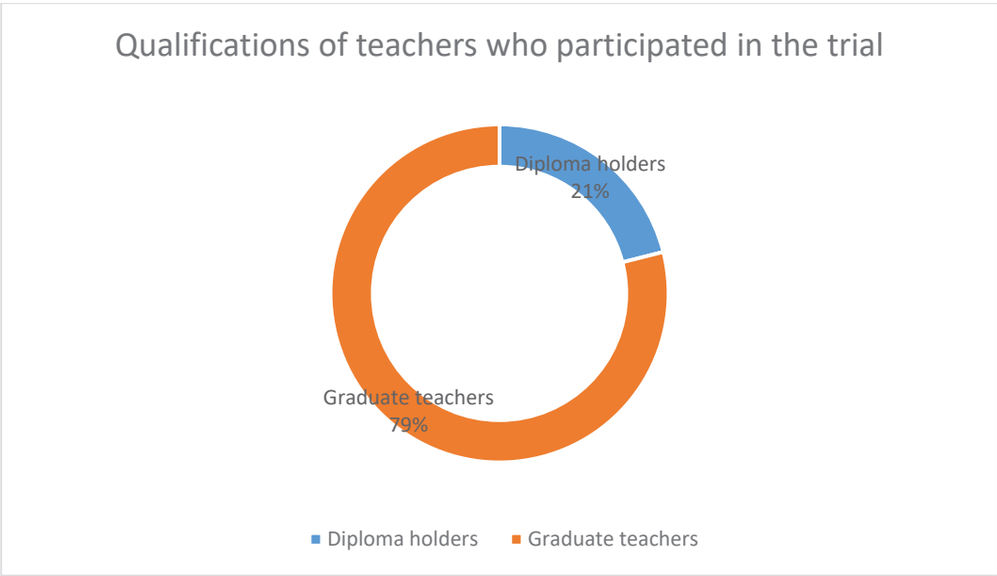
Figure 3: Teaching experience of teachers who participated in the trial of S4F materials.



Qualifications of participating teachers

All participating teachers were qualified to teach the subject at the level the teaching materials were introduced. Figure 4 shows the highest qualification for teachers who participated in the pilot exercise. 79% of the teachers were graduates.

Figure 4: A chart showing qualifications of teachers who participated in the trial of S4F materials



How S4F Digital materials were used.

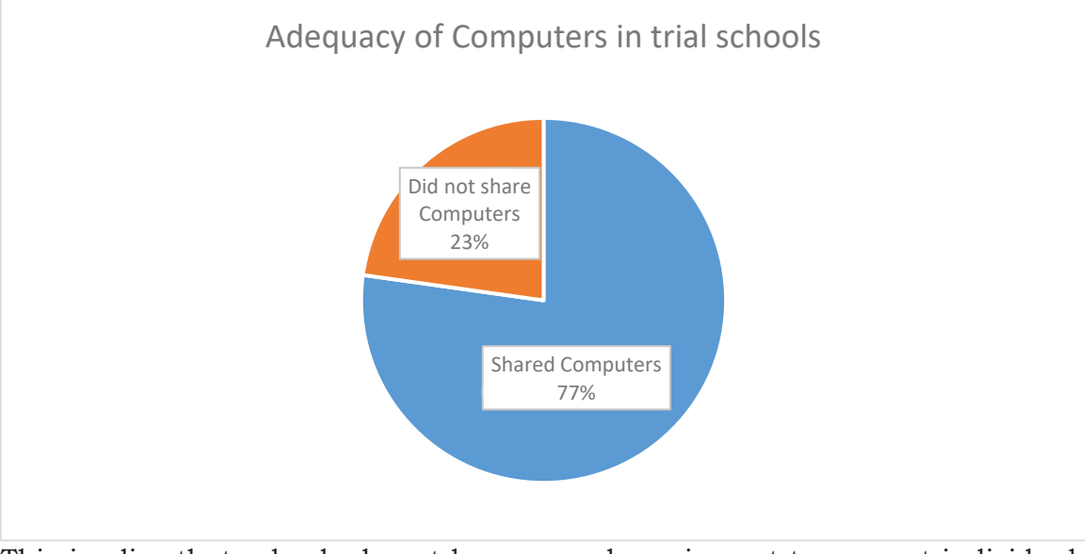
During the school visits researchers noted that most schools were using the S4F digital materials in a computer laboratory on computers using NComputing technology. Teachers used team teaching approach to support learners use the digital materials in a lesson setting. Use of team teaching was a strategy for teachers to complement one another as they manipulate the technology. It is the teacher's ability to manipulate technology to their benefit that ultimately enhances the

learning environment where technology has been deployed (Sadaf, 2016). The teamwork was attributed to the general lack of basic ICT skills among teachers and learners yet these basic skills were needed for one to progress from one point to the next during the lesson.

Learners using NComputing technology had challenges with getting sound from the material. This was because the technology has a downside of disabling the audio output at the client ends (terminals). In some schools, teachers improvised by providing another computer, used by the teacher or one of the learners to demonstrate and provide sound to the rest of the class. This was great improvisation during the lesson. As the lesson progressed, the researchers noted that learners had a challenge following the audio from a central computer. This was evidenced by the decision by the majority learner to disregard the audio and work without sound since the same instructions were showing on their computer screens.

Whereas the digital materials had been designed to be used by a single learner working behind a computer or any other portable device, in most cases these learners had to share. This was mainly attributed to schools not having enough devices for all learners to use during a lesson. During the feedback workshop, teachers acknowledged that students shared the computers in order for all of them to have access to the digital materials. This is supported by the student responses where 77% of the learners reported to have shared a computer compared to 23% who did not share while using the digital materials.

Figure 5: A figure showing adequacy of computers during the trial lessons



This implies that schools do not have enough equipment to support individual use of a computer. Whereas sharing was done so that every student gets a fill studying using a computer, it does not allow the learner to acquire the broad range of skills compared to those who did not share (Sadaf, 2016). The study findings indicate that 52% of the learners used the materials during a mathematics lesson while 37.3% used the materials outside the mathematics lesson. This was a good indicator that the materials could be used during the lesson and outside the classroom environment.

Appropriateness of S4F digital material

One of the objectives of trying out the digital materials in the field was to determine their appropriateness of S4F digital materials for use as teaching and learning. (Berg, Blijleven, & Jansen, 2001) Share five main types of digital learning materials. These are:

- Drill and practice – materials that give learners the opportunity to repeat and consolidate knowledge,
- Tutorials- materials that support acquisition of knowledge and/or skills,
- Multimedia – materials/programs that contain text, images and sound that can be interacted with in a non-linear structure,
- Simulations – programs that contain a model of a system or a process,
- Educational games – programs that allow learners to learn through play.

The type of digital material alone does not make a difference in education, but the way teachers and learners use the materials is the issue that counts (Berg, Blijleven, & Jansen, 2001). The appropriateness of the digital material highly depends on the ability of the teacher to use it because they responsible for offering pedagogical leadership (Sadaf, 2016).

The S4F digital materials had characteristics that cut across all the five types of digital materials. Each of the learning activities was designed to belong to one of the types of the digital learning material in an effort to make it interactive.

To determine the appropriateness S4F digital materials we considered the responses from the end users who are the teachers and students of senior one. Appropriateness goes hand in hand with the ability for the target users to pick and use the materials. This was determined by analysing the clarity of instructions, appropriate use of graphics and ease of navigation through the materials with little or no assistance and the ability to prompt and promote learning.

Learners' response on the appropriateness of S4F digital materials.

Clarity of Instructions

The learners were able to interpret the instructions within the digital material while interacting with it. 87.0% of the learners found all the words used in the digital materials simple and easy to understand. This is also supported by 86.4% who noted that the material had all the necessary information a learner needed to do the work. 82.5% of learners found the instructions in the materials easy to understand and follow, while 93.8% of the learners add that additional instructions from the teachers were very helpful.

This implies that the instructions used in the S4F digital material were at the level of the learners' understanding and can be used for self-paced learning. Simplified instructions also made it possible for the learners to follow through the learning material with or without support from their teachers. However, additional support from the teachers made it much easier for the learners to use the digital material.

Use of graphics

S4F digital materials used graphics (images, pictures, illustrations, charts and visuals) in all lessons. This was to make the lessons appealing but also enable the learner to relate what they learn in class with what happens in their actual environment. 97.2% of the learner affirmed that the graphics were helpful to them in understanding the concepts in the lesson, 88.2% note that they made the lesson interesting. 59.3% of the learners reported that the images and pictures were related to what happens in their immediate communities while 15.8% reported that the

images were not related to their immediate environment. Further analysis on this showed that the images which were found not familiar to learners were in the topics of commercial and household mathematics (14.3%), Fractions and percentages (19.0%), general and angle properties (15.0%), set theory (33.3%) and statistics (11.1%).

This shows that use of graphics and visuals add value to a lesson. The responses above show that the graphics made the lessons more interesting and easier to follow. This can be a source of motivation for the learner to learn the subject and even excel at a later stage. The graphics elicited leaners interest in the learning of the subject. Graphics that were familiar to learners enabled them not only to understand but also to relate what they learnt in class with what happens in their immediate communities. This puts students learning at the levels of analysis and evaluation on blooms taxonomy of learning, where the learner is able to draw connections among ideas and appraise them respectively. This is a high level of learner engagement which is desired for all learners. The learning value of a visual will depend on three interactive factors of the properties of the visual, the goal of instruction and the differences in prior knowledge of the learners (Clark & Lyons, 2011). These three factors work together for a graphic to be effective for learning and can be found in graphics that are familiar to learners. The open source materials lacked the element of prior knowledge of the learners because they had initially been designed for use by learners in a different environment. Once the graphics in S4F materials that were identified to be unfamiliar to learners are replaced with familiar ones, the learning resources will be more interesting and enjoyable to learners.

Ability to prompt and promote learning

The materials encouraged learner to learner interaction and collaboration especially when used during a lesson set up. This was through asking classmates for assistance and some questions or tasks required the learners to work in groups. This is evidenced by the 53.7% of the learners who asked classmates while using the S4F digital materials and 39.0% did not.

We noted that 53.7% of learners who interacted with classmates is highly related to the 52.0% who used the materials during the lesson set up while the 39.0% of respondents who did not ask their classmates is also highly related to 37.3% who did not use the materials during the mathematics lesson. This therefore means use of this material in a classroom setting develops the attributes of collaboration and teamwork.

Navigation cross pages

About navigation from one page to the next, the learners scored the digital material at 68.9%. This could be explained by the challenges encountered during use where learners noted that the computers they were using were very slow as noted during the school visits and in the discussion with the teachers. The 11.3% who found it not easy to move from one page to the next was contributed by the following topics; Commercial and household mathematics 21.4%, Fractions and percentages 21.4%, Graph plotting 6.7% and statistics 16.7%.

Assessment of learning

The digital materials gave the learners a chance to assess themselves on the content throughout the lesson. Learners liked the immediate feedback on the questions attempted and this motivated them to learn as described by this response from one of the learners “I like this system because when you do a question, it marks you immediately”. About the type of questions set, 70.1% of the learners found the questions very simple. This is confirmed by the 62.1% who add that the questions did not require a lot of thinking compared to 25.5% who thought otherwise. In

addition, 41.8% and 49.1% note that the questions were tricky and required learners to discuss respectively. There was a strong agreement form the learners of 91.5% about the questions being aligned to the topic that was being studied. What remains to be determined is whether the questions were simple because of the alignment to the topic just covered or it was a result of the increased learner interest and motivation in the subject created by the same digital materials. This needs to be studied further.

Teachers' response on the appropriateness of S4F digital materials.

The teachers' response to the use of S4F digital materials was in six main areas. These are; appropriateness of the digitised content, appropriateness of the language used in the materials, the learning approaches used, appropriate use of graphics (illustrations and images), interactivity of the materials and assessment of learning. Table 2 below shows a summary of how teachers rated the S4F digital materials in each of the six areas.

Table 3: A table showing the areas of concern presented to teachers of mathematics

S/No	Area of concern	Disagree %	Not Sure %	Agree %
1	Content was well presented for the level	3.8	4.5	91.7
2	Language used was appropriate	0.0	3.5	96.5
3	Learning approach were clear and suitable	5.3	4.4	90.3
4	Appropriate Illustrations/Diagrams were used	4.0	1.3	94.7
5	Interactivity of the materials was clear and appropriate.	11.7	7.6	80.7
6	Assessment of learning objectives was well done.	6.2	10.5	83.3

Content in the materials

In the area of content presentation, all the teachers (100%) who participated in the trail exercise noted that the S4F material facilitate the understanding of mathematics, present content in chronological order from what the learner already knows toward learning new concepts in the subject (known to unknown). The content was found to be linked to real life situations which learners can easily relate with. Developing learner's mathematical skills, interest and positive attitude towards learning the subject were scored at 94.7%, while its relevance to the intended learning objectives and goals was scored at 89.5%. The lowest score came from the coverage of the syllabus objective where 63.2% of the responded felt that the material exhausted all the content that the learners needed to know while the 26.4% felt it had not.

Language used

All the teachers agreed that S4F digital materials used appropriate vocabulary with clear sentences and a standard language was used. This agrees with the learners who noted that the language used was simple and appropriate.

Teaching and learning approaches

In the area of learning approach, 100% of the teachers noted that the materials promote learners self-discovery. This was followed by having of learning activities that are relevant to the content being taught/learnt, appropriate to the level of the

targeted learners and facilitate learner's involvement in the learning at 97.4%. Use of this digital content was also found to provide room for teacher's further creativity and innovation where necessary.
Use of illustrations and images

In addition to the learning approach, teachers applauded the S4F for using illustrations and images that are relevant and familiar to the learner. This view about the material is shared by the learners as well.

Interactivity
About the interactivity of the materials. Teachers like their learners noted that the material was interactive. However there were some areas which needed more attention to make it more interactive and interesting. These are navigation from one page to the next, making a provision for the material user to get help/hint when needed and the working of the access control buttons. Teachers suggested the need for a slider to allow the learners scroll back to and earlier point where need be. They also suggested more improvements on the home page and to make it more user friendly and improvements in the instructions to the learner.

Assessment
On assessment, the teachers noted that the S4F materials provide timely assessment to learners that is appropriate to the lesson objectives. It was noted that the assessment activities are aligned with the content. There was need to increase the number of assessment activities. What was provided in the materials was rated as insufficient and not able to support progressive assessment of learners.

Effect on learning the subject
Another key objective of the trial exercise was to determine the ability to improve achievement of learning objectives through use of digital learning materials. In general, it was observed that use of these digital materials facilitated learner to learner interaction learning approaches, increased level of interaction between the learner and the teacher and motivated learners to learn the subject.

Ability to support individual and group learning
Use of digital materials had an effect on learners' attention span during the lesson. During the lesson observations, learner were seen actively engaged and motivated to learn the subject content. Even where teacher involvement was low, the learners had the zeal to move on without teacher supervision and involvement. This is confirmed by their responses where 94.9% of the learners found lessons with digital materials interesting and fun to work with. The learners expressed their strong liking for the S4F digital materials and desire to have more of the kind. This view was shared by 92.6% of the learner respondents compared to 3.4% who disagreed with this it and the 4.0% that was undecided. This is also supported by the result on statement number 15 which shows that 90.9% of the learners found the materials nice and interesting to use.

As noted earlier, the materials encouraged learners to learner-to-learner interaction and collaboration. Through this interaction, it is believed that learners would unconsciously develop the skills of communication, collaboration and team work that are part of the much needed 21st century skills (Beers, 2011) in addition to mathematical skills. These would otherwise not be realised if each student concentrated on their personal academic work.
Influence on how mathematics is taught.

The study sought to know whether the introduction of S4F digital teaching materials had an influence on the way the subject is taught in the classroom. From the learner's perspective, the following issues were noted;

Majority of the learners (71.8%) noted that lessons where learners used S4F digital materials were enjoyable/interesting, easy to understand and could easily be linked to real life situation because they used related pictures and images. This also implies that the traditional approach to teaching the subject is abstract for the learners. This challenge can be overcome with use of real life objects during the lesson to enable the learners comprehend, synthesise and related the knowledge learnt to real life situations.

The teaching approaches used depended on whether the school was resourced with ICT equipment or not. In schools that were well resourced, teachers naturally used team teaching approach without any challenges. Where a school was not well resourced, a single teacher dominated the lesson activities to the extent of trying to do everything for the learners. In some the information was displayed to learners with a help of a projector as the teacher or one of the students demonstrated how to interact with the resource. This is evidenced by 42.9% who agreed that sharing computers made the lessons boring to some learners.

Use of S4F materials for teaching helped learners engage with their teachers in a discussion about the subject content. The interaction was mainly on interpreting the instructions in order to do the learning activities as well as operating the ICT equipment used for learning. This in a way promoted teacher-to-learner and learner-to-learner interactions throughout the lesson. This allowed learners to participate more actively in the learning process.

Opening up learner to learner interactions had an effect on the way classes have been conducted. Where learners were expected to be silent and working as individuals, group activities and discussions became more acceptable. This turned the quiet classroom to an interactive and active class.

The table below shows learner responses about the lesson taught with S4F materials. In general, use of S4F materials has a positive effect on the lesson than the negative as shown by the responses and their corresponding frequencies in the Table 4 below.

Table 5: Table showing learners' comments about lessons taught using S4F digital materials

S/No	Learner response statement	Frequency	Percent
1	material was enjoyable/interesting	127	71.8
2	easy to understand and use	121	68.4
3	use of pictures and more of real life situations	109	61.6
4	was boring because of few computers	76	42.9
5	It encourages self-learning	73	41.2
6	The lesson gives chance to try again	61	34.5
7	It was fun because of computers	55	31.1
8	much time is taken when learning as compared to other lessons	49	27.7
9	All work was on the computer, less use of paper	49	27.7

S/No	Learner response statement	Frequency	Percent
10	Many examples were given	49	27.7
11	There were self-marking exercises	46	26.0
12	The material is understandable than the teacher	40	22.6
13	students were extremely attentive	40	22.6
14	Calculation are at a high speed	37	20.9
15	Mistakes are not corrected in the material	31	17.5
16	I felt good when my answer were marked right	31	17.5
17	Material has tricky Questions	31	17.5
18	does not explain like how the teachers explain	28	15.8
19	required us to use our knowledge of computers	22	12.4
20	one can easily get the answer	22	12.4
21	the lesson was boring because I knew some questions	19	10.7
22	the lesson was boring compared to the maths teacher	19	10.7
23	The lesson was detailed	19	10.7
24	we used a projector	19	10.7
25	Material gives more chance to try again.	19	10.7
26	the lesson does not require a lot of discussion	19	10.7
27	computers construct angles on their own, not me	16	9.0
28	saves time	16	9.0
29	the material doesn't require a lot of thinking	16	9.0
30	The material gave me answers	16	9.0
31	The material gives a good explanation	16	9.0
32	The lesson required a lot of thinking	16	9.0

Conclusions

The S4F project was an eye opener that it is possible to make use of the local expertise of teachers to develop digital content to support teaching and learning. Putting teachers at the centre of digital content development process helps address issues such as aligning the content to the curriculum, using the right examples for the target learners, and sequencing the learning activities in a way that is learner friendly. What is learner friendly in a given learning environment/region might not be necessarily be learner friendly to learners in a different environment/ region at the same level of education.

Appropriateness of digital content depends heavily on whether the teachers and learners are able to use what has been produced, and the contents ability to appeal to their learning needs. The language used to instruct learners needs to be simple and understandable to the learners at the target level. Use of graphics picked from the learners' environment enables the users to relate the content in the lesson with what happens in their actual environment. Learning activities that encourage learner-to-learner and learner-to-teacher interaction unconsciously promote development of 21st century skills of communication, collaboration and team work, while assessment activities that give learners instant feedback motivate them to keep learning.

In schools where S4F were tried out, the digital materials had positive implications on the way mathematics was being taught. Teachers opted to work together through team teaching, learners were motivated to learn the subject in and out of class, and related what they learnt to what happens in their immediate environment hence relating content to practice.

Recommendations

Following the development and trial of S4F digital materials, the following recommendations were made for purposes of improving the use of digital materials in schools and for private reading / learning

At the school level, where computer laboratories have been established, they should be opened up to learners for research, content sharing and teaching of all subjects on the curriculum menu.

Governments should encourage and empower in service teachers to develop digital learning materials locally. This way the all schools will have sufficient digital materials that are tailored to the needs of a specified group of learners and their curriculum. This is very possible with use of GUI oriented authoring software

In partnership with teacher-training institutions, Governments and other education partners should conduct specific and intensive trainings for teachers to acquire Technological Pedagogical and Content Knowledge (TPACK) of using digital content to enhance students' learning outcomes. Acquisition of skills in development of digital content should be part of the teacher training course.

Educationists should emphasise the use of items from their immediate local environment for graphics and examples in the production of the digital materials. This facilitates learning from known to unknown.

Procurement of ICT devices for use in schools by ministries and school management should always ensure that they have support for audio and visual elements. Some modifications made on these devices disable some of these elements making them not suitable for use during a teaching and learning process that involves digital materials.

Curriculum centres across Africa should make every effort to create repositories of locally developed content to facilitate content sharing and peer support among teachers. This will lead to improved curriculum delivery across the African countries.

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Learning and Curriculum for Sustainable Learning (CLS): Perspectives from Third Year Undergraduate College Prospective Teachers by Paul Sawaya Dominick Mushi.

Abstract
Learning is traced from medieval times (Gvelesiani 2013) and the contemporary world focuses on sustainable learning (Charangkaittikul and Hensche 2014). The four pillars of sustainable learning developed by UNESCO (1996) defined as learning to know; learning to do; learning to be and learning to live together are extended into eight. Sustainability in CLS focuses on achieving human wellbeing and quality of life, pursued through the maintenance, care and equitable use of natural and cultural resources should capture learning "from the cradle to the grave" (Wade 2009, UNESCO 2005). A survey of 211 participants revealed 90% learning perspectives from a behaviourist's paradigm. A participatory approach to development of CSL was suggested reflecting to the Education 2030 agenda, implementation strategy (ibid:9) which establishes legal and policy frameworks toward promoting participatory governance and coordinated partnerships at all levels and across sectors. A renewed policy and partnership toward transforming communities into knowledge citizens to serve the future generation is proposed as a strategy.

Key Words:
Curriculum, Learning and Sustainable Learning

Introduction
The United Nations Educational, Scientific and Cultural Organization (UNESCO) is the United Nations (UN) coordinating agent for SDG4 and Education 2030 Agenda. The Organization provides also global and regional leadership in education and supports countries in developing and implementing educational policies, capacity development tools and frameworks (curriculum, assessment, competence framework (UNESCO 2016) and, teacher professional competences (UNESCO 2017). This support helps to strengthen national education systems by reviewing, developing and intervening in some research and evaluation guided by appropriate normative instruments. Specific to the implementation of the SDG goal number 4 which aims *to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."* (ibid:6). UNESCO also leads and coordinates the Global Education 2030 Agenda and the implementation of the Education 2030 Framework for Action.

This action research paper was specifically prompted by SDG 4, 4.c, the wish to look into how teachers are currently prepared to achieving Target 4.7 of the SDGs (UNESCO 2017:8). Come 2030, education has to ensure that all learners acquire knowledge and skills needed to promote sustainable development. Reflecting on over five years of personal experiences in reviewing pre-service teacher education curriculum at university level, the researcher still finds little content or learning area committed to achieving the 2030 education agenda and the millennium development goals.

The study was informed by UNESCO study in 2012 that took place two (2) years before the Declaration, which explored the links between education for sustainable development (ESD) and Teacher Training in Sub-Saharan Africa (TTISSA). The findings that '*ESD is not known in the Tanzania education, though there have been some efforts in developing environmental education* (Mhando 2012*)* struck my concern. The study is also a response to CESA 16 25 agenda, which domesticates and unpacks the SDG 4 for, ensures Africa specific priorities and coherence in implementation across the continent (Continental Education Strategy for Africa 2016-2025 (CESA 16-25). Curriculum for sustainable learning should prepare people for learning to change and learning for sustainable development toward economic competitiveness and social cohesion (Charungkaittikul and Henschke 2014). Reflecting on the role of classroom teachers, it is imperative that universities and other teacher education institutions prepare teachers who know about the SDGs, particularly SDG4 on inclusive equitable quality lifelong learning opportunities for all. The extent to which the curriculum in Tanzania is providing for this could come from the objects answers or else be investigated as a separate study.

The problem

Tanzania is a signatory of various UN declarations including the Sustainable Development Goals (SDGs) and has a strong nation-wide commitment to their implementation (United Republic of Tanzania (URT) 2016:2). One of the goals addressed is to ensure equitable access to quality secondary education, as required by SDG 4. One way of attaining these goals was to restructure the teacher education curriculum so that it fosters teachers who could implement an equitable sustainable learning at classroom level. It is however, unfortunate that, the way teachers are prepared in tertiary institutions and university programmes leaves a lot to be desired in terms of curriculum development skills (Mushi 2018, 2017, 2011) among the other teacher professional standard competences. These were elaborated in The World Education Forum (2015) held in Incheon, Republic of Korea from 19 – 22 May 2015; and the New York in September 2015 conference where member states adopted the Sustainable Development Agenda, commonly called 'the Global Goals'.

Among the indicators of effective learning and equity in access to quality education, is a curriculum that promotes sustainable learning, an area which has not been explored in Tanzania. Much as Teacher education curriculum should aim at developing student-teachers' competences in designing or adopting the right pedagogical approach and teaching learning materials attuned to developing the 21st century competencies and skills in all learners, in the different basic and secondary school contents as required in Target 4.7, it is somehow unclear as to how higher education institutions, (including the university where the researcher teaches) contribute to attaining the SDG 4 in spite of the current reviews of programmes and curricula in different disciplines (Mushi 2019). The concern of the paper is in a way to respond to the Nagoya Declaration (2014), which invited governments to assess the extent to which education policy and curricula are achieving the SDG 4 goals.

The purpose of the study therefore, was to seek respondents' answers to the following questions:

i) What is your understanding of learning?
ii) How do people learn?
iii) What is sustainable learning?
iv) How should curriculum be structured to promote sustainable learning?

The objects in this study constitute prospective pre-service secondary school teachers. The preservice teachers who graduated in September 2018 (in the

Tanzanian context) will become practitioners-*mediators, supervisors, interpreters and implementers of the school curriculum upon taking up their jobs (Bennet 2002; Abudu and Mensah 2016 and Chinyahi 2013).*

The Teacher Education Curriculum development process

Underscoring curriculum as the most effective purveyor for implementing cross-cutting issues and so the SDGs into the classroom and schools worldwide (Mushi 1999), this paper proposes an enabling environment for future endeavours on the area. The reasons behind is that, although the URT (2016) commits to implementing the SDGs using different frameworks, there has not been a clear criterion in the documents showing how education could implement the SDGs. Provision of free education alone does not necessarily ensure equity in access to quality education unless the preservice teacher education curriculum is also reformed to prepare teachers with skills appropriate to promoting the same at classroom levels.

In recognition of teachers' complex and multivariate roles, in school, classroom and community, they need to be prepared to develop the requisite competences for the implementation of the SDG 4 through the curriculum. Pre-service teachers in this regard, should graduate with effective competence in comprehending the Target 4.7 strategy and the specific learner skills that learners need to develop at classroom level. This expectation of the education 2030 agenda demands defining in the curricula the following goals and specific learner competences:

Leading sustainable lifestyles; Practicing human rights and gender equality; Promoting of a culture of peace and nonviolence; Demonstrating global citizenship personality; Appreciation of cultural diversity; and Promoting of culture's contribution to sustainable development (UNESCO 2017:8).

It is therefore imperative from the 2030 Education Agenda that, countries should create an enabling environment for quality teacher education; pre-service training and continuous professional learning to empower teachers to mainstream the development of the required learner competencies into the curricula. Participating in Tanzania's curriculum development and implementation process in the past 20 years reveals that, cross-cutting issues are usually mainstreamed in curriculum as they come. Tanzania Institute of Education (TIE), a government institution mandated by Act of Parliament 1975 usually undertakes the tasks. Gender issues were mainstreamed into curriculum using a separate gender indicators book that accompanied the curriculum. The family life issues were also mainstreamed by developing family life modules and training teachers on its teaching across the curriculum. Similarly, the HIV and AIDS and Environmental Education were mainstreamed into curriculum. The life skills aspects were introduced as a standalone subject in the curriculum at primary education. At secondary school it was taught as personality and sports. It was anticipated therefore that, SDGs could be treated in the same manner by mainstreaming it in the curriculum, but there is no evidence to this.

On the other hand, universities are somehow autonomous institutions and the design of preservice teacher education curriculum is not necessarily subjected to implementing UN-cross cutting issues to which the government is a signatory. There is therefore no curriculum that could be designed specifically for sustainable learning or sustainable development. Rather, such issues would be mainstreamed in the curriculum. Experience working with TIE in developing curricula for primary, secondary and teacher education reveals gaps in addressing current SDG issues at all levels. Teacher education in Tanzania, like other East African Community

countries for example is developed using a common agreed framework, the Inter-University Council for East Africa (EUCEA 2017). Each country has a mandate to introduce other areas of learning in teacher education curriculum. It should also be noted that, it is not the interest of this paper to investigate teachers' competences in implementing sustainable learning neither the effectiveness of teacher education curriculum on the presence of right structures for the same. Instead, the paper limits itself in investigating the prospective teachers' perception in the subject of study.

The Propensity of Challenges

Implementing the 2030 Education Agenda at local level is rather demanding. It calls for alerting the policy makers to begin the dialogue and the review of both teacher education curriculum and the curricula of basic and secondary education (OECD 2013). It also calls for curriculum policy reforms to enhance teacher participation in curriculum development (UNESCO 2006; 2010), hence the need for appropriate approach for integrating the SDG4 and its learning targets into the curricula of all levels of education. The implementation demands teachers who are able to engage students with a rich curriculum that strengthens their capacity as learners and thinkers (IBE-UNESCO, 2008) so that they can lead a sustainable lifestyle (Tomlinson, *et al* 2009, Taylor 2004, IBE-UNESCO 2005).

The world nations, including Africa and Tanzania alike are undergoing increasing complex social and rapid changes impacted by the contemporary world. The most diverse students' competences expected by the SDG (4.7) cannot be teacher proofed neither developed by schools alone. However, sustainable learning demands for an effective teacher who begins by learning from the learner and is ready to offer differentiated learning opportunities and needs (Eisner 1991). Experience on the implementation of revised curriculum reveals that, majority of teachers lack the requisite knowledge and skills for effective implementation of revised curricula in most countries. Arguments behind the teacher skill shortages are many, including majority being cut off from the curriculum review process (Taba, 1962; Dewey, 1903; Bennet, 2002; Kelly 2004). There is a global cry for a renewed interest in effective teacher involvement in curriculum development and reforms (WEF, 2015, UNESCO, 2015).

The Rationale and Tanzania's Educational Elements of the ESD

The educational agenda at post independent African countries (1960s – 1970s) was to introduce nationalistic ideology, study of culture and local environment into curriculum before developing national curricula in the early 1980s. For the purpose of illustration, this paper uses the case of Tanzania, where the History of the local tribes, Kiswahili language, health and hygiene were introduced in the (Tanganyika by then) the curriculum after independent in1961. Political Education and later Civics were introduced in education and at university, a course on development studies was taught. These subjects, though not directly addressed to the SDGs, reinforced practicing human rights and gender equality and promoting of a culture of peace and nonviolence as well as embellishing the education-culture links.

The first national philosophy of education (Education for Self-Reliance) (Ref Thinkers on Education, UNESCO 1993,Vol 3, p.247) was introduced in 1967, aimed at ensuring the individuals lived a sustainable life after graduating from formal education. Examination and assessment encompassed the three domains: cognitive, affective and psychomotor domains. Apart from the written examinations, students' character was assessed and counted in the final decision on promotion from one level of education to the next. Future appointments into leadership positions for example would consider individual character assessment reports. On the psychomotor

domains, each school had a production project in form of gardening, poultry, farming, bee keeping, and nursery garden, animal husbandry (cattle, sheep, pigs, goat and rabbit). Each student was assessed on the various "hands-on' skills in expectation to begin a similar project upon graduation.

A national curriculum was developed in the late 1970s with a view of replacing the alien curricula. In the same years, Universal Primary Education (UPE) and Adult Education were introduced as part of ensuring life-long-learning. Schools' and institutions' premises and classes were used as centres for Adult Education, where students became the facilitators for the adult learning.

Evident from the Tanzania's pre-1980s educational pursuit is the niche to implement the SDG 4.7 toward *ensuring inclusive and equitable quality education and lifelong learning opportunities for all*", albeit informally (WEF, 2015, UNESCO, 2015). Tanzania children valued their nation and culture, learning in school was cross-disciplinary including life skills. In a nation with more than 120 ethnic tribes, children valued cultural diversity, with the young being emotionally balanced. It is a demonstrable sustainable learning, for; people act creatively and innovatively invested their skills in different informal sector economy hence generating sustainable income for sustainable living. Elements of sustainable development are however present in different traits and are traceable in the vast majority of the world nations (O'Flaherty & Liddy, 2018) including Africa and Tanzania.

Reflecting the issues raised to experience and practice in curriculum in Tanzania, there is no way one could separate sustainable living to sustainable development and sustainable learning. The three objects hinge on curriculum, but the way they are learned does provide the jig for students to make a grip on their relationships. For one to develop sustainably, s/he must learn (sustainably) from the problems that come into the development path. Ability to resolve them on a continuum basis is in a way an evidence to sustainable learning from the behaviourist paradigm of learning as a permanent change leading into observable behavioural change.

The teacher's role is to adopt curriculum implementation to students' learning and development needs in a holistic way. The teacher ought to develop students' ability to develop their own orientations towards knowledge development that leads into solving problems as they come through in-depth sustainable learning about the problem-causal relationships. But the way the teachers were prepared (teaching the content and for examinations) provided little if any room for this holistic aligned teaching and learning (T-L) which could contribute towards students' sustainable learning for sustainable development.

The SDG 4.7 and Tanzania's Current National Curriculum and the Learning

The Aichi Nagoya Declaration on education for sustainable development (2014) urged countries to scale the agenda up by enabling the current generation to meet their diverse life needs. A response ought to be toward a curriculum development that empowers leaner to transform themselves and society. Such curricula should be structured to promote flexible learning pathways with recognition of competences acquired through non-formal and informal learning. Students from such curricula should be able to integrate in time and social space and shape the future for their own and others' well-being and learning in this regard should focus on what has the highest transfer value (UNESCO 2016).

In response to the Nagoya Declaration, UNESCO (2016) analysed curriculum and learning from 19 countries. The recommendations were for future reforms in

curriculum to orient education towards better learning. The outcomes of these reforms would empower individuals with competences that enable them to reflect on their own actions, act on complex situations, and integrate contemporary issues in curriculum. Learning should therefore be self-directed, participatory, collaborative and problem oriented (UNESCO 2017). The outcomes should aim at students with change in knowledge, values and attitudes towards more sustained and just society. The learning for achieving the SDG (4.7) should therefore embrace cross-cutting competences; creative and self-organized action; (beyond problem solving); and understanding the complex world in which they live. The students should also be able to collaborate and speak up and act for positive change through experienced reflection. UNESCO (2017: 11-12) defines further the competences to be developed through learning including: critical thinking; strategic competences; integrated problem solving, systems thinking and anticipatory. It is time we also consider students who are able to pose problems and seek for answers from those mandated to lead education so that they developed negotiation and critical augmentation on issues that conflict the ideal human rights to inclusive and equity in education. The role of curriculum is therefore to foster the broad development of the afore-cited expected competences for the current and future life expectations in a holistic manner: intellectual; physical; moral; social psychological; and spiritual among the essential and contextual life expectations (see also a conceptual map on sustainable curriculum for 21st Century learner on https://www.google.com/search?q=21st+century+skills&tbm=isch&source=iu&ictx=1).

Why a Curriculum for Sustainable Learning?

This study on curriculum for sustainable leaning was driven by a strong belief in the jig between sustainable development, sustainable learning and the need for curriculum for sustainable learning to serve the future generation. The world nations, including Africa and Tanzania alike are undergoing increasing complex social and rapid changes impacted by the contemporary world. The most diverse students' competences expected by the SDG (4.7) cannot be teacher proofed neither developed by schools alone. However, sustainable learning demands for an effective teacher who begins by learning from the learner and is ready to offer differentiated learning opportunities and needs (Eisner 1991). It demands also a synergy if not a continuum between the formal learning and the non-formal and informal education involving more than one partner outside the school settings. Attempts should be made to provide learning opportunity that suits best for each student: visual spatial; solitary (intrapersonal); aural (auditory music); verbal (linguistic); social (interpersonal); logical (mathematical); and physical (kinaesthetic) (Cassidy 2010).

There is an overlap between the use of the concept of 'life-long learning' and sustainable learning. The two concepts are therefore used interchangeably to mean the same thing. Learning through life is sustainable learning. A curriculum prompting the sustainable learning paradigm should therefore reach all the children including those in conflict situations and in civic reconstruction in an inclusive manner. Citizenship should be reinforced to enhance social cohesion in dived or conflict affected societies. Curriculum should promote learning about conflict relations by redressing aspects of curriculum that amplify social divisions and political violence. Promoting the ideology that some ethnic minorities in a given nation are superior to others or any other racial, gender and colour discriminatory learning areas should not be part of curriculum.

Curriculum should foster a mind-set that contribute to shared sense of national identity and citizenship and help to reverse the mass exodus (straw away) from Africa

to the USA and Europe at the same time reduce the social division and tension and identity-based conflicts happening in Africa (Tawil and Harvey 2004). How should curriculum be structured so that it developed sustainable learning among the different schooling age cohorts and contexts that surround their everyday lives? To answer this question calls for a more robust study on curriculum analysis, which is not the focus by now.

Response to the UN Call 2014 and the Study

This paper is not to reiterate curriculum definitions, for, is much aware of the contributions by different sources (UNESCO-IBE 2013, Kelly 2009, Murphy & Moon, 1999, Pinar et al, 2006). Vigilance is needed, however, on mitigation to the negative influences of paradigms/ideologies about curriculum processes. Among the ideologies are anthroposophy (spiritual); rational humanist; progressivism; critical theory; re-conceptualism and cognitive pluralism (Eisner 1991:56-83). As educators, we must believe in students' capacity to exercise reasoning based on their reflection and insight, find evidence and counter-arguments while they develop through resources of culture. Curriculum and learning should respect learners' personal purpose and life experiences as they manipulate world resources. On the other hand, the theories of learning are the most written about area in much of the literature on educational psychology, sociology and philosophy (Gross, 2005; Bleakly et al, 2011, Breitborda, and Swiniarski, 2006, Rutherford 2008, Curzon, 2004, Hilgard et al, 1997, Kumar 1996). The most important observation is that, educators in Africa should not take the theories as dogma and contextual, for, most of them were developed outside Africa with little significance in articulating the 'real and diverse" continental cultural and demographic diversities and needs. Used as guinea pigs for try-out or piloting of some reforms especially during the progressive movements in curriculum in the early 1960s to 1990s, reform in Africa have resulted into appealing results when compared to where they get imposed from. Their importance in explaining what is learning (Bleakley et al 2011). The authors however emphasize that we need theory of learning that captures the dynamism of learning through time as well as in space, interaction, and relation of elements (complexity) among other things and how should curriculum be structured and aligned to instruction, assessment and learning so as to achieve better educational outcomes should however, not be underplayed (Errington, 2010, Yorke et al, 2006, Biggs, 2002). Professionals in curriculum and learning in the Africa Continent should, therefore, critically examine the theories and among other curricula frameworks and acclimatize or adopt to applicable education environments (El-Moamly, 2010).

However, there are various endeavours by UNESCO Regional Office for Education in Africa which began in 2013 aiming to harmonize implementation of ESD. Specific areas were in enhancing African culture that contributes to sustainable development; strengthen the quality of education; and consolidate and diversify partners (Journal of Education for Sustainable Development (2017). Currently UNESCO (2015) had made an impact in Tanzania and in other 21 countries in Africa by influencing the development of enabling environments for the mainstreaming or implementing SDGs in various sectors including Tanzania with similar works in Kenya. This study is, therefore, a wake-up call for the Africa educational and curricula professionals to engage in basic action research using cost effective measures.

Research design and methodology

A filled-in semi structured open-ended questionnaire was used to explore the perspectives of learning and curriculum for sustainable learning from 211 (81F; and 116M) third year UCPT's. Fourteen (14) of the respondents did not indicate their sex. The 211 questionnaires were sorted by gender (F/M) and their experience of teaching in intervals of 3 years and then assigned numeric numbers (1-211). A quick scan of key concepts in each respondent group was done followed by counting of the frequency of the key concepts. These were synthesized into themes which served as main control groups of perceptions. For example a male teacher with no teaching experience perceived learning as: "*The process of imparting/ gaining knowledge, skills and attitudes in order to meet the needs of the worldwide employment."*

The underlined narrative was considered as relevant to the question. The key concepts were "*process and imparting"* which formed the control group. The concepts *knowledge, skills and attitudes* were grouped as "competence". These responses were further synthesized into two main sub-categories: *process and imparting*; to reflect the typical respondents' narratives about what is learning. In a second example, learning was perceived as "*change in behaviour through a systemized process*". The key concepts are "*change in behaviour*" and "*systemized process*". The former formed a new control group of the perception of learning as "*change in behaviour*" (a typical reflection to behaviourist paradigm). The fourth level of analysis was to develop a matrix of key concepts using X-el sheet and then convert each into a chart with the control category of response by gender and experience.

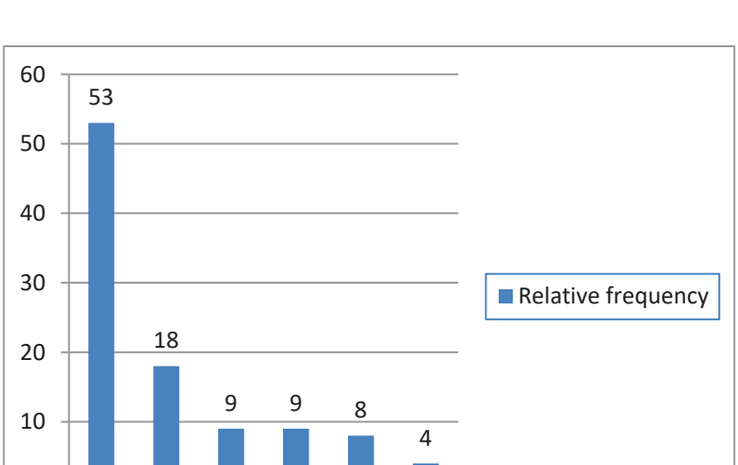
Findings

i) Biographical data
ii) Perceptions about 'What is your understanding of learning?'
iii) Perceptions about 'How do people learn?'
iv) Perceptions about 'What is sustainable learning?'
v) Perceptions about 'How should curriculum be structured to promote sustainable learning?'

Biographical data

The respondents' previous education included advanced secondary education (111) and certificate and/or diploma in education (92) while the remaining 8 declined to indicate their educational background. The respondents' teaching experience by percentage revealed that the total ranged from 0 (52.6%) to more than 10 (7.6%) with the majority being between 1-3 (18%) and 4-10 (18%) while 3.8% gave no response on this item. The figure below reflects this trend.

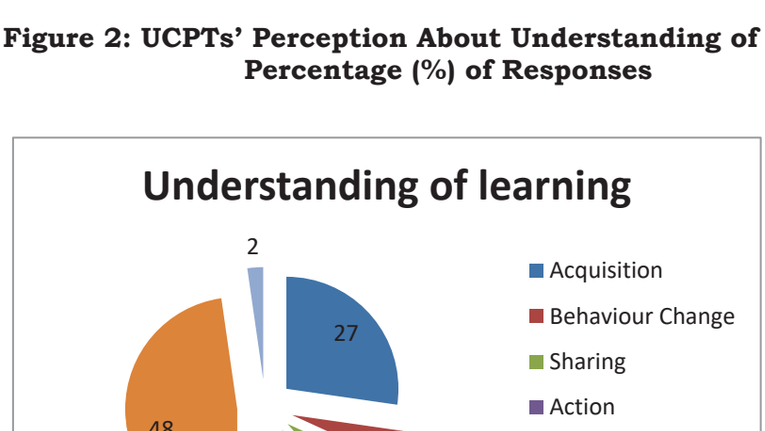
Figure 1: Respondents Experience by Years of Teaching Prospective



Teachers' Perception About Understanding of Learning

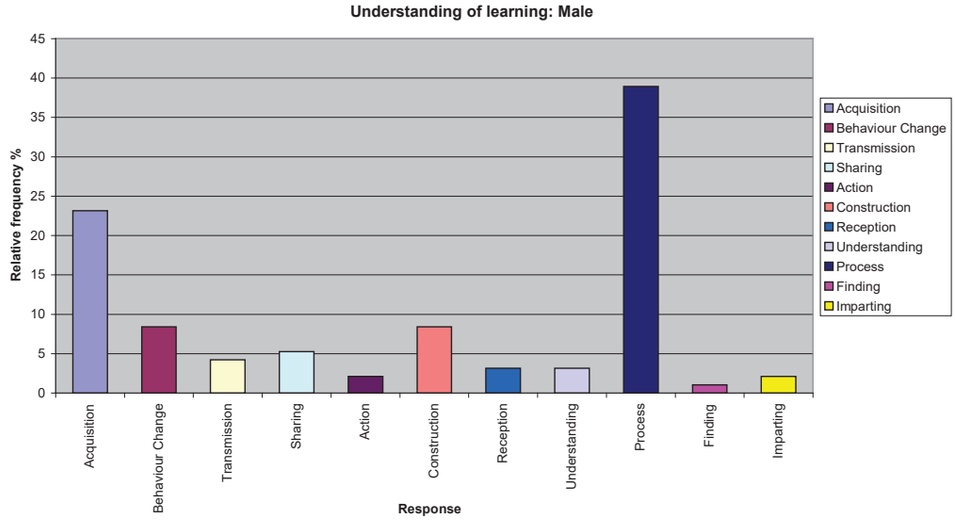
Most perception were central to concepts such as *acquisition of knowledge; change in behaviour; transmission; sharing; transformation; action; construction; and understanding* as seen in Figure 2 below.

Figure 2: UCPTs' Perception About Understanding of Learning Percentage (%) of Responses



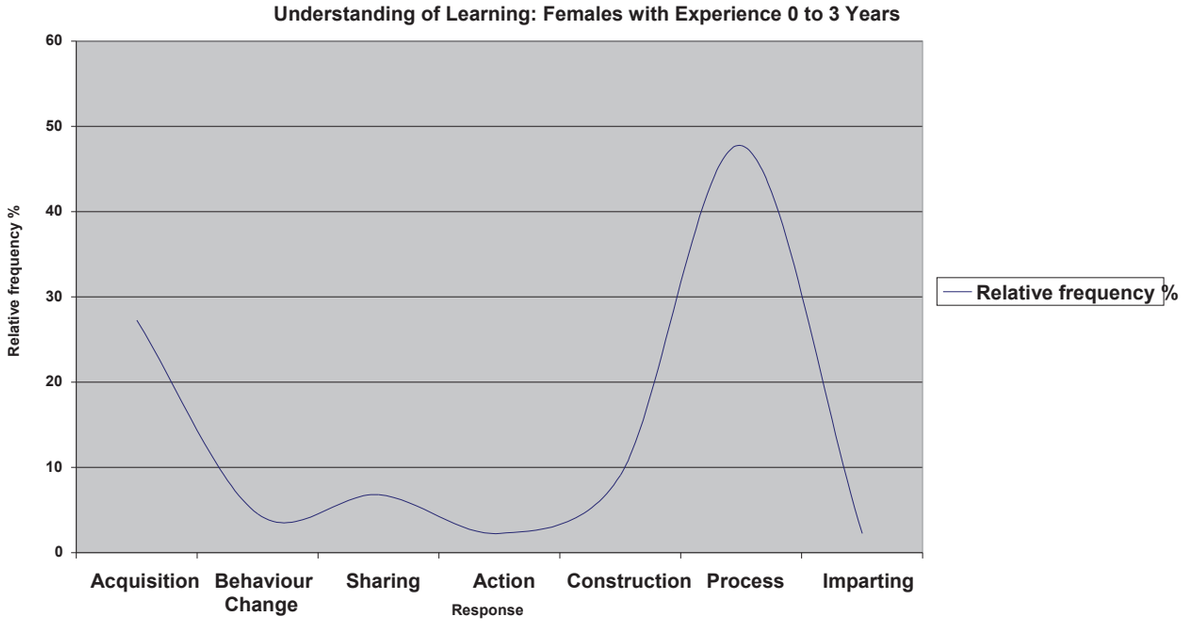
Implied from figure 2 is the 48% of the "process" perception of learning. Though not shown on the figure, the term process was also used as a main stem in describing most of the other responses such as process of acquisition of knowledge (27%). A more generalised picture of the understanding of the learning concept produced the results in figure 3 below.

Figure 3: Male's Perception About Understanding of Learning (General)



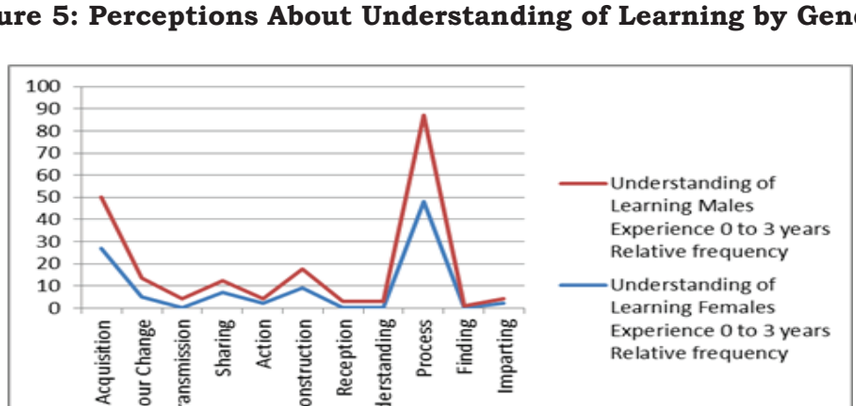
In figure 3 above, the frequencies represent the five categories of years of experience as seen in figure 1 above. Independent responses from the 4 years and above group showed no significant difference to the ones above.

Figure 4: Female Perception About Understanding of Learning



The pattern of females understanding of learning is similar to that of males as seen in figure 5 below. Learning as acquisition of knowledge and behaviour change recorded almost similar frequencies of response (12% – 20%) in both sexes (see also process aspects). This implies that the respondents' perception of learning was independent of gender as testified by figure 6 below.

Figure 5: Perceptions About Understanding of Learning by Gender

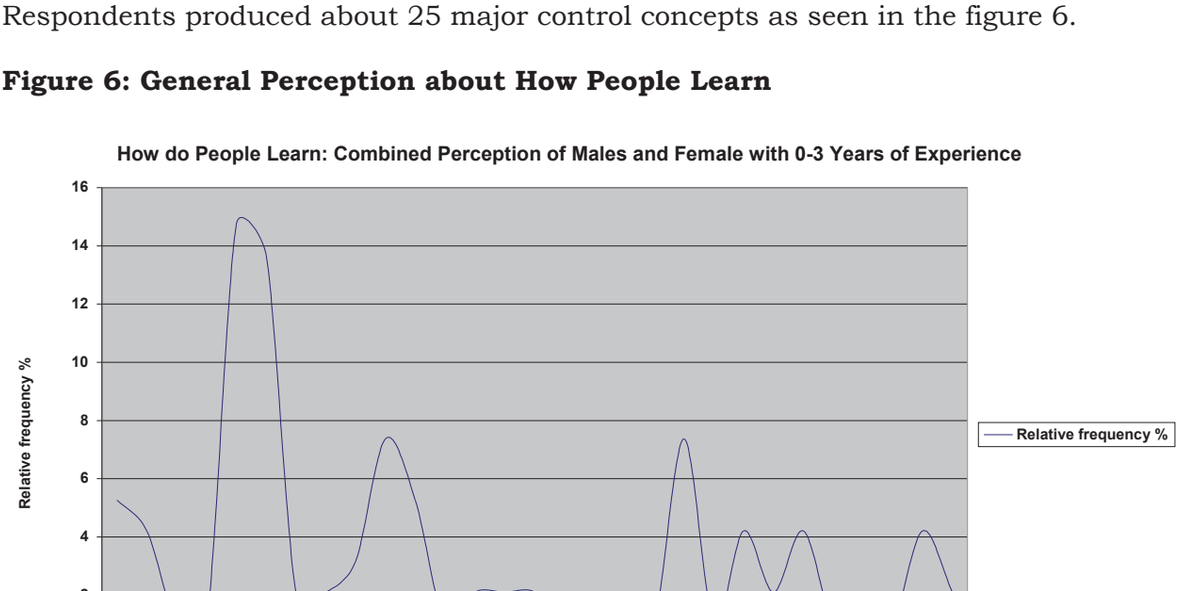


The females and males belong to the same experienced group portrayed similar perceptions about learning as revealed in figure 5 above.

Implicit from the cluster of responses is the significant influence of the education theories on the students' perception. The majority on the far left are inclined to behaviourism perception of learning as resulting from teaching (stimulus = response) leading into behavioural change. On the right-hand side belong the social constructivists who perceive learning as a process i.e. complex, dynamic and interactive on-going activity. This group in way perceive learning from the long-life paradigm and so is something sustainable.

Perception about 'How do People Learn"?
Respondents produced about 25 major control concepts as seen in the figure 6.

Figure 6: General Perception about How People Learn



The male-female responses about how people learn, show some difference by number of concepts mentioned (15 by 25). The additional perception as seen from figure 8 above include *learning from mistakes, learning through songs, learning by cognition (reasoning, through socialisation, life challenges and interesting events.*

As a way of finding out what might have been the influence behind the perceptions with the highest frequency, the author attempted to reflect them to some of the education courses or learning areas. There was a close link between the two in the following areas. The interaction and experience perception linked closely to curriculum processes. Memorising to behaviourist theory and observation and practice matched to learning about constructivist theory. Learning by reading linked to a course on pedagogy which viewed learning as a personal endeavour and participating and studying as informed by a social constructivist aspect of learning. There is therefore a significantly link between the students' perception on how do people learn and respondents' previous learning in some of the pre-service teacher education courses. Evidence from excepts from the respondents are present below to testify this conclusion.

Typical Excerpts on the Perception 'About How Do People Learn?'

Typical but rich narratives on the question about how people learn are presented below to give flavour to the respondents' perceptions. The numbers against each response presents the questionnaire label from which the excerpts come from.

i) *By culture and at school (183), through five senses of the body (103, 35 and 23, listening, seeing and focusing (109) or teaching through different media (100);*
ii) *Participation and through presentation, conferences and classroom teaching (145, 144), and internet (164) and through intuition, deduction and social media (116);*

Specific to curriculum and research, only one respondent wrote about learning from alignment of curriculum with society by saying:

> *We learn by integrating the curriculum with the real-world environment (59F) and by research* (03F).

Implicitly, sustainability is viewed as ability to apply in the real world the learned skills. This view is laconic in the objectives of the current competence-based curriculum in Tanzania's basic and secondary education. It testifies that, some teachers have some understanding of how curriculum should be aligned to learning and society, a new era which UNESCO (2014) is currently developing an educational alignment kit. The kit elaborates that, degree of alignment can vary, depending on the school and the course and the processes of planning and teaching occur through a series of interpretations of the curriculum at various levels within the school (ibid:12).

Perception About 'What is Sustainable Learning?'

Respondents were asked to explain what sustainable learning is. The majority viewed is as ability to apply knowledge and developing the right competences as reflected in the next typical excerpts.

> *"…is acquiring of knowledge, skills and attitudes that are beneficial today and in future life within context (33/ 157) and which fulfil broad needs of the society (20)".*

Others reproduced put emphasis on universal approach to sustainable learning by saying.

> *"Learning focused on the systematic process of development (102) and/or to transform the word (92) and promote development for future (141)*

A few narratives touched on alignment of culture and economy.

> *"… enabling learners to be well informed about and control of the environment, culture and the evolving economy for present and future generation" (151) while focused on what the community and world demands (35).*

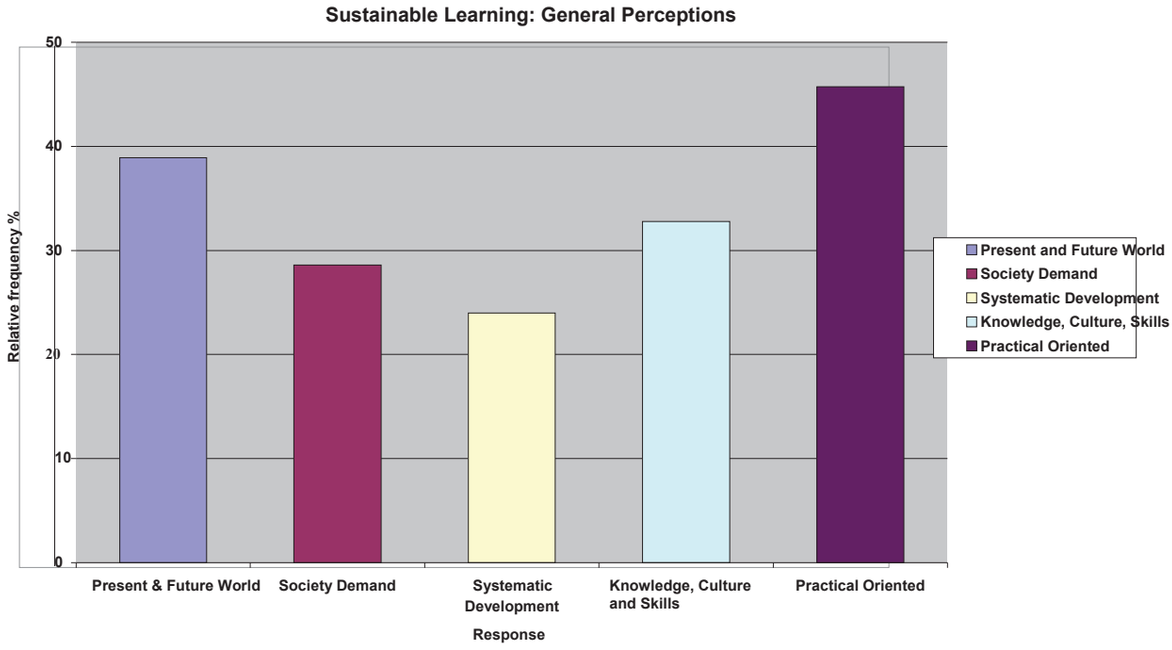
The blend by the author of the above perceptions considered sustainable learning as:

> *"It encompasses development of learners' useful/ applicable competences and culture for attaining goals of society/ community and the world (global citizen).*

It is imperative that, the respondents' views about sustainable learning rhyme well with the literature in the area especially the UNESCO framework.

Figure 9 below summarises the major categories of the perceptions of sustainable learning by percentage of frequency for each concept. It reveals sustainable learning that is viewed as a practical oriented learning (47%) followed by the ability to compete at present and future world (39%) and the rest.

Figure 7: General Perceptions About 'What is Sustainable Learning?'

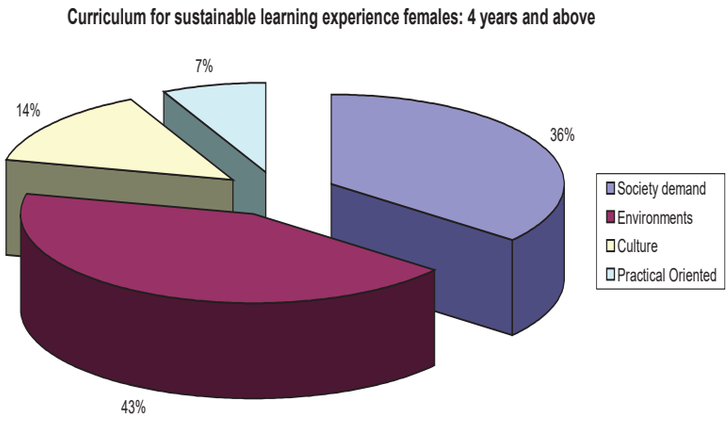


Generally, the respondents' views about sustainable learning are formed by key concepts implying ability to putting the learned competences into useful end and in different content of society now and in the future. The views rhyme well with the curriculum goals of learning. However, much of the learning in the curriculum is about the past i.e. learning about what has already taken place in the world. Educators might consider reforms towards curriculum that addresses the future of students and align this to learning.

Perceptions About 'How Should Curriculum be Structured to Promote Sustainable Learning?

Majority of responses emphasized practical solving of environmental issues as part of the curriculum structure without losing societal culture.

Figure 10: Curriculum for Sustainable Learning and Response



The specific extracts addressing the opportunities available within the diverse surroundings of the respondents' society. characteristics of a sustainable curriculum considered the following properties

> *"… Provide answers to the society demands (203) within the local context and promoting equality in education (146) and draw on the work of environmental education (180)."*

Some respondents called for a more democratic development of such a curriculum by saying:

> *"It is has to prepare an independent learner (158), and must involve stakeholders to formulate goals and support curriculum planning and evaluation (196)*

Responses specific to Afri-centric curriculum put culture and language as priorities of the curriculum.

> *"… It must reflect on real social context in all aspects and the African reality context: language of institution, people's culture and not based on European system" (433).*

To attain sustainable learning, the current curriculum needs to be updated.

> *"… Should be reviewed frequently, updated and address challenges and cope with the development in science and technology" (157).*

Other concerns rose the issues of joblessness that curriculum should resolve.

> *".. Should produce people who will fit in real world of work and society as well as the global demand (36, 96)" while preparing dynamic and a global citizen (96) and should teach the coast people about how to fish and involve learners (177).*

Summing up the properties of a sustainable curriculum include enacting from society demand; environment; culture; self-employment needs; promotion of learners' self- independent using interactive pedagogy and must be reviewed from time to time.

Discussion, implications and conclusion

This study set out to find out from the prospective teachers their perceptions of learning and how it takes place, sustainable learning and how curriculum should be structured to promote sustainable learning from 211 respondents.

Seeming, the problem of implementing the SDG 4 into curriculum is pervasive and engulfed by various issues as revealed from the literature. It requires partnership between policy makers, curriculum developers, teachers and the large society to align their needs about what should students learn and how should curriculum be structure as revealed by UNESCO 2016, Eisner 1991). Curriculum structural weaknesses at preservice teacher education alludes to poor teacher-products who are unable to promote flexible learning pathways among learners. The use of teacher centred teaching promoted by teaching about the past are sources of failure of students to align the learned curriculum to their social-cultural contexts, making learning unsustainable. The need to incorporate contemporary issues into curriculum was also called for by Bleakley et al (2011), while strengthening teacher education curriculum and empowering learning to learn about the future of their lives and engage in solving complex issues. A precaution on the total reliance on theories of learning was also cautioned by enabling teachers to make contextual interpretation and adoption in classroom pedagogy (El-Moamly, 2010).

There was a close link between the revelations from the literature and the perceptions of the objects in this study. The majority of the respondents demonstrated awareness to the current weaknesses in curriculum: the failure of the educating graduates to *lead sustainable lifestyles*. Only a few cited a curriculum that promoted gender equality and prepared students with *the global citizenship personality, albeit their demand for curriculum to promote culture's contribution to sustainable development.* There was no succinct awareness of the SDGs neither the learning

The prospective teachers' perceptions provide rich ideas and relevant to the prospective Afri-centric curriculum. Implicitly, Africa has a young generation informed about the gaps in the current curriculum, with some grasp of what a sustainable learning demands in terms of curriculum, while balancing local with regional and global contexts. Benchmarks in comparable countries reveal more of the lifelong learning strategies enveloped into education sector strategies between 2000 and 2012 (UNESCO - http://uil.unesco.org/lifelong-learning/lifelong-learning-policies 2004 - 2012) Ministries of education play an important role of developing policies geared toward ,redefining sustainable learning and laying down foundations for its development. Some strategies include the use of life-skills champion LLL (Zimbabwe); integration of formal and non-formal education to sustainable learning (the Gambia); recognition of prior-learning and experiential learning and strengthening of open and distance education (Togo, Kenya, Cyprus and Seychelles); and multiskilling and reskilling programmes (Mauritius). The approaches were through enacted policy and people development toward embracing change. Central to the approach are values that constitute the country's identity as was the case for Tanzania's UPE, Education for Self-Reliance philosophy and the current free BSE education.

It is, imperative, therefore for the current ministry responsible for education and her departments and agencies to enact a sustainable learning policy. Absence of such a policy makes it rather difficult to propose action on implementing SDGS in curriculum covering all educational levels including the teacher education. Teachers are a cornerstone to implementing curriculum at classroom level. Their capacity to interpreting the SDG's learning areas into curriculum should be part of the pre-service teacher education programmes. The curriculum development experts in the Tanzania Institute of Education, educators in Department for Teacher Education in collaboration with and the Institute for Adult and Continuing Learning (which are all under one Ministry of Education) ought to develop a framework for sharpen the pre-service teachers' understanding of the practical and the real needs of society so that

they more effectively outline what it takes to become a global citizen or cope with the world changes. Painting the picture on the status of SDG's awareness by our future teachers has however been partially attained. There is need for preservice teacher education curriculum to develop tools for mainstreaming the SDGs into teacher education (see also Mushi 2019).

A wake-up call is to make efficient use of the scarce resources we have at the different institutions to conduct small scale action research on the contemporary curriculum issues that will help to realign the CESA 16-25 agenda to priority continental challenges in curriculum and the proposed curriculum for sustainable learning. Currently, there are many voices from politicians as well as parents on the need for development of lifelong strategies to enhance the nation's mission on industrialisation and transformative development. These voices have come at a point when majority of university graduates failed to demonstrate employable skill. Soft skills such as curiosity, creativity, critical thinking, logical analysis and innovation cannot be nurtured through schooling alone. The public at large calls for the integration of the formal and non-formal education to provide intellectual fulfilment as a tool for dialogue and strengthening democratic process. The Ministry of Education needs, therefore to revise previously successful interventions that harnessed the synergy between non-formal education and formal schooling: The Complimentary Basic Education (COBET) in the late 1990s and the famous Adult Education in the late 1970s. COBET was mainstreamed into Primary Education Development Plan (PEDP 2000) as a strategy for absorbing all out-of-school children aged 11 to 13 years. These attended 3 years of the COBET curriculum the successful ones were mainstreamed into the formal primary school system at appropriate level of schooling. The older children aged between 14 to 18 year attended three years of the specialized curriculum learning and sat for the national primary school leaving examinations. The successful ones transited into the formal secondary school and some opted for other post primary education avenues, including vocational training. Reflecting in these best examples, the incumbent Ministry of Education in corroboration with the Prime Minister's Office, Local Government Authority (PROLAG) need to create partnership with different individual, groups re-create COBET and design new interventions such as community-based centres to champion sustainable learning for all groups of Tanzania population. Lessons and approaches could be drawn from Thailand (Charungkaittikul and Henschke), adopting the 3 realms of sustainability on environment, society and economy using a variety of pedagogical techniques, curriculum practice and essential characteristics (Kirschner, et. al. 2009, McKeown 2007,149-159). Harmonising sectorial interventions in social, economic and environment policies and plans could also help strengthening future interventions in the development of curriculum for sustainable learning.

There are little professional daring minds to make a total revolution of our curricula in Africa for Africa, albeit the rich environment and socio-economic activities and culture to draw from. The tiptoeing poverty in the frill natural resources is really unwelcome and shameful to curricula and intellectuals. It is tie the young professional take up this challenge to an end.

Limitations and future research

This action research was done on a small convenient sample population of preservice and in-service teachers and did not include broader views from educators, curriculum developers and political leaders among other agents. The findings are therefore pointers to a further research in the area, which might call for an in-depth curriculum analysis and survey of crosscutting but informed educators and agencies.

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Decolonizing Curriculum in Africa: (Re)thinking and (Re) constructing Curriculum by Integrating Indigenous Knowledge by Florence Kirabo Nampijja

ABSTRACT

I argue that the uncertainties in the current education system and the quality (in terms of performance, conduct, collective responsibility, abilities, mentalities, practicability) of graduates of many African educational institutions are outward signs that the compartmentalized curriculum that was acquired from the colonial governments is inappropriate, misleading, brainwashing and can only be used to train graduates who are out of touch with the realities of the African continent. I thus suggest that contemporary curriculum should be decolonized if purposeful education is to be attained. Purposeful and relevant education in this case implies the adoption and inclusion of indigenous knowledges in the curriculum. The idea is based on the fact that indigenous knowledge is holistic and therefore a much-needed approach for Africa. A comparative analysis shows that graduates of indigenous knowledge are much better than graduates of contemporary education systems; despite that, indigenous knowledge that helped to form its recipients into patriotic, development-oriented citizens have been relegated to the periphery and have been labelled primitive. This paper aims and concludes that broadening the spectrum of rethinking and reconstructing curriculum in Africa is inevitable; and should be done with a special consideration for adopting endogenous relevant orientations in the aims, methods, focus, pedagogy, assessment modes and social ethics ideologies.

KEY WORDS: Contemporary education; Curriculum; Decolonizing; Indigenous knowledges; University

Introduction

I begin this paper with questions: Is decolonization of education worth discussing long after attainment of independence by all African nations? Is it decolonization or mindset change that is required? Though the focus of this paper is not to answer these questions, meditating upon them will help me to delve into why it is time to rethink and reconstruct university curriculum in Africa.

It is worth noting that "the values and norms of a society are embedded within its national curriculum" (Chirwa & Naidoo, 2014: p 336). This presupposes that, it is important for each nation to have a national curriculum; one that is embedded and informed by the philosophies and contexts (norms, values, ideals, needs, interests, objectives and aspirations) of that very country. However, contemporary education in Africa is a creation of colonialists and thus mirrors western philosophies and ideals. It is "intended to alienate the learners from their own culture and people" (Gwanfogbe, 2011: p. 48). It mainly stresses the connection between academic achievement and socioeconomic progression; and disregards other aspects of education. Its structure significantly differs from that of pre- colonial education. It is thus inadequate and partially relevant since it is incomparable to African realities. Such a curriculum calls for decolonization. Decolonizing curriculum generally deals with consideration for other knowledges other than Eurocentric knowledges. In this particular case, I advocate for African indigenous knowledge and philosophies to be

given due importance in curriculum, policy and practice. The main aim of decolonizing education is to first of all design relevant curriculum for African countries and consequently end the cultural alienation and the continued spread of neo- colonial values by education. It works through deconstruction, reorientation, redefinition of education curriculum and standards, reconstruction and openness to various epistemologies and traditions if it is to engage with epistemic imperialism and colonialism (Heleta, 2016; Mbembe, 2016; Adebisi, 2016; Letsheka, 2013; Moeke- Pickering, 2010). My focus is to demonstrate why rethinking and reconstructing the curriculum is long overdue in Africa. Thus, the following sections will be discussed in this paper: criticisms of contemporary university curriculum; comparison between indigenous and western knowledge systems; suggested framework for decolonizing university curriculum; conclusion.

Criticism of Contemporary University Curriculum in Africa

University education in Africa has been criticized by different groups of people: politicians; religious; educationists; journalists; educated, none educated and others. The critique of education is not new on the African continent. It began many decades ago, when Africans like James Johnson from Sierra Leone, Edward Blyden from Liberia, Kofi Busia, and Rwomire criticized mission education on grounds of undermining traditional societies, introducing individualistic values, promoting loss of love for the African race, and devaluing traditional culture and curricula (Woolman, 2001). Until today, there seems to be a mismatch between education offered at many African university; the national development needs and the economic, social, political, moral development requirements of the continent. Most criticisms are focused on the inadequate curriculum that is rooted in the ideals of colonialism and Eurocentrism; disregards African contexts and therefore, disconnected from the realities of Africa (Adebisi, 2016; Msila & Gumbo, 2016; Rwomire, 1998; Heleta, 2016). The mismatch has led to the production of graduates who are 'foreign' to the continent and incapable of living a productive life on the continent and beyond.

University curriculum in Africa is incompatible to the realities in Africa, it ignores indigenous knowledge that is context based and mirrors western epistemologies. As a result, many graduates of African universities keep wondering which way to go and how to get there. Indeed, Eitel, (1986) described the present African as "someone between two roads; unable to part with the old and not yet in the new world" (sighted in Walt, 2003: p. 54). The working context in contemporary universities that is underpinned by epistemologies and ontologies of individualism, the faith on the model of the market, the commodification of knowledge, wasteful competitiveness, decisions made on the basis of economic rationality and pleasure seeking, have been equally criticized (Rwomire, 1998; Robert, 2017; Peters, 2013; Shore, 2007; Giroux, 2010). "Emphasis on the individual and de-emphasis on the community and culture resulted in ideological dissonance" (Adebisi, 2016: p. 433). All these are the aftermath of colonialism and its impact on curriculum in Africa. Nthamburi, (1993) wrote as follows,

> There can be no doubt about the fact that the influence of the west uprooted the cultural, social, political, economic and moral systems of traditional Africa and restructured them to meet the needs of the west (sighted in Walt, 2003: p.63)

This influence penetrated all spheres of life in Africa including education as Higgs assert, "universities in Africa were based and still portray western models" (2016, p.1). It is therefore not surprising that their identity, purpose and functions are

disoriented and out of link with the ideals that underlie pre-colonial education in Africa. The Eurocentric model excludes the domains of indigenous African knowledges in the goals, content, classification, approaches, teaching and learning and the evaluation criteria.

In terms of access, university curriculum in Africa only caters for the interests of those who have 'successfully' gone through the formal education system; yet there are many Africans who are grounded in pre-colonial knowledges and skills and need to improve them a little. Such indigenous knowledges which are relevant and still functional include "knowledge about agriculture, healing and dietary herbs, medicinal practices, societal values, as well as farming systems and artisan communities (Adebisi, 2016: p.445). However, the curriculum designed at universities in Africa does not cater for them. People who have such knowledges and are in need of improving them are neither attracted nor considered for admission at the university because they have not gone through 'formal' curriculum. This portrays a contextual inadequacy of a university system that regards knowledge in text books written by whites and imported as the only "paramount and unquestionable" (Adebisi, 2016: p, 445) knowledge. The situation further defies one of the goals of a university: encouraging students to develop their own wisdom and disciplined inquiries.

Universities curriculum in Africa is designed to meet the needs of those few privileged persons who are considered to be academically stronger, while eliminating those who are considered 'not to be academically strong'. The value judgement system that is used to select those few who are considered to be stronger than others is a uniform national examination done and examined without scrutinizing factors that influence grades attained at the end. For example, some schools are rural while others are urban based; some are government aided while others are privately owned; some have access to teaching materials while others don't have the ability to access teaching materials; some students come from financially humble homes while others come from well off to do families; some students have been exposed while others lack exposure. The effect of this is that sometimes what is considered cream and fit for university education may not necessarily be better than others; it is very possible that those who do not get the best grades in the national examinations are actually better if exposed to similar circumstances and environments.

As far as moral/character/ethical development is concerned, universities under look pre-colonial/ indigenous social ethics that indigenous educationists aspired for. These indigenous social values that indigenous educationists struggled to instill in the African masses included: patriotism; justice, tolerance; respect for all; responsibility; integrity; dependability; sense of duty; harmonious co-existence, and others. Knowledges concerning social ethics was embedded in proverbs, legends, oracles, music and drama that informed the curriculum then. Presently, universities seem to be patronizing social ethics. The embracing of market-controlled strategies in the goals and content taught at universities has hampered the ability of graduates to make ethical and critical analysis of issues and act responsibly in all spheres of life: whether political, social, economic and cultural terms. Many university graduates are filled with "values of hatred, intolerance, competition, disharmony, pride, arrogance, covetousness and even cheating" (Mart, 2011: p. 192). In Uganda, the situation is not different from the rest of Africa. Modern universities have always been at odds with the indigenous Ugandan epistemologies and ontologies that placed much emphasis on the code of behavior of societal members. Presently, issues of social ethics in Uganda are worrying according to Wietgratz who states that "moral authority, integrity, honesty and credibility of many people and institutions (both

state and none- state have significantly diminished" (2010: p. 34). Many graduates of universities of contemporary curriculum appear to be seriously unable and unwilling to do what is ethically right. Obasola, (2014: p,122) notes the following

> Where the problem of ethics has not received a serious critical discussion by scholars, the relevance of ethics to contemporary society has manifested itself in the theorization by scholars of the relevant political and economic theory for contemporary development. Thus, the ethical heritage persists to the present, but it's meaning cannot be sufficiently appreciated. This presents a fundamental challenge to contemporary society and particularly education

This justifies the presence of a problem; a problem whose solution has to be sought by education institutions through rethinking and reconstructing curriculum. It poses a challenge to university academics especially those who engage themselves in designing and reviewing the curriculum. What is worrying is that forums that convene to appraise university education majorly focus on the quality of personnel, finance, infrastructure and demographic factors, and rarely discuss real curriculum matters that relate to African realities. Though the ongoing African renaissance brings hope to Africans, the leaders who advocate for it seem to concentrate on political and economic matters and think less of reviving African education from bondages of colonialism. Some African scholars especially from South Africa and West Africa have written while trying to awaken African educationists and curriculum specialists on matters of curriculum decolonization, but the response from the academia in Africa is not yet convincing.

A Comparison between Indigenous and Western Knowledge Systems

There is a fundamental difference between indigenous knowledges and 'modern' western knowledges. While western knowledge systems are abstract and centralized, Indigenous knowledge is related to the local communities and relies upon common sense. It is circulated since it is passed on from generation to generation without considering academic grades and achievements. The comparison is based on the orientations of both systems in terms of goals, epistemologies, methodologies and values, as indicated below.

Aims

African indigenous knowledges were designed and disseminated for the benefit of society as a whole and to enable individuals to be useful habitants in society (Mosweunyane, 2013; Seya, 2015). The major purpose of education was to pass on knowledge, skills and virtues considered relevant in a particular culture. Seya, (2015: p. 19) states as follows,

> learning then aimed at instilling positive attitudes and behaviors towards life and work.... forming good citizens who were intellectually, philosophically, culturally, morally, religiously and politically in total harmony with their 'bio tope', useful to themselves and to society

The kind of knowledges that were promoted then aimed at the holistic growth of an individual within society. It thus focused on inculcation of ethical skills (Kigongo, sighted in Walt, 2003), emotional, relational, practical and technical skills (Sarumi, 2007). Education was not meant for academic knowledge alone, but for human excellence. Excellence was measured by having graduates who were good listeners, patient, courteous, generous, cooperative, honest, respectful, loyal, modesty, responsible and with a sense of duty, hardworking, disciplined, not greedy and non-

violent. It was thus seen as the main vehicle for individual and societal transformation.

Quoting from Fafunwa, (1974), sighted in Njoki, Kinyua and Muli, (2015: p. 137) and Oluniyi and Olajumoke, (2013: p. 73), the aims of education in pre-colonial Africa were,

> To develop the child's latent physical skills; to develop character; to develop intellectual skills; to acquire specific vocational training and to develop a healthy attitude towards honest labor; to develop a sense of belonging and to participate actively in family and community affairs; to understand, appreciate and promote the cultural heritage of the community at large

It is therefore evident that curriculum was designed while aiming at producing a complete individual who is guided by wisdom in all walks of life, a person who is cultured, integrated, sensitive to the needs of his family and the neighbors (Omolewa, 2007). Curriculum was meant for "social utility" (Masaka and Chigombe, 2013: p. 155); education was thus genuine and relevant since it aimed at the sustained survival of an individual and the community.

The above aims contrast with the aims of contemporary education which mainly concentrates on the training an individual to learn English; pursue a certain profession for individual gains, master his/her human rights and serve colonial interests. While referring to the aims of university development in Africa, Ochwa-Echel, (2013: p. 2) stated as follows,

> University development was thus shaped by the policies of each colonial power. For instance, the British policy was based on a dominant/ subordinate relationship. Colonial subjects were meant to serve the interests of the mother country and university education was geared towards the goals of producing graduates who would just do that

The goals of curriculum in contemporary universities are inorganic and cannot extensively benefit communities in Africa. They are divorced from the community problems. Market mechanisms have eaten away the democratic aims of education (teaching solid values of truth, justice, professionalism and service delivery) geared towards personal and community development; instead, relativistic values driven by market-oriented values of commercialization, privatization, and corporatization are being promoted by educational policies and practice. According to Lynch, (2006: 2), "universities are being asked to produce commercially oriented professionals rather than public interest professionals". This is dangerous.

Methodology

To achieve the desired goals of education, different methods of knowledge delivery were used to convey knowledge to its recipients in pre-colonial African societies. The methods and materials were picked from the child's environment and were related to the culture and traditions of the learner (Majoni and Chinyanganya, 2014). Among other methods were: oracles, proverbs, plays, dance, games, oral literature that mainly conveyed messages through myths, mental arithmetic, legends, deception, deterrence and inculcating fear into the young ones, observation, limitation and practice (Omolewa, 2007; Sifuna, 2008; Mwanahewa, 2011; Sarumi, 2007; Ayittey, 2006).

"Emphasis was put on practical learning and the young adult learned by watching, participating and executing what they learnt" Ekeke and Dorgu, (2015: p. 36). All these methods conveyed messages about normative behavioral values, unity, functionality and collective responsibility (Njoki, Kinyua and Muli, 2015; Sifuna, 2008). Apprenticeship and group method were used by the teachers then, as Majoni and Chinyanganya, (2014: p. 67) state,

> group instruction, group assignment, apprenticeships and age groupings to experience a particular event were the most common methods employed to instruct the young

This made learners improve their skills as fast as they could (Omolewa, 2007).
Besides the general content, sometimes young men were taught separate from young women especially when they were learning specialized skills. For example, according to Seya, (2015: p.20),

> young men were prepared for assuming responsibilities that require physical strength and courage so as to enable the latter protect both their immediate families and the social group while women would be specialized in occupational activities that solicit domestic talents, craftiness, endurance and patience; all these being indispensable for facing the daily needs of the household and ensuring child bearing

This is what Majoni and Chinyanganya, (2014: p. 66) referred to as "initiation schools". Such schools accordingly complemented traditional education. The content to be taught was also prepared according to age; meaning that learners of different age groups (brackets) went through different educational experiences (Omolewa, 2007; Masaka and Chigombe, 2013). This helped agemates to meet, share knowledge and experiences, and work together.

A lot of efforts were made by elders, and many incentives were offered to learners. The intension was to have everybody go through successfully. This meant that failure was not tolerated in African Traditional Education (Majoni and Chinyanganya, 2014).

The major mode of knowledge delivery in contemporary universities is mainly the lecture method; learner centred pedagogy is rarely used. The lecture room, the library and the computer laboratory are almost the only environment within which learning occurs. Chalk and black/whiteboard are major learning aids that are used and the only source of knowledge are considered to be text books. This has promoted a lot of rote learning.

Content

Content that was taught was basically drawn and designed from the immediate environment (Sifuna, 2008). "Greater emphasis was placed on the concrete rather than the abstract" (Ekeke and Dorgu, 2015: p.36). Societal members were the major determinants of the content; they were guided by the societal, physical, economic and spiritual aspects of life. They were also guided by other principles such as: principle of preparation (which dealt with economic sustainability – eradication of poverty, hunger, diseases, ignorance and others); principle of functionalism (which put emphasis on pragmatism – making people practical. This was done by learning through imitation, oral literature and initiation ceremonies); principle of communalism (application of the communal spirit in everything that was done at all times); principle of perennialism (which considered the preservation of culture and status quo); principle of holisticism /ability to demonstrate different skills (Majoni and Chinyanganya, 2014). According to Woolman, (2001: p. 31),

> Traditional education integrated character building, intellectual training, manual activities and physical education. The content included all the activities, rituals and skills required to sustain the culture and life of the family and community …. Great importance was placed on interpersonal relationships and reciprocal obligations.

The youth were taught obedience, endurance and religion. Religion had a lot in instilling moral and ethical principles (Sifuna, 2008). Young scholars learnt about agriculture, animal keeping, whether, and hunting.

This kind of content, which is diversified in nature was meant to socialize an individual and comfortably make him/her fit into society. It is in contrast with the compartmentalized Eurocentric content that trains an individual for serving in a particular profession while putting more emphasis on individual economic gains but detaches them from society.

Instructional agents/ teachers

Masaka and Chigombe, (2013: p. 156), noted that,

> Traditional African education is primarily a community responsibility and uses children's work experiences gained from their parents and other members of the social group for the benefit of the community in general

Accordingly, all respectable members of society served as instructional agents. Elders in their respective capacities (like: story tellers, community leaders, parents, sportsmen, dancers, hunters and others) served as teachers in the community. Elders in the family also acted as disseminators of basic knowledge. According to Seya, (2015: p. 21), "the delivery of basic knowledge at the fundamental level of education did not require the specific intervention of the specialized teaching agent". All community elders served as teachers and guardians of morality (Sarumi, 2007; Majoni and Chinyanganya, 2014; Njoki, Kinyua and Muli, 2015; Ayittey, 2006). This setting assisted learners to respect all elders in the community. Such a system encouraged ethical character development since any elder in the community could watch over all young ones and could punish those who went astray, and reward those who were reward worthy. Such a system helped to prepare children for full involvement in community affairs. It is also worth noting that all those who participated in the teaching, training and educating the young during pre-colonial times were not remunerated, it was a social responsibility.

Presently, there are trained teachers who are responsible for teaching the young generation. These have been trained through the compartmentalized curriculum and thus possess limited knowledge in training a holistic person. Besides, the entire load of training holistic citizens has been left to the few people classified as professional trained teachers. Whereas this is not bad, It is obvious that they cannot accomplish the task without the help of the community and the parents. On the other hand, the community, the parents and the guardians have given up on their role in bringing up a praiseworthy child. They are comfortable that the school teachers will do it all. Parents believe that the only obligation they have towards their children is to pay fees and provide scholastic materials; moreover, other parents are convinced by the political propaganda that child upbringing is a responsibility of government.

I suggest that the parenting process and civic responsibility of individuals should be embedded in curriculum to help all appreciate and understand our responsibility.

Social ethics values in knowledge

From the ongoing discussion, it is evident that the foundation of all knowledges in traditional Africa was the enhancement of community/social ethics. There was a lot of concentration and emphasis on the conduct of the individual within society. During. pre – colonial time, the African moral reference point was inherent in the "we feeling" (Igboin, 2011). Formation and upholding of an ethical person was a supreme goal for all elders, who also doubled as teachers. Many Africans then were trained to be responsible, dependable, kind, honest, hospitable, accommodative, generous, compassionate, faithful, loving, dignified, diligent (Igboin, 2011; Arowolo, 2010). Different scholars concur that indigenous African ethical values were embedded in principles of humanity and was therefore pragmatic, communalistic, shame-oriented and utilitarian (Coetzee and Roux, 2002; Udokang, 2014; Adebisi, 2016; Sifuna, Chege & Oanda, 2006; Adeyimi and Adeyinka, 2003). The rationale for this kind of ethics was fostering into a member of society a sense of duty and obligation. Ethical values of compassion, solidarity, reciprocity, cooperation, interdependence, respect, love, marriage, hard work, worship and social wellbeing were binding pillars in society (Coetzee and Roux, 2002; Azabre, 2015). The spirit of social ethics was the principle of life, the principle of individual responsibility and the principle of communal responsibility. Education then emphasized the moral etiquette and developing the feeling of togetherness (Adeyimi and Adeyinka, 2003).

Curriculum taught in contemporary times ignore this fundamental purpose of education. Due to the neoliberal forces that manifest themselves in privatization, commercialization and marketisation, individualism has taken over the values of collective responsibility that were common then. Recently, there has been a move to promote human rights, while concealing the fact that rights come along with obligations. No wonder, as students demonstrate bad character, they often refer to their rights.

Despite the above, indigenous knowledges have been criticized especially by both Eurocentric and some Afrocentric scholars on the basis that it is not systematic and objective (Agrawal, 1995); it is primitive, orally transmitted, not written down (Mosweuyane, 2013; Omolewa, 2007; Masaka & Chigombe, 2013) and it is considered inapplicable, given the cosmopolitan nature of the communities and the ongoing globalization processes. I am personally convinced that some of the criticisms thrown by Afrocentric scholars is a result of intellectual or cognitive imperialism that occurred and continues to occur to all African students. I also believe that Eurocentric scholars criticize indigenous African knowledge because they want to eradicate African indigenous mindsets while fertilizing the ground for neocolonialism. I thus disagree with some of the criticism put forward for indigenous knowledges. The argument that indigenous knowledges are locally based and thus, not fit for cosmopolitan communities that are common in the world today is ingenuine because it is always important to begin by exploring the local environment before proceeding to foreign. Eurocentric knowledge's that are being promoted are not accommodative of all races and creed in the world either. Therefore, it, alone, is not fit for the cosmopolitan nature of communities on earth. It is dangerous to eliminate endogenous knowledge while promoting exogenous knowledge alone. Besides, the strongest pillar for indigenous knowledge was its focus on character development. Until today, no individual or community can boost of sustainable development with poor character. The strongest foundation for one's development is having good character: trustworthiness, tolerant, hardworking, just, cooperative, compassionate, empathetic etc., and it is this component that we wish to incorporate into contemporary curriculum which is driven by economic rationalism. Besides, in

regard to Africa, there is no monolithic knowledge, there was a lot of similarity in the kind of knowledges that were disseminated in pre-colonial Africa. To illustrate this, Adebisi, (2016: p. 447) wrote, "African knowledge systems though geographically diverse, they promote collective responsibility and humanism". Nevertheless, indigenous knowledge can be criticised for failing to take care of persons with special needs, for example, the deaf, the mentally disadvantaged, the blind etc.; an aspect that has been taken care of by contemporary system of education.

On the other hand, it would be disastrous to contempt Eurocentric epistemologies completely. They are quite important and beneficial for Africa. For instance, they have eased social integration of their recipients into the world since they are majorly transmitted using foreign languages. They have inculcated relational skills and most importantly, they have helped in the training of high-level skills (teaching, medicine, engineering, social scientists) that are needed in today's labor market. What remains and what I advocate for is a blend of both indigenous African and western knowledge in an African curriculum. Indigenous African curriculum is very much needed because it will emphasize the holistic growth of the recipient of the westernized curriculum while stressing the development of the character, personality and emotional skills which have so far been downgraded by Eurocentric epistemologies. I envisage that once African knowledge styles are integrated into the current curriculum, and in the policies and practice of the education system, then, Africa will regain the abilities (it lost with the adoption of colonial education) to 'drive' towards sustainable learning and development.

Why Curriculum Decolonization is long overdue in Africa

a) A decolonized education can change the mentalities of Africans who happen to treasure and adore everything that has western orientations. There is a strong urge for building a spirit of patriotism in Africans. This can only be accomplished inculcating African philosophies and epistemologies.
b) African pedagogies and epistemologies must be promoted and prioritized to "inject new vitality into the misfiring post – colonial educational systems" Mswazie and Mudyahoto, (2013: p.170). Graduates of African education must be equipped with the know-how and urge of developing the continent themselves; and not being mere experts of seeking foreign aid. According to Nkoane, (2002), Africa needs an education system which

> "maintains African awareness of the social order and rules by which cultures evolves; fosters understanding of African consciousness; facilitates a critical emancipatory approach to solve the problems of their lives; and produces the material and capacities of Africans to determine their own futures. (Sighted in Letsheka, 2013, no page number).

Such a type of education is a decolonized one.
c) Contextualizing knowledges leads to development of holistic individuals and promotes the spirit of sustainable lifelong learning. It continuously empowers graduates to tackle the problems on the continent. This kind of education is opposed to contemporary education that aims at mere certification as a major aim of education.

Suggested Framework for Decolonizing University Curriculum
Structure of education

I argue that the structure of university curriculum in Africa should be informed by the structure of indigenous education. The aims, focus, methodology, pedagogy,

learning materials, modes of assessment, teachers and the content its self that were used prior colonialism to educate Africans should all be recalled and utilized while designing university curriculum today. In other words, the focus, the methods of teaching, the learning environment and materials, the modes of assessment should be those that were used traditionally. Teaching should not be done by teachers/ professors only, but all those who have relevant knowledges, regardless of their education levels should be permitted to pass on those knowledges to university students. The focus of education should not be employability of the graduate but the ability of the graduate to be self-reliant, capable of making positive transformation of him/ herself and the community around and learning to become a long-life learner. The mode of assessment should not entirely depend on the ability to obtain high grades in a written paper, but assessment should follow many issues like: discipline and integrity, intellectual abilities, practical abilities, ability to cooperate with others, ability to listen to others etc. Besides all that, the social ethics principles that education in traditional Africa struggled to instill into its recipients must be included into the curriculum. Social ethic knowledges about goodness, respect, solidarity, integrity, honesty, hard work, truthfulness, dependability, responsibility and others should be incorporated into the content of contemporary curriculum.

Offering pedagogical and methodological support to academics

To achieve the above, pedagogical and methodological support need to be given to present day academics who are mandated to design curriculum but were trained using pedagogies from other cultural contexts. The reason for offering pedagogical and methodological support to academics at the university is to give them the required cognitive and practical knowledge. Such knowledge includes: knowledge of classroom management and organizing that are useful for diversified curriculum; classroom assessment of I.K knowledges and knowledge of appropriate assessment that correspond with I.K. Besides, academics also need to be given methodological support. Achieving this will require diversifying actors and making collaboration between experts. Expertise in this case should not depend entirely on academic achievement, but it should take into consideration experience and age of the expert (the elderly community should be brought on board).

Working towards mindset change

It is also important that messages geared towards mindset change are sent to all stakeholders. I assume that education decolonization did not come along with political decolonization because African mindsets are still attached to the idea that, all that is western is better. Hence, that attitude must change if we are to embrace our own knowledge philosophies as appropriate and relevant. Doing this require workshops were different curriculum alternatives and their outcomes are weighed against each other.

Co-opting cooperating teachers who may not have high academic qualifications, but have excellent knowledge in particular fields that are relevant for Africans. The identified cooperating teachers are expected to work with qualified teachers to pass on the knowledge they have to students. The trained teacher guides the cooperating teacher at the time of knowledge delivery.

Education regulatory authorities like National Curriculum Development Centre and National Council for Higher Education in their capacity as policy makers and regulatory boards should appreciate and embrace the need for curriculum decolonization and later entice other actors into doing so.

Designing a National Education Philosophy to guide curriculum design. Countries should have national philosophies that are unique to them. Such philosophies should be informed by the cultural norms and values of the country, and should spell out the national aspirations of that country. Given that education does not stand in oblivion, the education philosophy should then be anchored in this national philosophy. The purpose of the education philosophy is to guide curriculum designers on the ultimate goals of education in the country. Consequently, these goals will guide curriculum developers on what to include in the curriculum.

Conclusion

Rethinking and reconstructing curriculum are intertwined processes. It is dangerous to rethink and end there, similarly, it is not right to reconstruct without rethinking. As we engage in rethinking, we are all called upon to weigh the alternative knowledge systems (indigenous and western), their consequences, goals, approaches to teaching, learning and schooling; and their appropriateness to the needs of Africa. The conclusions drawn from the process of rethinking will then guide policy and practice (reconstruction process).

I also opine that though African nations are "independent" in some aspects, Education systems in many African nations are still dominated by western epistemologies and styles. Academics from Africa must change their attitudes towards the African knowledge systems and see it as a central pillar in making education impact the continent; otherwise, graduates of the education system in Africa will continue muddling through.

In the process of decolonizing curriculum, curriculum specialists in Africa ought to appreciate that it would be deceptive to embrace everything that was applicable in traditional education. They should thus pick out only those elements that are considered relevant in contemporary times. Such elements should include those that make educational goals which match African realities and help Africans to rediscover and stick to their identity.

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The Accelerated Learning Programme in South Sudan: Exploring the Challenges and the Mitigation Measures by Ndawula Stephen and Mono Robert

Abstract
This study sought to explore the challenges encountered in the implementation of Accelerated Learning Program (ALP) in South Sudan and propose mitigation measures. The main instruments used for data collection included questionnaire, interview and observation checklists. Data for the study was collected from a wide range of respondents comprising 120 ALP learners, 18 ALP teachers, 8 ALP Head teachers and 4 local education leaders. Descriptive statistics was used to analyze information collected during the study. The study revealed shortage of financial resources, low teachers' motivation, and low staff capacity as institutional related challenges. On the other hand, poor academic performance, low household income, assigning children too much home responsibilities during school hours and family conflicts were the learner related challenges. The proposed mitigation measures included; working hand in hand with development partners, building of post primary institutions, construction and revitalization of county education sectors, and peace building It was recommended among others that; more resources be provided for teacher training, lasting solution to the political problems be sought, inspectorate and the supervision departments be equipped with relevant skills and government to construct more ALP centres.
Key words: Accelerated Learning, Mitigation, Mother Tongue, Teacher Incentives

Introduction

Accelerated Learning Program (ALP) is a curriculum innovation which focuses on the re-organization of a curriculum so as to acquire a credential or a competence in a shorter time than the conventional duration. The curriculum to be re-organized may already have been in existence or may be developed to suit the objective of the program. Some researchers have used the terms compressed curriculum, brain friendly learning and others expedited learning to refer to ALP (Nikki, 2011). This initiative has been in existence for quite a long period of time and there is a plethora of literature about ALP at almost every level of education. Irrespective of the purpose, central to ALP is the re-organization of instructions and curricula in ways that facilitate the completion of academic requirements in an expedited manner (Nikki, 2011). ALP has been gaining more popularity especially at higher levels of education where institutions expedite the learning process for specific courses.

ALP as an education program serves different objectives at different levels of education. For example, the program can be used to cater for the learning needs of gifted children who are able to work and learn at a faster rate compared to their counterparts (McKee, 2004). It can also be designed as a catch-up program to acquire some essential competence for learners joining particular courses at higher levels of education (Wlodkowski, 2003) and yet the program can accelerate the learning of over aged learners who missed the opportunity to enroll or study at the right age due to emergencies (Hartwell, 2006). Some countries like Ghana and Bangladesh have however, adopted the program as a government ongoing initiative to address learning needs of special communities (Kodom, 2014).

South Sudan adopted ALP as a strategy to solve the problem of its great proportion of over aged learners who did not enroll at all or failed to complete the primary cycle due to the 21 years of civil war. The then de facto government of the liberated areas in South Sudan introduced ALP in 2001 (Echessa, 2009). The aim was to offer educational opportunities to many over aged children who were deprived of education due to the civil war. It was intended to expedite the learning process to allow over-aged children to catch up with their age-mates who enrolled at the right age. When Southern Sudan became a semi-autonomous region following the signing of the 2005 comprehensive peace agreement, ALP was officially adopted as part of the Alternative Education System (AES) policy. The AES was fully equipped and a full directorate in its charge was created at the national ministry level with grass root structures.

According to South Sudan MoEST (2007), the special categories of people that were the target groups of the program include the drop-out youths, out-of-school children, demobilized soldiers, young mothers, returnees, returned abductees, separated or orphaned children and young people with disabilities. The program however, later on admitted learners that needed some basic competences or attain an academic credential.

In regard to the needs, the ALP in South Sudan was primarily designed to enable the coverage of the primary level course. Since the education system of South Sudan is 8-4-4 (that means 8 years of primary, 4 years of secondary and 4 years of university education), the ALP syllabus is developed in such a manner that, two classes of primary education are completed within an academic year. The learners enrolled in this program are therefore able to complete their primary education in just four years. At the end of the four years, the ALP learners would be made to sit for the same primary leaving examination with those who study through the normal program.

The ALP policy handbook (2007) had the following salient characteristics that were aimed at improving the efficiency of the program;

Special teachers would be trained with a specialization in handling ALP
The ALP cycle will have duration of 4 years, with multiple entry and exit points. Entry to level 2 and above will require proof of previous knowledge and skills. This can be determined through assessment tests or by a recommendation of competency.
After completing level 4, the learner will sit for the Southern Sudan Primary Education Certificate and will transit to the mainstream education cycle at secondary level. The ALP program will be implemented in primary schools where formal education is offered until a special centre for ALP is completed. Evaluation to monitor progress of the programme will take place through a learner wise tracking mechanism, visits to the ALP centres by the supervisors and monthly interaction with the teachers.

ALP has been looked at as one way of improving the quality of non-formal education by which a country can provide teaching to the out of school children (Chauye and Nampota, 2007). Apart from acquiring basic literacy and numeracy skills, the government of South Sudan aimed at having ALP graduate with comparable academic standards to those in the regular program. Scott and Conrad (2001), in a review of 100 articles provided evidence that outcomes from compressed courses were equivalent to those from traditional course formats. Dabi and Ayite (2005), argue that the short time given for ALP learners to attend classes is to help them balance their other commitments such as looking after their children while studying.

In doing this the learners may find it difficult to do personal study so as to catch up with their counterpart in the formal program with plenty of time to do academic work.

Challenges Encountered in Implementing ALPs

Rumberger's Institutional perspective framework guided this study to explore the challenges encountered in the implementation of ALP in South Sudan and propose mitigation measures. The framework gives an insight in the understanding of the various factors that affect the academic standards of learners in any institution of learning. Rumberger (2004) proposed the institution perspective framework, which focuses on the school characteristics, policies and practices. Rumberger argues that structural features of school such as the size, the resources available to the school, and access to high quality teachers influence academic standards of learners. The framework also focuses on student attributes, student background characteristics, student engagement in schooling, and educational performance. There is a strong relationship between student background characteristics and academic standards of learners. Accelerated learning program is not exceptional as far as the learners and institutional characteristics described in the framework above are concerned. Needless to say, ALP programs are bound to encounter several challenges that are either institution-based or learner related (Mono, 2017).

The form of ALP employed in addressing the needs of learners that arise from an emergence is normally characterized by limited human and financial resources hence affecting the efficiency of the program (Chalick, 2005). The ALP in South Sudan is even expected to be characterized with many bottlenecks owing to the convoluted political history of the country. Most ALPs were introduced as an emergency strategy that fills the gap not easily addressed by the formal educational system, and South Sudan is no exceptional.

As noted by Charlick (2005), ALP centres tend to be run by volunteer teachers with very low academic and pedagogic competences. Such teachers would need to improve the level of competence through both in-service and pre-service teacher training with ALP as an area of specialization (MoEST, 2007). An ideal teacher under ALP would be equipped with the right knowledge, skills and attitude of handling the type of learners under ALP program.
The problem of low level teacher competence under ALP does not only affect the teaching department but also the inspection, supervisory and decision making departments. Charlick (2005) identifies acute shortage of competent professionals at every level of education. It should be noted that the academic standards of ALP learners to a greater extent depend upon the nature of their teachers. In any learning program, teachers play a crucial role in influencing the students' academic achievement (Afe, 2001).

Prejudice against categorizes of students such as the persons with disabilities and the over aged learners tend to surface under ALP. The level of awareness in teachers in minimizing such attitudes matters because they are regarded as agents of change in society. Rena (2000) reports some difficulties for regular classroom teachers to accommodate learners with special needs in their classrooms; such as the over-aged and handicapped. This may be due to teachers feelings like being inadequately prepared to serve the needs of such learners because they are often termed as slow (Krischler & Pit-ten Cate 2019).

The Education for All (EFA) National review report (2015) also points out a number of challenges facing ALP as being institutional. Among others, the teacher remuneration, inadequate numbers of qualified teachers and other human resource limitations; inadequate physical facilities and infrastructure of schools; and gaps between policy formulation and implementation are key threats. Whereas ALP is among the key innovations in education, it is very important to acknowledge that there are unique institutional challenges that are bound to curtail this program. This is especially important for a new nation like South Sudan that is still battling with the process of reconstruction and institutional building (Rose, 2007).
Although the safety of the area plays a great role in the implementation of the curriculum, many ALP centres tend to have insecurity challenges (EFA Global Monitoring Report, 2011). According to UNICEF (2017), more than 25 million children between 6 and 15 years old, or 22 per cent of children in that age group, are missing out on school in conflict zones across 22 countries. Armed conflict regions worldwide have big numbers of the school going age children dropping out. What is the situation with South Sudan as one of such zones where most of the population leave the country for refuge or stay in IDP camps (UNICEF, 2017)? Armed conflict does not only affect the learners and teachers psychologically but also has a real bearing on the economic and social setup to the location (GPCEA, 2018).

The nature of the home backgrounds may also pose affect the functioning of ALPs. Some learners may find themselves as the first in their families to enroll under ALP. Many non-traditional students are the first generation in their families to have the opportunity to attend institutional of education. Biswas (2007) observes that pupils' success at ALP schools is closely related to their home backgrounds. As a result, students who are unfamiliar with the internal processes and often confronted with the initial challenge of simply understanding the process for registration, financial aid and how to effectively select courses for a specified degree or certificate program (Rugh and Gillies, 2000). The high expectation of families and absence of guidance is likely to affect the ability of the students to perform academically (Ombaka, 2005).

Instruction under ALP is usually hampered by language barrier. Learners are subjected to challenges in the medium of instruction. In most cases, students have always learnt in a second language that is usually foreign. Majority of the learners are unable to understand what is written or read in the text, but rather memorize to pass examinations without knowing the meaning (Milan *et al*, 2005). Education in a local language promotes understanding as opposed to learning by cramming. Language barrier in South Sudan is even worse since students first started learning in Arabic and then later on required to learn in English (Mono, 2017). This study sought to explore the challenges encountered in the implementation of ALP in South Sudan and propose mitigation measures.

Problem Statement

South Sudan is one of the countries with the highest illiteracy rate in the world, where 84% females and 73% males are illiterate. On average, it is only 27% of the adult population that can read and write (MoEST, 2014). To combat illiteracy, ALP has been introduced as a government supported innovation meant to serve children who missed formal schooling due to factors beyond their control (Miklancie, 2005). Together with some development partners, the government of South Sudan recognizes the need to accord education to the disadvantaged groups. The main purpose of ALP was to increase access to education and uplifting the academic standards of people affected by emergencies (MoEST, 2007). Whereas the ALP guidelines clearly describe the procedure required to produce competent graduates, in South Sudan the innovation faces many challenges. Despite the prevalence of ALP,

the dropout rate in primary schools still remains high in South Sudan (Walters, 2016 and Kiden, 2017). What has contributed to high dropout rate in South Sudan amidst the implementation of ALP? This study was intended to explore the prevailing challenges and to mitigate measures to the ALP program in Juba County, South Sudan.

Purpose of the study

The purpose of this study was to explore the challenges and mitigate measures in the implementation of ALP in Juba County.

Specific Objectives

To identify the institutional challenges in the implementation ALP in Juba County

To identify the learner challenges in attending ALP in Juba County

To establish the mitigation measures to the challenges facing the implementation of ALP in Juba County.

Methodology

The study adopted a survey research design where both qualitative and quantitative techniques were applied.

Study area and Sample Selection

The study was conducted in Juba County of South Sudan. Juba County was selected because it was relatively peaceful and the insecurity had not greatly affected the operation of the schools compared to the other locations. Likewise, being within the location of the capital city of the country, it was one of the modest counties where most of the social services existed. In Juba County there were 23 ALP centres by then. However, during the time of data collection, only 11 were fully functional due to the political crisis (Jan, 2017). Out of those 11 ALP centres, only 8 (73%) were randomly selected for the study. From the 8 ALP centres, head teachers were purposefully selected to represent the administration of each school.

Through purposive sampling 4 (80%) education officers were selected to represent the local education authority that participated in this study. Likewise 18 (78%) teachers represented all the ALP teaching staff. The ALP teachers who participated were selected on basis of having teaching experience of one year and above at the ALP centres. 120 ALP learners were randomly selected out of the expected 123 learners from the 11 ALP centres. Purposive sampling helped in getting information from those informants who were expected to be knowledgeable about the topic under investigation. On the other hand, the random sampling of both ALP centres and their corresponding learners did not only ensure minimization of research errors, but also enabled generalization of the research findings.

Research instruments

Interview guide: Interviews were used to collect in depth information on ALP and academic standards of learners. These interviews basically targeted the teachers, administrators and local leaders. Interviews were used because they have the advantage of ensuring probing for more information, clarification and capturing facial expression of the Interviewees, (Amin, 2005).

Questionnaire: This tool was used to ensure the high rates of responses, as well as allowing for clarification of possible ambiguities related to questions asked (Amin, 2005). The researchers held discussions with the respondents and the data obtained

during discussions was compared with data from other instruments to ascertain correctness. In these questionnaires, a five-point Likert scale was used to ease data processing, collection and analysis.

Observation checklist: The researchers also utilized an observation checklist to record what they came across during the data collection.

Data collection procedure
The researchers first had to obtain and train three research assistants to help in administering the questionnaires to the ALP in some centres. Questionnaires were then administered, followed by interviews and observations in the week that followed.

Data analysis
Quantitative techniques were used to analyze quantitative data and these included using frequency counts, percentages and simple descriptive statistics. All the qualitative data collected from key informants, interviews and documentary analysis was edited on a continuous basis to ensure completeness. Data collected with the use of interview schedules was put into meaningful and exhaustive categories according to emerging variables from each question in the interview guide.

Data quality control
To establish content validity, the instruments were given to some three experts who were knowledgeable in the area of accelerated learning and also in construction of research instruments to evaluate the relevance of each of the items. Each item was rated on the scale of: very relevant (4), quite relevant (3), somewhat relevant (2), and not relevant (1). From this rating, items rated 4 and 3 were grouped as relevant while 2 and 1 were grouped as not relevant. Content validity index of 0.78 was obtained using the relation CVI where; CVI = content validity index, ***ne*** = number of items rated by the experts as relevant, ***N*** = total number of items rated by the experts. For the reliability of the instruments, the researchers used the test; re-test method on respondents. SPSS application was used to compute Cronbach Alpha Coefficient and the questionnaire was found to have an Alpha coefficient of 0.81, hence regarded as highly reliable.

Findings
In exploring the possible challenges that affected the implementation of ALP in the County, the researchers categorized these into the institutional challenges and the learners' challenges in attending to ALP in Juba County. The findings revealed the following.
1.5.1 The Institutional Challenges in the Implementation of ALP in Juba County
The researchers used a questionnaire to collect information about institutional challenges in the implementation of ALP in Juba County. The questionnaire was made up of four sections. Section A consisted of items on respondents' background information such as age, gender, experience and level of education, section B consists of institution-based challenges items, section C consists of learner challenges and section D had the mitigation measures. The Likert scale questionnaire had five scales of responses ranging from Strongly Agree (SA), Agree (A), Uncertain (U), Disagree (D) and Strongly Disagree (SD). However, in the analysis, strongly agree and agree were combined to mean Agree and strongly disagree and Disagree were combined to mean Disagree. Those who did not chose any of the options were combined with those who chose Uncertain. The questionnaire was later followed by conducting an interview with key informants, checking the available documents in the relevant offices and making personal observations in targeted areas.

Background information of the respondents

The demographic characteristics of the respondents encompassed gender, age bracket, Marital Status, education level, work experience and job. The studies revealed that majority of the respondents (76%) were male compared to the 24% females. The age of the learners according to the results was 15-18years with the highest proportion of respondents (38%) followed by 35.3% in the age group 19 -30 years with the least proportion of respondents. By work experience, the highest number of staff with 36.7% had worked between one to five years. On the other hand, those with work experience from 11 to 15years and above 15years had the lowest number represented by 10% each. But 20% of the staff was old enough in the program to provide links about the historical background of the program. Regarding education background, most of the staff (46.7%) was secondary school leavers, followed by 33.3% who were certificate holders and 13.3% had diplomas. The least proportion (6.7%) was intermediate leavers (a level of education between primary and secondary school in the former Sudan). The highest level of education among the staff was therefore the diploma. The findings from the questionnaire are presented in the table below.

Table 1: Institutional Challenges the implementation of ALP in Juba County

	Institutional challenges in the implementation ALP in Juba County	Agree		Uncertain		Disagree	
		req	%	req	%	req	%
1	There is poor management of ALP centres by the school administration	67	48.6	21	15.2	50	36.2
2	Teachers are not motivated to perform their work as expected	96	69.6	09	6.5	33	23.9
3	The ALP text books provided for this centre are inadequate for the learners	79	57.2	11	8.0	48	34.7
4	There is congestion in the ALP class rooms	3	6.7	2	7	03	4.6
5	The class room structure is not conducive for learning especially during harsh weather conditions	79	57.2	08	5.8	51	37
6	The teachers do not use other material like real objects and charts to teach their lessons.	75	54.3	26	18.8	37	26.8
7	The county and Payam education supervisors rarely come to the centre to supervise and provide support to the teachers.	83	60.1	24	17.4	31	22.4
8	There are no facilities for co-curricular activities at the ALP centres	55	39.9	14	10.1	69	50
9	The teachers do not use and keep attendance registers and records of learners' marks.	54	39.1	45	32.6	39	28.2
10	No stationary and other scholastic provided to the school by either the government or other NGOs	29	21	12	8.7	97	70.3
11	No finances for maintenance and development of school facilities	113	81.9	04	2.9	21	15.2
12	There is high rate of learner absenteeism at the centre.	88	63.7	16	11.6	34	24.6
13	The ALP teachers are not adequately trained for the program	92	66.7	10	7.2	36	26.1

Source: primary data

The findings in table 1 above showed that there were numerous institutional challenges confronting the implementation of ALP in Juba County. Following the information obtained from the respondents, the most serious challenges pointed out in descending order of the percentage of respondents who agreed included; 81.9% of the respondents that there is no money allocated for maintenance and development of the school infrastructure compared to 15.2% who disagreed.

Another institutional challenge that also attracted a high level of agreement among the respondents was the issue of poor motivation of the teachers thus affecting their commitment to work. 69.6% of the respondents comprising 94.4% of the teachers and 65.8% of the pupils agreed on the above compared to 23.9% of the respondents who disagreed. In an interview, one of the supervisors lamented about the limitation of finances to support their work on the ground.

I am telling you we have not even received money for running the centre for the last four months including our salaries. So how do you work effectively when you don't even have the necessary requirement for doing the work? ..... Most of the government automobiles are now grounded due to lack of funds for maintenance....

The low level of teachers' competence was another challenge that respondents highly agreed was facing the implementation of ALP. 66.7% of the respondents agreed compared to the 26.1% who disagreed that the ALP teachers were not adequately trained. This challenge was clearly shown in the background information of the staff (teachers, head teachers and inspectors/supervisors) where majority of them (77.6%) where of secondary level or below. Learner absenteeism is another institutional challenge that was greatly pointed out by the respondents attracting 63.7% of the respondents to agree, compared to 24.6% who disagreed. During the interview, one key informant was quick to blame both teachers and learners' irregular attendance to the biting economic situation in the country. "...these teachers and the learners have families to take care of and as you see currently in Juba, every family needs to diversify its sources of income in order to survive....."

Inadequate support supervision to the teachers in the learning centres by the local government supervisors was also another great area of concerned revealed in the findings. 60.1% compared to 22.4% of the respondents agreed and disagreed respectively about the existence of the challenge. The percentage that agreed about this challenge comprised 77.8% of the teachers and 57.5% of the pupils. Concerning the availability of materials like textbooks, 57.2% of the respondents agreed that the textbooks for ALP are not enough for the learners at the centres. However, 34.7% disagreed with the statement.

In an interview, a key informant admitted that the ALP text books were last printed in 2010 and distributed up to 2012 by the NGOs that were implementing the program. This means that the newly opened ALP centres have not got the opportunity to be supplied with the text books. Lack of conducive learning environment especially class room that cannot protect learners from harsh weather conditions was also a challenge that 57.2% of the respondents agreed. On the other hand, 37% of the respondents disagreed with this.

Through observation, one centre was also found with learners studying under trees. The teacher admitted that, such structures are very challenging to teach due to difficulties in placement of learning materials. He added that, external activities too destruct learner's attention when they happen to study under trees. From the

findings other challenges as seen from the numbers of respondents who agreed included the limited access to and use of learning aids, poor management of the activities of the ALP centres and the lack of facilities for co-curricular activities, lack of scholastics material and congestion in the classrooms. Actually, all the centres that the researchers visited had fewer than 20 learners in class at level four.
In an interview at one of the centres in Juba town, a teacher said "this school had a big piece of land that could be used for making fields for co-curricular activities but a large chuck of it has been taken by land grabbers"

The findings from documentary analysis showed that a lot of information especially about previous students' records was missing in the head teachers' offices. Some head teachers during an interview blamed this anomaly to reprehensible handover of office from one head teacher to another.

The learner challenges in attending ALP in Juba County
To be able to understand the learner challenges in attending ALP, the researchers designed a Likert scale questionnaire to collect responses from learners and teachers. This was later followed by conducting an interview with key informants, making personal observations in targeted areas and carrying out document analysis of some key ALP documents. The findings from the questionnaire are presented in the table below.

Table 2: Learner challenges in attending ALP in Juba County

	Learner Challenges in attending ALP in Juba County	Agree		Uncertain		Disagree	
		freq	%	freq	%	freq	%
1	Poor performance of the learners discourages them in their studies	92	66.7	17	12.3	29	21
2	Lack of support given to the learners by their families and the community.	64	46.4	08	5.8	66	47.8
3	ALP learners are not comfortable studying in the formal schools fearing to be seen by the young pupils.	52	37.7	06	4.3	80	58
4	Insecurity around the ALP centres affects the learners studies	97	70.3	02	1.4	39	28.2
5	Some learners walk distances longer than 5miles to the ALP centres	69	50	34	24.6	35	25.4
6	Inadequate time for ALP learners to do personal studies and interact with their teachers	114	82.6	00	0	24	17.4
7	The responsibilities at home affect the studies of ALP learners.	102	73.9	07	5.1	29	21
8	Inadequate scholastic materials for ALP learners to support learning.	45	32.6	16	11.6	77	55.8
9	Language problem since some learners are from Arabic background and ALP classes are taught in English.	99	71.7	03	2.2	36	26.1
10	The compressed curriculum makes it very difficult to understanding and retain the knowledge	90	65.2	10	7.3	38	27.5

	Learner Challenges in attending ALP in Juba County	Agree		Uncertain		Disagree	
		freq	%	freq	%	freq	%
11	Low household income which makes learners unable to support both their studies and the family.	119	86.2	06	4.4	13	9.4
12	There is a poor teacher-learner relationship which affects learning	56	40.6	38	27.5	44	31.9
13	Lack of time for co-curricular activities affecting the natural talents of the learners.	78	56.5	24	17.4	36	26.1

Source: primary data

Table 2 above presents the findings from the respondents about the learner challenges in attending ALP in Juba County. The most highlighted challenge was low house hold income which makes ALP learners unable to support both their studies and the families. This challenge was indicated by 86.2% of the respondents agreeing compared to the 9.4% who disagreed. The percentage that agreed comprised of 87.5% of the learners and 77.8% of the teachers. As revealed in an interview with one of the teachers, whereas ALP is fully funded, the learners would wish to receive at least a small contribution from the government for survival. A key informant had this to say; ALP learners are adults who returned to school on their own without being compelled, they have tested the consequences of not being educated before taking up the steps to enroll in the program. Had it been that they were fully supported including an allowance to cater for their families, they would have showed the highest level of commitment and even performed better than those young pupils in the regular primary schools. Unfortunately, that is not the case and the family survival is not something to think about when it comes to considering priorities.
The time for face to face interaction with the teachers was also another challenge that was greatly identified by the learners. 82.6% of the respondent comprising 85% of the pupils and 66.7% of the teachers agreed with the statement compared to the 17.4% of the respondents who disagreed.

The responsibilities at home alone pose another challenge that ALP learners face in attending to their studies. The findings in table 2 above indicated that 73.9% of the respondent agreed with the fact that family responsibilities greatly affect the studies of ALP students compared to 21% who disagreed while 5.1% were uncertain. Further, one head teacher during an interview narrated that;

You know many girls are married off at a very young age in South Sudan. By 18, someone may have up to three children. This is a very big responsibility which cannot allow such a mother to go back to school and if she got the opportunity to enroll, then balancing studies and the mammoth family responsibilities becomes a very big challenge.....

Also one leaner pointed out that; - “for the male students, a lot of time may be required planning for the welfare of the family and working hard to see to it that dependents have the basic needs hence sparing little time for concentrating in their studies”.

This challenge is even worse with the married women who are the sole care takers for the babies at home in addition to their other contributions to the family welfare.

This is probably the reason why there were a few female learners in the program and specifically less percentage of married females compared to their male counterpart.

The results also revealed that 71.7% of the respondents agree that using English as a language of instruction greatly affect the understanding of some of the learners especially those who come from Arabic background. Only 26.1% disagreed while the 2.2% were not certain. Those who agreed consisted of 69.16% of the learners and 88.9% of the teachers.
A key informant during an interview had this to say;

The challenge about the use of English language was a real one especially here in Juba from 2005 when CPA was signed. As you know Juba had been under the control of the Arabs throughout the struggle and most people never had the chance to learn in English like their colleagues who were in SPLA controlled areas. When English was declared the official language of the Southern Sudan in 2005, both teachers and learners had great problems with adapting to the language. However, the problem is slowly phasing out as many people have now learnt English and also outsiders especially from East Africa have come to Juba hence influencing the growth of the English language.

Arabic had been the official language of Sudan for which South Sudan formed part and when opted to use English as the official language there is “hangover” of Arabic; as not yet left the county.
The effect of insecurity on the studies of the ALP learners was also identified as a challenge with 70.3% of the respondents agreeing compared to the 28.3% who disagreed while 1.4% were not certain. In an interview with a school head teacher, it was revealed that since South Sudan descended into civil war after independence. There also cases of insecurity that as well. Even poor performance in continuous assessment causes anxiety among learners as it de-motivates their inputs in attempting the external assessment.

The compressed curriculum as a characteristic of ALP was another challenge that the learners faced. This was revealed by 65.2% of the total number of respondents who agreed compared to 27.5% who disagreed and 7.3% where uncertain. Those who agreed were mostly learners with only 16.7% of the teachers supporting this argument.

Other challenges in the table 2 that also attracted quite a high rate of respondents to agree included; lack of time provided in the curriculum for co-curricular activities like sports, athletics and others which were said to affect the natural talents of the learner. 56.5% of the respondent agreed the lack of co-curricular activities do affect the natural talents of the learners, 26.1% disagreed while 17.4% where not certain. The challenge of having to walk for long distances to the ALP centres was indicated by 50% of the learners agree, 25.4% disagree and 24.6% uncertain. Lack of support given to the ALP learners by their families and the community as a learner challenge in attending ALP in Juba County had 46.4% of the respondents agree, 47.8% disagree and 5.8% were uncertain. Poor relationship teacher-learner relationship was also a challenge that attracted 40.6% of the respondents to agree compared to 31.9% who disagreed.

Other learner challenges revealed from the study address the fear by ALP candidates to study in the formal schools in an environment where they would be seen and interact with the young learners in the normal program. It was 37.7% of the respondents who agreed with this challenge compared to 58% who disagreed. About

the inadequacy of scholastic material, it was only 32.6% of the respondents who agreed that there was a problem of adequate scholastic materials like books, pens and others compared to 55.8% who disagreed with the challenge.

Mitigation Measures to the Challenges facing the Implementation ALP in Juba County

In investigating the mitigation measures employed against the challenges threatening the implementation of ALP in Juba County, the researchers largely used a questionnaire to collect information from the highest proportion of the respondents comprising of ALP teachers and the learners. An interview guide was also latter on used to collect information from the head teachers in the ALP centres and the local education leaders at the county and Payam Level. The questionnaire designed was a five-point Likert scale with responses ranging from strongly agree, agree, uncertain, disagree and strongly disagree.

Table 3: Mitigation measures to the challenges facing the implementation of ALP in Juba County

	Mitigation measures to the challenges facing the implementation of ALP in Juba County	**Agree**		**Uncertain**		**Disagree**	
		freq	**%**	**freq**	**%**	**Freq**	**%**
1	There has been continuous improvement in maintenance of infrastructure and construction of new class rooms.	44	31.9	32	23.2	62	44.9
2	The ALP teachers get in-service and short course training to improve their teaching skills	88	63.8	25	18.1	25	18.1
3	Teachers get regular salary increments and other allowances to motivate them.	18	13	28	20.1	91	65.9
4	There is regular re-stocking of text books and other required stationary	55	39.9	08	5.8	75	54.3
5	The authorities do sensitize the community to make them understand ALP and support it	32	23.2	12	8.7	94	68.1
6	There is construction of ALP centre that are separate from formal schools	15	10.9	57	41.3	66	47.8
7	The security situation is improving around the ALP centres	28	20.3	21	15.2	89	64.5
8	ALP centres are being constructed in every Boma to reduce the distance for the learners	49	35.5	39	28.3	50	36.2
9	Other education partners like the church and NGOs help the government in implementing ALP	100	72.5	09	6.5	29	21
10	Incentives are given to disadvantaged groups e.g (girls, disabled) to help them compete favorably	109	79	12	8.7	17	12.3
11	Learners with English language problems are given special attention through intensive English course	61	44.2	18	13	59	42.8
12	Teachers improvise local material to use as learning aids	43	31	40	29	55	40
13	Head teachers and local education leaders are given short course management trainings	82	59.4	26	18.8	30	21.7
14	There is continuous re-stocking of stationary and other scholastics material	112	81.2	10	7.2	16	11.6

Source: primary data

The finding in table 3 above revealed that whereas there are numerous challenges facing the implementation of ALP in Juba County, the stake holders have managed to put in place some measures for the good of the program. Judging by the percentage

of respondents who agreed to the mitigation measure statements on the questionnaire, the following were in descending order identified as the mitigation measures; -

Looking at stationary and other scholastic materials for use, 81.2% of the respondents comprising 83.3% of the learners and 66.7% of the teachers agreed that stationary and other scholastics materials were continuously provided to the centres to enable operation compared to 11.6% who disagreed. One head teacher revealed that; -

Whereas the financial ability of the government has been greatly abridged, partners like UNICEF still provide some periodic support to education from the donor funds. Stationary and other scholastic materials are one area that is highly supported to keep schools in South Sudan operational. This has greatly helped the ALP program to continue operating amidst the difficulties.

Another area that was indicated by respondents as being provided for is the incentives to the most disadvantaged groups among the ALP learners such as the disabled, orphans and the females. 79% of the respondents comprising 83.3% of the teachers and 78.3% of the pupils agreed about this compared to 12.3% who disagreed. In an interview, a key informant explained that;

There are NGOs currently in South Sudan that support special categories of disadvantaged learners in South Sudan. For example, many learners with disabilities have benefited from a support given by “Dark and Light” an NGO that supports people with disabilities. The female learners have also benefited from the GESS program. In this program, all female learner in upper primary classes are given incentives in form of pocket allowances and scholastic materials

About collaborative support from other partners in the implementation of ALP, 72.5% of the respondents consisting of 83.3% of the teachers and 70.8% of the ALP learners agree that government efforts in the implementation of ALP were being supplemented by education partners while 21% disagreed and 6.5% were not sure.

Apart from support given in form of provision of the necessary materials such as land and other resources, partners have gone to the extent of supplementing government provision by opening private ALPs. The county education director in an interview revealed that;
... there are two types of ALP centres in Juba, the government owned and the privately owned institutions. The privately owned institutions can further be categorized into church founded institutions, NGO founded institutions, Community founded institutions and Individual founded institutions.

This shows that the government has received collaborative support in implementation of ALP in Juba County.

About the area of teacher training, 63.8% of the respondents agreed that special short course skill trainings are being given the teachers to improve their capacity while 18.1% disagreed. The percentage that agreed was made up of 72.2% of the teachers and 62.5% of the learners. One head teacher explained that, before the 2013 insurgency, the government had opened County Education Centres (CECs) which were aimed at providing in-service teacher training to the vast numbers of untrained teachers across the country. One county education director revealed that; The teachers of ALP have benefited in the recent short course trainings such as the

literacy skills training, pedagogy skills training and others conducted in the Supiri CEC of Juba County. Unfortunately, these trainings target a limited number of teachers and also lack continuity.

59.4% of the respondents consisting of 77.8% of the teachers and 56.7% of the learners also agreed that education managers like the head teachers and supervisors received special short course management training. This is in contrast to the 21.8% of the respondents who disagreed while 18.7% were not certain.

Another mitigation measure that attracted just below average response of agree from the respondents was 44.2% of the respondent agree that intensive English lessons were given to learners who had problems with lessons conducted in English compared to 42.8% disagreed.
39.9% of the respondents also agreed that text books were being re-stocked in the centres compared to the 54.3% of the respondents who disagreed.

About the construction of ALP centres in every Boma to reduce the distance trekked by the learners to the centres, 35.5% of the respondents agreed that this is being done, while 36.2% disagreed. The problem of walking long distances does not seem to be a serious one in Juba. The issue of infrastructure improvement through maintenance of old structure and construction of new classroom had 31.9% of the respondents agree, 44.9% disagreed and 23.2% were not certain about it.

However, in an interview with one of the local education authorities, he said; “Much as government has established ALP centres, there are some I have visited especially in the rustic parts of Munuki payam, where I found a number of them either still taking place under trees, or in ramshackle walls”. The above assertion reveals that even though the government has constructed some ALP centres in every Boma to reduce the distance trekked by the learners to the centres in Juba County, much more was still wanting in terms of infrastructure quality. The aforesaid scenario was also observed by Nicholson (2018) who reported that while some ALP centres still operated under trees, others were characterized with limited classrooms, no doors, poor light and ventilation, collapsed walls and blown off roofs.

Regarding the use of local materials as learning aids by the teachers, this was support by 31.2% of the respondents who agreed compared to 40% who disagreed, while 29% were not certain. It is likely that the trained teachers and those who had the opportunity to attend short courses learn the skills of making teaching/learning aids from locally available materials.
The least addressed areas basing on the response rate from the respondents included, sensitization of the communities about the ALP so as to win their support for the program. There were 23.2% of the respondents who agreed that the above was being done compared to the 68.1% who disagreed while 8.7% were not certain. The percentages for agree and not certain were all made up of ALP learners only, while all the teachers disagreed. Likewise, improving the security situation in the environment of the ALP centres had 20.3% of the respondents agree that it was being done while 64.5% disagreed.

Regarding improving the motivation of the teachers by giving regular salary increments and other incentives as another mitigation measure, 16.7% of the teachers and 12.5% of the pupils agreed it was being done, while 65.9% disagreed and 20.1% were not certain. During interview interaction with key informants, it was revealed that ALP teachers who served in NGOs and private schools were most likely more motivated than those in the government schools especially in the wake of the

current economic crisis. This was probably the basis for some participants being in support that there was motivation in terms of salary increments even though some in government owned centres might have expressed disagreement

During the interview with one key informant, he observed the significance of opening of vocational centres. He stressed that;-

> For ALP candidates that either have not achieved the pass mark to go for secondary education or want to pursue vocational course by choice would join some vocational institutions. These would act as an alternative path for our ALP graduates who would not have achieved the pass mark for entering secondary schools.

Another measure advanced by one education officer was the establishment of the quality promotion department at the national ministry of education with structures at the local level. The education officer while emphasizing the role of national ministry of education said:-

> The establishment of the quality promotion department would be concerned with monitoring and ensuring the training of teachers and other employees of the ministry of education. The department would also be concerned with evaluating and making recommendations on curriculum review.

Another education officer who observed the vitality of national dialogue as a mitigation measure had this to say;-

> The national dialogue is both a process and a forum that brings together all the South Sudan to chat a way forward and air out their concerns. The national dialogue is expected to annihilate the use of violence and to solve political problems and encourage peaceful means of achieving political goals. If successful, this measure would solve the problem of insecurity and violence that has affected ALP as a national program.

As observed by Bilagher & Kaushik (2020), ALPs are essential in addressing key needs of learners in conflict affected areas. It is obvious that through ALPs children are compelled to be busy with academics, and gain positive characters for their own future as they become less vulnerable to participation in the prevailing subversive practices. This is a lesson not only to South Sudan, but also to other conflict affected regions of the world. ALPs are praised for providing a second-chance opportunity to learners to complete formal education, a factor that enables underprivileged learners to catch up with their peers (Menendez, 2016)

Conclusion

Whereas it is normal for any program to be confronted with challenges, it is very important for setback to be clearly understood and to provide appropriate mitigation measures to minimize their effect (Echessa, 2009). ALP as an emergence strategy in South Sudan has not been exceptional to this general trend. However, compared with other ALPs in different parts of the world that was developed to address similar situations, some of the challenges in South Sudan such as the current insurgency were not foreseen and their impact has been more hazardous to the program.

The learner and institutional challenges in the implementation of ALP can be categorized as political, economic, social and technical challenge (UNICEF, 2014).

The political challenges encompass the civil unrest that has created insecurity and untold human suffering and interference in education thereby affecting the operation of ALPs (Mono, 2017). The economic challenges imply lack of financial resource to roll out well designed educational plans and government policies as well as low household income. The social challenges on the other hand include lack of commitment and support from the community and other stake holders in the implementation of the ALP policy. And finally, the technical challenges entail the low level of human resource competence in the implementation of the ALP policy.
Despite the challenges, the government has seen ALP as a justifiable aspiration and is working with partners to mobilize resources aimed at supporting the program. The construction of TVET facilities that increase the absorption of ALP products is another mitigation measure the government has invested in to maintain learners in the program.

Recommendations
Based on the findings of the study, the following recommendations would help to improve the success of ALP: -

The researchers' findings showed that over 60% of the ALP teachers are untrained and the few trained teachers were not trained in relevant methodology. The government therefore should put more resources in teacher training. Teachers are the primary implementers of the ALP and therefore, without the necessary skills there will be no fruitful results expected from the program.

Staff retention strategy that motivates teachers to remain committed in the program would be employed. Since the research results revealed that staff retention is one of the institutional challenges undermining the implementation of the program, there is need to make the program competitive by giving an attractive pay to the staff. Another motivation factor that could attract and keep teachers in the program is opportunity for further studies and job promotion.

Whereas the study found out that a number of workshop trainings have been conducted for teachers, there is need for education partners to refocus their effort to providing full professional teacher training as opposed to the short course skills training. This is because a lot of resources have in the past been invested on short course teacher trainings that address fragmented skills and with little improvements observed. Full course in-service or pre-service teacher training would therefore be a better option.

There is need to find a lasting solution to the political problems that have affected the functioning of ALPs and the entire education sector. All political and community leaders of South Sudan should join hands in bringing peace to the country as a major pre-requisite. This will lead to reconstruction of the economy and reduce household poverty that has affected the implementation of ALP. It will also reduce the problem of insecurity and violence that is the root cause for the many disadvantaged groups who were supposed to bridge the gap of the lost school time by enrolling for ALP. The management of the ALP centres needs to be equipped with managerial skills that can enable them to adequately perform their job. Supervision, human resource, planning and resource mobilization, are some of the essential skills required by ALP managers

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In-Service Teacher Training and Effective Implementation of the Revised Lower Secondary Curriculum in Uganda

Angela Kyagaba

Abstract

According to Rogers (1973), the quality of the teacher largely determines the quality of the educational system. Nevertheless, focus on in-service teacher education during the recent curriculum reviews in Uganda, has continued to be neglected due to inadequate planning and funding given to in-service support for teachers. John Olson (1977) observed that 'most curriculum projects have emphasised the production of new materials and their implementation but with certain limited role for the teacher.' This challenge was years later reported in the 2008 World Bank paper that 'Teacher knowledge and practices are the primary factors affecting the improved students' learning outcomes.' Although a lot of effort has been put in updating school curricula at the different levels of education, provision of in-service teacher education programmes, so as to support the teachers to implement the new curriculum, has not been given the due attention which it requires. The problem which this study set out to investigate is whether the practising teachers in Uganda are adequately prepared to deliver the revised lower secondary curriculum and the competencies they require in order to help the learners realise the intended learner competence.was how the current teacher competence will foster the achievements of the learners in the new competence based curriculum. The objective of the study was to identify the teacher requirements for effective teaching of a competence based curriculum in preparation for the roll out of the new lower secondary curriculum. The data in this paper was collected from the literature reviewed and the findings from the study showed that the pedagogical practices which teachers will need while in-service include induction, coaching and training workshops. For the challenges facing in-service training the study showed that it was mainly lack of funds to support the continuous professional development programmes and the negative attitude by the teachers, towards change which has been experienced under the current Science and Mathematics capacity building programme in Uganda.

Key words: implementation, in-service, instructional change

Introduction

The introduction of Universal Secondary Education in Uganda in 2007 opened up access to education at this level for many primary leaving learners. This followed the Education Sector Strategic Plan (2009 – 2018) which set out to improve the quality and relevance of secondary education. The strategies included, making more efficient use of teachers' and learners' time and other resources, reducing the course load and giving priority to competences for the workforce and higher education, among others.

In response to the introduction of Universal Secondary Education, the Ministry of Education and Sports took a decision to review the Lower Secondary Curriculum to improve the quality of education at this level under the Uganda Post-Primary Education and Training Project. The Project Appraisal Document (PAD) for the Uganda Post-Primary Education and Training Project (UPPET 2009) describes Uganda's lower secondary sub-sector system as being weak in efficiency and in quality. The current methods of rote learning and teaching to the test are unlikely to prepare children for their future as active participants in a changing economic

environment – particularly given the increasingly diverse range of students at primary level who are now moving to post primary education.

The PAD goes on to give one of the characteristics of the system as being poor in performance, and it quotes a study by Kirungi (2000) which shows that 40% of Senior 1 students and half Senior 3 students failed math test; one-quarter of the students failed English tests, which were designed to test the basic concepts and skills in the two subjects.

The Ministry of Education and Sports (MoES) (2011) National Assessment of Progress in Education (NAPE) report points out that the students who had been subjected to tests in English, Mathematics and Biology in 2010, which concurs with the findings made by Kirungi (2000). For the NAPE tests, the proficiency levels of the students were found to be as follows: in Maths almost 62% of the sample students achieved only the basic level of competence which, according to the NAPE criteria, is not considered proficient. In Biology the proportion considered to be not proficient was over 80% while for English, where the situation was slightly better, just under 34% were rated as basic.

The NAPE Report gives a range of causes for the poor performance of the students in the Mathematics test which were: failure of the teachers to relate the concepts to daily life situations and allocating little time for problem solving tasks; use of theoretical instructions due to lack of squared chalk boards and tracing paper; teachers' deficiency in graphing skills; failure by the teachers to demonstrate the underlying principles regarding angles of polygons and inadequate practice done by the students.

A Situational Analysis conducted by the National Curriculum Development Centre (2012), as part of the preparations for the review of the curriculum, showed that the teaching styles promoted by the current overloaded content-heavy curriculum do not generate the skills needed by a 21st century workforce. The prevalent teaching style is almost solely in the form of teacher dominated classrooms with silent learners. It is driven by the need for learners to succeed in a high-stakes examination where success is determined, in the main, by an ability to learn a mass of knowledge that is largely abstract, fact-centred, decontextualized and irrelevant.

The Government of Uganda has been reviewing the secondary school curriculum since 2008 and it was rolled out, countrywide, in 2020 starting with Senior One learners The changes in the revised curriculum include the use of the competence based approach which focuses more on what an individual learner can do than what they know, reduction in the content to avoid duplications and over laps, re-design of some of the subjects such as History to include political education, Music to include drama, inclusion of Food technology to Food and Nutrition, meagre of Accounts and commerce into Entrepreneurship Education, the inclusion of ICT as a tool in the teaching and learning of the subjects on the curriculum and the introduction of technology and design. The revised curriculum requires teachers who are equipped with the necessary skills to manage the learning and teaching process, while ensuring that learners acquire the relevant skills, knowledge, values and attitude necessary for the 21st century. Currently in Uganda the in-service has been limited to only for the Science and Mathematics teachers in support of the Science policy under the SESEMAT programme of the Ministry of Education and Sports.

The teachers of the others subjects, once in a while through the associations, conduct orientation seminars/symposiums to acquaint themselves on any new

development on the syllabus. These orientations are not organized by any of the teacher training institutions and are therefore informal. But the fact that they are held sometimes annually is an indication that there is a dire need by the teachers to have such exposures.

The costed scheduled plans for the cycle of the teacher support programme proposed at the time of developing the revised curriculum that the best alternative to the one-off nationwide training would be to have school based trainings which would be more regular and cost effective in the long run.

The question that this paper seeks to address is whether the practicing teachers in Uganda are adequately prepared to deliver the revised secondary curriculum and how their competence affects the realisation of the intended learner competence.

Definition of terms

NCDC	National Curriculum Development Centre
NAPE	National Assessment of Progress in Education
SESEMAT	Secondary Science Mathematics Teacher's programme
STDMS	Secondary Teachers Development Management System
TIISA	Teacher's Initiative in Sub-Saharan Africa
UNEB	Uganda National Examinations Board

Problem Statement

According to Brain Male and Mick Waters (2012), the challenge facing many countries which are redesigning their national curriculum is how to change the teaching and learning approaches to meet the requirements of a learner centred competence based curriculum. For many decades teachers have been prepared to from those which have been used to support the teacher centred curriculum which gives all the details with no room for innovativeness, to those required to support a learner centred competence based design, which is engaging and relevant for all learners so as to develop them into becoming well-rounded individual. The competence based curriculum poses questions for educators such as what do we want young people to know and be able to do as we prepare them for life, for work and even for leisure in an ever changing world.

The problem which this study set out to investigate is whether the practising teachers in Uganda are adequately prepared to deliver the revised lower secondary curriculum and the competencies they require in order to help the learners realise the intended learner competence.

Major Objective

The purpose of this study therefore is to identify the teacher requirements for effective teaching of a competence based curriculum in the implementation of the revised lower secondary curriculum.

Specific Objectives:

1. To identify skills that are necessary for effective teaching.
2. To examine challenges of conducting in-service training.

Research Methodology

This paper used systematic literature review where scholarly articles and authoritative studies on curriculum implementation and in-service teacher education were studied and analysed. The method was identified because of the readily available authentic reports and studies, which have been carried out in

Uganda and elsewhere. These reports and studies give the impact that teacher professional development has on the learning outcomes of the learners as Uganda plans to roll out the new competence base curriculum.

Literature Review

Ways in which in – service teachers can effectively teach a competence based curriculum Musaazi (1982) asserts that the period of pre-service training is too short to sufficiently equip teachers with knowledge and skills to address the ever-changing pedagogical demands. There is therefore need for teacher effective training, which has not been done in Uganda as preparations are being made to implement the new curriculum in 2020.

In agreement with Musaazi, other scholars (Campbell & Thomas, 2013; Zepeda, 2010; Russell, 2012; Mulkeen, 2010) as cited by Malunda (2018), emphasize the central role which professional development plays in this era of change, where teachers have to continuously acquire new knowledge on new curricula and new skills, to meet the dynamic technological demands and enhance the quality of pedagogical practices.

World Bank (2018) reveals that a qualitative analysis of the End of Cycle (EOC) examinations, as provided in the Chief Examiners' reports, showed that over 52% candidates in 2015 and 58% in 2016 who sat the Uganda Certificate of Education examinations, failed to pass in at least division 3. The study further shows that the current teacher quality to deliver a curriculum which has been in existence for more than forty decades in Uganda is lacking which has impacted on the levels of access and equity to secondary education by learners thereby resulting in poor learning outcomes (World Bank, 2018). Such performance could be a result of low teacher effectiveness yet the teachers are considered a critical factor for learners' performance especially at a time when Uganda is preparing for the roll out a competence based learner centred curriculum World Bank (2013) What was not reflected in the World Bank report at that time was the readiness of the teachers in terms of the competences to deliver the new compete based curriculum.

In order to support the in-service teachers to teach the new curriculum effectively, there will be need to have a well-planned and resourced teacher support programme. Malunda (2018), carried out a study on Teacher Professional Development and Quality of Pedagogical Practices in Public Secondary Schools in Uganda. He based his study on Taylor's scientific management theory which emphasises the need to monitor actual performance of workers and compare it with the set standards to ensure conformity and provide continuous training to improve performance.

Malunda (2018) in his study agreed with Taylor's theory to say that there is need for the head teachers and inspectors of educational institutions to continuously supervise teaching practices to establish the level of teacher conformity to set standards and the challenges teachers encounter in the teaching and learning process. He goes ahead to say that inspectors should identify variations of delivery from the planned procedures and take corrective action to improve the quality of pedagogical practices. He recommends that what will be required is corrective action which includes, teacher professional development intended to address identified gaps in the pedagogical practices.

Pedagogical practices mean the various types of tasks, ways of working or types of activities and practices which guide effective teaching and learning (Lakkeal, 2011) as cited by Malunda (2018). Such practices include, among others: preparing schemes of work, lesson notes, and teaching aids; promptly setting an adequate amount of written and practice exercises; prompt and careful evaluation of all written and practical exercises; and undertaking remedial teaching to ensure effective teaching and learning (MoES, 2012).

The study by Malunda (2018) found that although the majority of the teachers (83.3%) agreed that they made schemes of work at every beginning of the term, document review revealed that most schemes of work lacked evidence of planning for teaching or learning aids and use of learner-based methods of teaching. Scrutiny of the schemes of work revealed that most teachers did not refer to the NCDC syllabus guidelines that emphasized learner-based approaches and practical teaching of the science subjects.

Failure to adhere to the guidelines was, according to the head teachers interviewed by Malunda, because the teachers found it difficult to go by the guidelines because they would not be able to complete the syllabi in time for the national examinations. Results of lesson observation showed that only 33.9% used learner-based methods. Of the 33.9% of teachers who used a variety of teaching methods, 86% were science or mathematics teachers. A review of the students' exercise books revealed that only 53.5% of teachers gave and marked class exercises.
These findings were in agreement with descriptive results of the teachers where 55% of the teachers indicated that they gave and marked class exercises. Where class exercises or homework were marked, only 37% of the teachers, made constructive comments after marking the students' work.

Teacher professional development in this paper and as supported in the study by Malunda (2018), is perceived as the in-service teacher training aimed at continual improvement of teaching, by providing teachers with the required skills and knowledge to match the ever-emerging issues and changes in education. Approaches to teacher professional development include, among others: induction of new teachers, coaching and training workshops (Zepeda, 2010; Musaazi, 2006) as cited by Malunda (2018).

Currently, institutionalized teacher professional development programmes are lacking in Uganda's public secondary schools (MoES, 2014a). The existing programmes, according to the Teachers' Initiative in Sub-Saharan Africa (TISSA) report of 2013 (MoES, 2013) are uncoordinated and lack a systematic approach for professional growth.

The need for a well-coordinated continuous teacher professional development for secondary school teachers in Uganda is emphasised by the National Assessment of Progress in Education (NAPE) report of 2014 (UNEB, 2014) which points out issues of teacher competence at the lower secondary school level. According to the report, teachers in lower secondary schools lack the competences in the subjects they teach.

An attempt by the Ministry of Education Sports to enhance effective teaching and learning through continuous in-service training of secondary school teachers under the Secondary Teacher Development Management System (STDMS), programme has failed to take off as a result of lack of funds (MoES, 2015).

The Ministry of Education and Sports has however, since 2005, with the introduction of the Science policy, offered support to teachers of the Sciences and Mathematics under the Secondary Science and Mathematics Teachers' programme (SESEMAT). This programme, was intend to improve the teaching of the sciences. The programme has trainers who were formally teachers are design the training packages and train the teachers during the school holidays. Although the Ministry houses the programme, the parents with children at the secondary level pay a small fee every term to support the holiday programmes. This fee tops up the government contribution towards accommodation, meals during the trainings. However, in spite of such support, the performance of learners in Science, specifically Biology, has continued to be poor. This calls for the need to evaluate the programme to identify the gaps, which will help to make future training programmes more effective.

The design of the revised curriculum which is competence based will necessitate re-thinking the 'stand-and deliver model' of teaching and learning with the teacher at the centre of instruction. This model, world over, has become increasingly incompatible considering the requirements for the job market (Jorgen, 2006). According to Olaf (2006), the changing needs of the learners today demand that the teachers need to expand their role beyond purveyors of information, to become facilitators, co investigators, guides and coordinators.

Rice (2003) observes that it is through in-service training that the teachers are enabled to bridge the gap between the world of pre-service training and that of the actual teaching in the classroom. If learner achievement is to be improved, teachers must have in-service training. The study by Malunda concentrated on two main concepts which are of interest to this paper: teacher professional development and quality of pedagogical practices. On teacher professional development, the study cited Wanzare and Da Costa (2000) to say that teacher professional development is a teacher training approach that aims at improving teachers' teaching methods, their ability to direct teaching to meet students' needs, and classroom management skills. Relatedly, Fullan (1995 cited in Ayeni, 2011), defines teacher professional development as any formal or informal in-service teacher training aimed at addressing the ever changing demands of the teaching profession.

The findings from the NCDC Situational Analysis (2012) indicated that there is currently no centrally operated Ministry of Education system for provision of continuing professional development for secondary teachers in Uganda. This has particular relevance to the question of implementation of the new curriculum if the country is to see the desired learning outcomes out of it. According to World Bank (2008) changing teacher's classroom practices does not work by replacement but by incremental change over sustained periods of time supported but coaching activities of peers, heads of departments and external agencies. Teacher professional development is key to more successful curriculum implementation and better student learning.
In view of the literature reviewed and in relation to the need to support the teachers, it is evident that although the teachers get initial training at college, there will be need to institutionalise teacher professional programmes, so as to have regular support given to the teachers in areas of pedagogy and content if they are to implement the new competence curriculum effectively.

Findings
The review of literature on the influence of teacher professional development on the quality of teacher practices in the classroom demonstrates that teacher professional development is a critical strategy for improving classroom instruction and learner

achievement (Russell, 2012, Campbell & Malkus, 2011; Zepeda, 2010; Mpokosa & Ndaruhutse, 2008; Musaazi, 2006 as cited by Malunda(2018). This is supported by Rice (2003) who says that it is through in-service training that the teachers are enabled to bridge the gap between the world of pre-service training and that of the actual teaching in the classroom. If learner achievement is to be improved, teachers must have in-service training.

Skills necessary for effective teaching

Rochkind and Johnson (2007) note that the success or failure of any educational programme depends on the competence of the teachers. In-service courses acquaint the practising teachers with the latest innovations in the curriculum of his/her subject. This view is supported by (Mwaura 2003) who argues that it is through in-service training , that the teacher is able to cope with new demands in his/her area of specialization intended to enhance teaching and learning. Olaf (2006) in agreement with Rochkind and Mwaura advocates for an approach to teaching and learning which emphasizes the importance of adjusting teaching strategies to the needs of different groups and individual learners' learning styles and levels.

Differentiated Instruction

According to Tomlinson, 2001; Sizer, 2001; Holloway, 2000 as cited by Olaf (2006) this approach to teaching and learning emphasizes the importance of adjusting teaching strategies to the needs of different groups and individual learners' learning styles and levels.

This type of instruction presents that, contrary to the prevailing and traditional way of teaching, which assumes that all the learners are the same, teachers need to be flexible and modify the school curriculum and instruction in relation to the different abilities and aptitudes among the learners in the class, rather than expecting the learners to fit a curriculum. Differentiated instruction encompasses varied teaching strategies, including flexible grouping, ongoing assessment that measures teaching effectiveness, in addition to learner products, as measures of achievement. Such strategies for differentiated learning benefit both fresh graduate and veteran teachers alike (Olaf, 2006).

Under this instruction the teachers are presented with real-life application methods which will result in improved learner achievement, better classroom management and breakthrough with learners who maybe struggling to overcome learning difficulties, which might not be the case with the traditional methods of direct-instruction or lecture/textbook.

Differentiated instruction is supported further by Odongo and Chemutai (2015) as they contend that since learners come to class with a variety of learning needs, the classroom activities should be designed to address the need of diverse learners. They go on to argue that the teaching as well as the assessment should in addition include; direct instruction such as demonstrations, indirect instruction such as case studies, experimental learning such as field trips, independent study such as journals or research papers and interactive instruction such as role playing.

Basing on differentiated instruction, the skills which should be included under the in-service training for the teachers would include how to use a variety of learning activates such as; direct instruction which includes demonstrations; indirect instruction which includes case studies; experimental learning which includes field trips; independent study such as journals or research papers and interactive instruction such as in group work, project work. These will be appropriate in the

implementation of the revised curriculum which is competence based. Currently these methods are hardly used since the teachers find them too demanding and yet the focus for them is the need to cover the syllabus and get time to drill and prepare the learners for the examinations.

The use of formative and backwards design assessment

Wiggins and McTighe (1998), assert that beginning with the end in mind, that is, what it is that we want learners to be able to do as a result of what they have learnt, which are the learning outcomes, would help educators rethink assessments as a method of improving instruction, rather than just measuring it. In this approach the teachers focus on the learning outcomes of a given topic first and subsequently develop relevant instructional and assessment strategies.

In Uganda where assessment is currently used to show what the learner has been able to achieve for that test with hardly any opportunities to use the data from the assessment to improve instruction in the classroom the inclusion of the skills the Formative and backwards design assessment should be necessary. Under the competence based curriculum, where the focus is on 'what is it that the learner can do with the knowledge, skills and values acquired rather than what they know and can recall or re-produce, teachers will need to use the assessment results; both at school and at national level, as a means of improving instructional methods, so as to promote the desired learning outcomes as given in the revised curriculum. For this to happen there will be need for continuous in-service training for the teachers for them to be able to appreciate the role of assessment for learning instead of what they have been doing which is assessment of learning.

The competencies teachers need to effectively implement the revised competence based curriculum

According to Wing institute newsletter on teachers-competencies, the competencies or skills which make a difference in learner achievement are in four classes:

1. *Instructional delivery*. The delivery should consider giving clear instructional objectives which should be presented for each lesson; teaching of a range of selected skills in the order in which they should be learned; allocating adequate time to teach a topic and current lessons should be built on past knowledge to increase fluency and maintain mastery of material. This should be done by relating complex issues that provide deeper meaning and giving students better understanding of the content.
2. *Classroom management.* Research has placed classroom management among the top five issues that affect student achievement. In order to create a climate that maximizes learning and induces positive mood, there should be observable and measurable rules and procedures; proactive classroom management where there is active teacher supervision which builds a positive teacher-student relationship by providing timely and frequent positive feedback for appropriate and even inappropriate behavior; effective classroom instruction where there is quality instructional delivery aligned to the ability levels of the students.
3. *Formative assessment.* According to Walberg (1999), formative assessment has been listed at the top of interventions for school improvement. Feedback, a core component of formative assessment, is an essential tool for improving student performance. Formative assessment consist of a range of formal and informal diagnostic testing procedures conducted through the learning process for modifying teaching and adapting activities to improve student attainment.
4. *Personal competencies.* Successful teachers have been found to display the following indispensable soft skills: encouraging a love for learning, listening to

others, being flexible and capable of adjusting to novel situations, showing empathy, being culturally sensitive, embedding and encouraging high order thinking along with teaching foundation skills and having a positive regard for students.

For the skills that the teacher will need in order to implement the revised curriculum,) says that the pedagogical practices according to Malunda (2018) should induction, coaching and regular school based support.

The challenges of in-service training

According to Malunda (2018), the Ministry of Education and Sports has had a plan under the Secondary Teachers' Development Management System (STDMS), to support the in-service teachers. The challenge facing this programme is lack of funds. The institutionalised Science and Mathematics Teachers Programme (SESEMAT), which was introduced in 2005 in line with the compulsory science policy, has also had its share of challenges.

The first challenge is the poor attitude that several teachers have towards the SESEMAT approach to delivering the content. The teachers were hesitant to apply the learner-based approaches, finding them time wasting and a hindrance to early syllabus coverage. Malunda (2018) shows that during interviews with the head teachers, on the role of SESEMAT, they expressed concern about the nonattendance of their teachers during the holiday trainings. They lamented that some teachers did not attend the training workshops since they were engaged in other money-generating activities.

Secondly, SESEMAT was constrained by the number of staff to conduct proper lesson observations as a follow-up mechanism. The available regional trainers conducted lesson observations hurriedly and haphazardly as they struggled to cover several schools under their jurisdiction.

With view of the two challenges cited above it is no wonder in spite of the provision for this programme, the performance of the learners, in science subjects and Mathematics has continued to be poor. According World Bank report (2018), only 17% of the teachers who were tested on the same tests given to their learners, were found to be proficient.

Wiggins and McTighe (1998) pose another challenge of in-service training as being that of the teachers having to conduct regular ongoing self-assessment and reflections so that they can shift the emphasis in assessment from content mastery, to demonstration of understanding, and from a focus on recall of information to a broader repertoire of assessment strategies that includes alternative, as well as traditional measures of learning. Evans (2004) says that resistance to change by the schools and educators is normal and to a degree necessary. There is however need to balance between a long lasting predictable ethos that transcends generations, to healthy adaptations that acknowledge that the teachers have different professional needs which need to be addressed differently from one generation to the next. He interprets change in two ways: as a risk, insult, or threat to the traditions and autonomy of teachers; and simultaneously, as an opportunity for reflection and improvement on the status quo.

Mwaura (2003) as cited by Odongo and Chmutai (2015) says teachers find it difficult to learn new strategies because they will be required to change the 'old habit assumptions and invalidated hand worn skill.' This is why they will resist the need to attend professional programmes as mentioned under the SESEMAT programme

and this is bound to be a major challenge that these future planned programmes will face.

According to Olaf (2006), the overall obstacle to implementing curricular change in instruction, where there is a culture that values continuous reflection and improvement in a school, is the general predisposition of educators to resist change itself. However, for any change to take place there will always be friction in terms of disagreement, open conflict, anxiety and disequilibrium.

Basing on the literature reviewed, the need for professional programmes cannot be over emphasised. However, there will be need to not only avail the resources required to sustain them but there will also be need to devise strategies of ensuring that the teachers appreciate the need to attend and be ready to learn if the new curriculum is cause an impact on the learning outcomes.

Malunda (2018) gives lack of funds to among others provide the staff required to train and monitor the teachers in their schools is the reason why the STDMS programme of the ministry had failed to take off. In addition to lack of funds, Evans (2004) gives the other challenge as resistance to change by the teachers themselves. Malunda (2018) affirms to Evans when he mentions that, the head teachers interviewed regarding the SESEMAT programme had indicated that teachers found the learner centred approach, advocated for under the programme, to be time wasting and a hindrance to the need to cover the syllabus quickly so as to be able to drill the learners for examinations.

Implications of the in-service teacher training.
There are management and policy related implications for the effective training of the teachers if the revised curriculum is to be implemented effectively.

Management Implications

1. In spite of the fact the teachers in secondary schools go through formal training at college which runs for a minimum of two years, the literature reviewed clearly shows that this training is not sufficient for the teachers to handle the ever changing demands in learning.

2. There will be need for planning and a commitment among and between the teachers to reflect on and share their instructional practices, set goals and seek resources to meet the learning outcomes set in the new curriculum. A carefully planned and strategically launched instructional change can be both challenging and exciting but it would help in unifying and supporting teachers to make teaching life easier and more rewarding.

3. In preparation for the in-service training programme, in addition to the resources required for sustainability, there will be need to sensitize the teachers on the need for them to embrace and appreciate the need for the continuous professional support, if they are to be able to implement the revised competence based and learner-centred curriculum.

Policy Implications

1. The Ministry of Education and Sports should conduct a needs assessment which would include the NAPE findings and Reports of the Chief Examiners, to identify the problematic curriculum areas which the in-service teachers face in the delivery of the secondary school curriculum.

2. The Ministry of Education and Sports (the Teacher Education Department), should evaluate, the existing in-service training programmes such as (SESEMAT) to identify more effective strategies that will improve teacher effectiveness in the classroom for all the subjects on the curriculum.
3. The Ministry of Education and Sports needs to mainstream teacher assessments so as to facilitate regular progress monitoring of teacher competency.
4. The Ministry of Education and Sports should strengthen the teacher professional development system to offer teachers opportunities for continuous professional growth throughout their careers. Implementation of the STDMS programme should be expedited to ensure continuous teacher professional development and professional support for teachers and head teachers. At school level schools should plan for teacher training programmes such as induction of new staff, peer coaching and internal workshops or seminars to not only provide professional support but to work on the attitudinal changes.

Areas for Further Study

The limitations of the study which could compromise the generalisability of the findings are as follows:

1. The competence levels of the current stoke of teachers in relation to the requirements of the revised competence based curriculum.
2. The nature of the support which the in-service teachers need in order to deliver a competence based curriculum.

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Rewarding Practices and the Quality of Educational leadership in Higher Education institutions of Learning in Uganda by Ben Ssembajjwe and Kiberu Jonah

Abstract

The rewarding practices for higher academic institutions have a bearing on the nature and quality of leaders to be attracted at strategic, functional and operational levels of management. Qualified leaders such as university vice chancellors, rectors or principals of colleges are attracted by higher rewards expected in both financial and non- financial terms. This paper examined the relationship between the rewarding practices and the quality of educational leadership. It was intended to analyze whether financial and non-financial rewards have got a significant effect on the quality of managers which higher academic institutions can attract or hire. The specific objectives of the study were; to analyze the quality of academic managers in higher institutions of learning in Uganda; to examine the existing financial and non-financial rewards for academic managers in higher institutions of learning and; to determine the relationship between rewarding practices and the quality of educational leadership in higher institutions of learning in Uganda. The study used a correlational design to determine the relationship between reward practices and the quality of educational leadership. The findings revealed a strong positive significant relationship; institutions with more highly paid academic managers boosted with non- financial rewards attract more highly qualified managerial staff unlike those with less benefits. Thus, higher academic institutions are at risk of failing to have good leaders if their rewarding practices are weak.

Key Words: Rewarding practices, quality, educational leadership, academic manager

Introduction

Rewarding presents all the tangible benefits and provisions an employee obtains as a part of "employment relationship" (Milkovich and Newman, 2004 p.13); while Malhotra et al. (2007p.23) illustrate that "work rewards" indicate the benefits, workers receive from their workplace and are considered the determinants of job commitment and satisfaction which attract highly skilled man power. In a similar angle, Bratton and Gold (2003p.38) define "rewards" as all the cash, non-cash and psychological payments provided by an organization to staff in return of their contribution. Stone et al. (2010p.12) found that financial incentives are not always welcomed by all employees and material incentives generally do not tend to satisfy the basic psychological needs and discern the individual variance and hence advocated for both financial and non-financial rewards. This is what higher institutions of learning such as universities and colleges should embrace. The rewarding practice in the study will focus on the best common practices of rewarding employees such as offering bonuses, extra time payments, timely payment of salaries and other benefits to the employees. These rewarding systems differ from institution to institution, but there is a significant similarity in private educational institution, thus the study focused on private higher educational institutions.

A university depends for the success of its core business on its academic departments and research centres/institutes. A change in the fortune of any of them

i.e., a loss in the key staff or a gain of significant new staff who wish to launch new initiatives may affect an institution's plans (Onyik, 2015p.21). Academic staff in particular accounts for a significant component of the budget of higher education institutions and has a major role to play in achieving objectives of the institutions (Bayssa and Zewdie 2010p.17). They have a great bearing on the institution and has their rewarding should also be commensurate with their levels of education and academic experience.
The very important motivating factor for people who join and continue working in an organization is the nature of the work they do and the reputation they obtain by working with the institution. However, there is a wide variety of methods available for motivating staff. From recognizing employees' achievement by simply saying thank you to more complex schemes which combines and set targets with fixed rewards which can promote competitiveness in the market (Bayssa and Zewdie 2010P.22).

Therefore, to attain competitive advantage, organizations are more concerned with the skills and the quality of their employees to ensure sustained performance (Harvey, 2009; Reiche, 2007). Literature is full of empirical studies indicating that organizations adopt various policies and strategies to retain employees (Sheridan, 1992). Despite this, the policies are in relation to all employees in any kind of organization and yet in this study, the focal point was on the rewarding practices which can be considered as the staff retention initiatives specifically for academic managers in higher institutions of learning.

While these policies are made by the academic leaders in the institutions, school leadership quality has become a great concern today. Weissbourd and Jones (2014p.42) explain quality of educational of educational leadership as the appropriateness, experience, and skills of academic managers to manage their institutions efficiently and effectively. This is similar to what Strasser (2014p.10) stressed. Policy makers need to enhance the quality of school leadership and make it sustainable (Beatriz etal, and Hunter Moorman, 2008). In so many academic institutions, the existing mechanisms and systems have given little attention towards and recognition for the systematic educational quality services. The nature of the reward systems greatly affects the quality of educational leaders. It was noted by Armstrong (2012) that, to achieve long lasting motivation for the employees, attention must be paid to both monetary and non-monetary rewards. This is what can help to retain the existing staff and to attract new skilled manpower. Similarly, Rowley (2009) noted that for any academic staff to offer high quality learning and manage their learning experiences, their motivation is very crucial.

Over years, literature has shown that reward systems have been a key issue in higher institutions of learning (Waititu etal, 2013) ascertaining that universities and other higher educational institutions still use traditional reward systems. However, this does not match with the daily tasks performed such as creation of knowledge, teaching, technology transfer, and economic development (Boyer,1990).

Azasu (2009) suggested the "Principal-agency theory" in which mostly people are opportunistic and highly motivated through monetary rewards, while socioeconomic theorists argue that people are neither inclined toward monetary reward nor do they have a homogeneous approach, they might be fascinated by the cocktail of monetary and non-monetary rewards that can be the powerful to enhance their motivation and commitment (Malhotra et al., 2007). Vandenberghe et al. (2008) links the big five personality attributes (extroversion, agreeableness, conscientiousness, stability and openness to experience to performance of employees and the organizational capacity

to attract highly qualified staff. Glickman (1990) however argues that, this survival can only be ensured through adequate staffing, financial capacity, and relations between the teaching staff, students and the parents and having adequate facilities that can aid both lecturers' research and student' learning in the universities as well as boosting the personal gratification of the academic leaders such as heads of departments. In several Uganda's higher institutions of learning, the academic managers keep on changing leadership every now and then and hence a need to analyze the rewarding practices as they could be one of the significant factors as to why this is so.

Contextual Perspective

According to a 2012 study of the academic staff of Uganda's universities by the National Council for Higher Education, Ugandan universities employed 5,325 academic staff, about 50 per cent of whom were at Makerere University. The study found that a number of those teaching in private universities were lecturing in more than one institution. Due to their funding problems, few private universities were able to attract and retain first-class academic staff or to develop a sustainable staff development programme (NCHE 2012, p. 174). In some private universities, the individual owners limit the freedom of executives from making decisions especially financial decisions and this is one of the reasons why they lack the ability to attract highly qualified staff (NCHE,2012, p. 172). Universities like Muteesa 1 Royal University a private institution, have had several staff strikes arising from failure to pay both adequately and promptly (Daily Monitor, Wednesday 11th October 2017). This is what probably scares away the would be highly quality academic managers and other staff from joining such institutions with weak rewarding practices.

Problem Statement

Educational leadership has become a priority in education policy programs internationally. It plays a key role in improving school outcomes by influencing the motivations and capacities of teachers, as well as the school climate and environment. Effective education leadership is essential to improve the efficiency and equity of schooling (Beatriz Pont, Deborah Nusche and Hunter Moorman, 2008p.15). The quality of academic leaders is not the same as there is always change of leaders such as university vice chancellors over time like in Makerere University (Observer, July 19, 2009). Private higher educational institutions have little stability in their leadership probably due to the systems of rewarding. Different academic institutions attract different academic managers using their various rewarding practices. There is controversy as to whether the rewarding practices adopted by the various academic institutions have any influence on the quality of academic leaders attracted. This study thus focused on investigating the relationship between rewarding practices and the quality of academic leadership in Uganda's higher institutions of learning.

Research Objectives

The study was guided by the following objectives;

- To examine the existing financial and non-financial rewards for academic managers in higher institutions of learning
- To analyze the quality of academic managers in higher institutions of learning in Uganda
- To determine the relationship between rewarding practices and the quality of educational leadership in higher institutions of learning

Hypothesis

There is a positive relationship between rewarding practices and the quality of educational leadership in higher institutions of learning.

Literature Review

Rewarding Practices

Fung, & Gordon, (2016 p.6) explained reward as anything given in recognition of the service given, however, in this study it focused on things like promotion, and opportunities for carrier development plus other non- financial rewards. Taylor (2011) looks at rewarding under the total reward system in which he argues that "total reward involves designing a rich mix of complimentary initiatives which aim to maximize the chances that employees will find their work to be 'rewarding' in the widest sense of the word". He added that, rewarding is directly related to the performance but didn't focus on how rewards influence the nature and quality of leaders attracted. This kind of leadership is shown in the figure below;

Figure 1: World at Work Total rewards model

Source: World at Work (2006), from www.worldatwork.org/pub/total_rewards_model.pdf

Financial Rewards

These are motivators that are in terms of money or cash such as salaries, and efficiency wages, direct financial benefits life insurance bonus, transport allowance, accommodation allowance, medical allowance, gain sharing, and tax breaks, among others. According to "merit pay" or "performance pay" approach, a standard for

individual performance is set, such as increased student achievement and if a teacher meets or exceeds this standard, he or she receives a bonus or a salary increase (Kawesa, 2004). Merit pay is mostly used in the private sector as a management tool to achieve organizational goals although in modern management, it has also been adopted much by the public sector. Therefore, both private and public academic institutions also used merit pay to reward their staff, academic managers inclusive. The fundamental argument in favour of merit pay is that it can boost individual motivation by recognizing effort, achievement and rewarding it in a concrete way (Kawesa, 2004). Hence, academic managers also need such rewards just like any other staff.

Non-Financial Rewards

Freidman and Reynolds (2011) argued that, the first task of leadership is to provide the support to the teachers. His focus was on the provision of the support to the teachers but didn't show how such leaders should provide support to the departmental heads. The argument however remains that, there should be such mechanisms that can be employed to motivate the morale of the staff. Emuron (2020 p. 9) Non-financial rewards to academic staff were minimal across the universities as majority of them concentrated on paying financial rewards only. Noddings (2014) noted that, there are various non-financial ways to reward staff such as recognizing their work (Hodges, 2005) since people want to be recognized beyond their expectations (White, 2014). In addition, there is need to build their skills to promote self-worth (Whitaker, 2012) and professional development (Friedman and Reynolds, 2011). In addition, Bieler (2012) stated, "When leaders set aside regular common planning time for faculty members to collaborate, such as through the professional learning community model, teachers often feel much more efficient and autonomous in their use of time"

Leadership

Fullan (2007) defines leadership as "the process of persuasion or how an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leader and his or her followers". Emphasis is put on relationships and leaders must establish good relationships with their teams or subordinates. "Leaders establish an atmosphere of trust by their daily actions" (Marzano, et al., 2005). Fung, D., & Gordon, (2016 p.6) defined education leader as a term to refer to individuals who make a significant, even transformation, impact for good on others and do not limit it to those who hold formal leadership and management role.

Academic or Educational Leadership

Rebore and Walmsley (2007) explained leadership as "a way of life of dedication to the academic community and profession". Similarly, Owens and Valesky (2015) declared that leadership is more than simply how one behaves towards people or what one does; it is how one works through other people to achieve goals. It should however be noted that being a leader in education is a challenging profession and responsibility (Sheninger, 2011) educational managers are loaded with a multiplicity of tasks to tackle every day. "Administrators must create a system where all parts interact and run smoothly from transportation to food service, to special education to regular instruction" (Sigford, 2005). Thus, we cannot rule out the fact educational managers must have adequate interpersonal skills to run their institutions. Steele G (2019 p.8), in his book leadership in higher education states that we challenge administrators to engage more purposefully with academic leadership and advocate for a place at the table when decision are made

According to Glickman (2002), it is not unusual for administrators to be faced with disciplinary issues, parental and teacher concerns, substitute shortages, and numerous daily meetings. Hence being an educational leader calls for experience in handling large numbers of individuals especially in environments of elites. Muriisa, R. K. (2014), p.70) states that the role of leadership has been overlooked yet they occupy a central role in the performance of the university. Thus, there is a need to investigate how leaders reward their employees.

Quality of Academic or Educational Leadership

With the myriad of responsibilities administrators are faced with on a day-to-day basis, it is not surprising to learn that "leadership is considered vital to the successful functioning of many aspects of a school," (Marzano et al., 2005) and "it is the principal who will set the tone for the school" (Mason, 2007). The actions of an administrator are highly influential, as they play an essential role in the success of a school (Whitaker et al., 2009). Effective school leaders make their decisions based on what is in the best interest of their students and teachers (Houston, Blankstein, & Cole, 2008). Sigford (2005) ascertains that one of the key fundamental responsibilities of a school leader is to set the focus and direction of a school or academic institution. It is thus the responsibility of an educational leaders to ensure that the vision, mission, objectives and the core values of the institution are followed and that the staff are working towards achieving them. Similarly, it was noted by Fiore (2009), "school administrators must regularly portray positive leadership qualities," while they "make literally dozens of decisions daily on a complexity of issues" (Mason, 2007). In addition to the tremendous amount of everyday leadership duties, effective administrators realize the significant relationship between their leadership style and teacher morale (Whitaker et al., 2009). "The top management should be conscious of keeping their workers satisfied, because their leadership has great impact on the staff morale."

The most operational and competent administrators recognize the morale within their school directly correlates with employee satisfaction (Schaefer, 2016). Academic managers are also part of the employees who also benefit from the morale that may be available within the institution just any other worker. Furthermore, the quality of a school's leadership directly influences teacher decisions regarding remaining in or leaving the teaching profession (Long, 2015). It can be concluded that teachers, lecturers or instructors themselves are academic managers since they also manage their own classes, lecture theatres and others portray leadership skills that enable them to be promoted to become heads of departments or functional leaders within the academic institutions. Priska (2016 p.151) states some of the influencing good leadership, that leaders should have good relationship with members of the organization so that they can inspire other members. In addition, leaders must think creatively and utilize others creatively in order to find innovative ways for change.

Mark (2016) argued that schools require effective leadership and management if they are to achieve success and provide a world class education for their learners. Thus, the quality of the academic managers matters a lot as regards the nature and quality of academic services to be provided to the learners. In the same angle, Bush (2010) observes that there is a great interest in educational leadership because of the belief that the quality of leadership makes a significant difference to schools and students' outcomes which this study focused on. Simon (2015) contended that in the climate of change in higher education institutions, it requires to consider how to develop their leaders and what might be the most appropriate leadership behaviour to enable

them adapt to new circumstances and to manage any incidental leadership that may arise. His emphasis was put on leadership in higher academic institutions presupposing that, there is no way they can easily develop without leaders that understand how to best manage varying environments with a diversity of cultural ethnicities and social classes.

In nutshell, studies like that of Armstrong (2012), notes that reward affects the quality of leadership, Waititu etal (2013), says that reward systems are key issues in higher education. Further still Beatriz etal (2008) observes that effective education leadership is essential to improve the efficiency and equity of schooling. Emuron (2020) contends that non-financial rewards to academic staff were minimal across universities and Whitaker etal (2009) says that top managers should consider keeping their workers satisfies, however, none of these studies concentrates on rewarding practices and the quality of educational leadership in higher institutions of learning in Uganda. Lukeera (2016) states that non-financial rewards are expected to have different direct effects while Harold and Heinz (2001) says monetary rewards influence organizational commitment of employees.

Research Methodology

Research design

The study aimed at examining how the rewarding practices in higher institutions of learning affect the quality of education leadership. The study considered 11institutions which included 4 universities, 4 tertiary institutions 1 college and 2 Other degree awarding institutions. The institutions were selected basing on the convenience of the researchers and where they had observed some weaknesses in leadership. It conserved selected institutions, mainly analyzing the quality of leadership, rewarding practices and financial and non-final reward practices. The study aims to provide empirical evidence by critically analyzing rewarding practices and the quality of leadership in higher education institutions in Uganda. A correlational design was adopted by the study so as to show the relationship between rewarding practices and the quality of academic managers or educational leadership in higher institutions of learning in Uganda. The participants in the study are shown below.

Study Participants

The participants consisted of top leadership, middle managers and senior members from various higher education institutions in Uganda. Prior to participation, respondents provided full consent and the researcher observed confidentiality and anonymity for the participants. This was in line with Amin (2005) who says that potential respondents must authorize in the research study. A total of 214 respondents participated in the study. From a total study population of 550, the researcher issued out 226 questionnaires and 214 were filled in during data collection.

Data collection

The researcher used a self-administered questionnaire and an interview guide to collect data as shown below;
The study used a questionnaire to explore the rewarding practices in higher education institutions. The target group of the study was manager of higher education institutions. The questionnaire had four sections. Section A contained questions about demographic characteristics of the respondents while section B asked about quality of academic managers, Section D was about financial rewarding

practices for academic managers. As noted earlier, 226 questionnaires were distributed and 214 were filled in the respondents and hence representing a response rate of 94.6% which is highly acceptable.
To test for the reliability of reward system questionnaire Cronbach's alpha was calculated giving a value of 0.83. Maizura *et al.*, (2009) recommended a Cronbach alpha value of 0.70. According to Mugenda & Mugenda (1999) response rate of above 60% is considered authoritative.

Data Analysis:
Qualitative and quantitative data was collected using a self-administered questionnaire together with desk review of related literature. The data collected from the respondents via the questionnaire were analyzed by calculating mean, standard deviation by using Statistical Package for the Social Sciences (SPSS). The standard set was that the responses were analyzed using one measure of central tendency, that is, mean (M), and also a measure of dispersion, that is, standard deviation (SD). The results were interpreted as either low, moderate, or high. The findings were presented below.

Study findings

The study employed descriptive statistics and the findings are shown here under;
Demographic Characteristics of the respondents
From a total of 226 questionnaires, 214 were filled and hence a response rate of 94.6% as shown earlier. The demographic characteristics of the respondents are shown in table 1 below.

Table 1: Demographic characteristics of the respondents

Description	Category	Frequency	Percentage
Age of Respondents	Below 25	03	1.4
	26 -30	08	3.7
	31- 40	57	26.6
	41 and above	146	68.2
	Total	214	100
Marital status	Married	164	76.6
	Single	12	5.6
	Divorced	13	6.1
	Others	03	03
	Total	214	100
Gender	Male	138	64.5
	Female	76	35.5
	Total	214	100
Highest level qualification	Below Bachelor	14	6.5
	Bachelor	43	20.1
	Masters	128	6.1
	PhD	29	1.4
	Total	214	100
Length of time in service	Less than 2 years	18	8.4
	2-5 years	36	16.8
	6 - 9years	84	39.3
	More than 9 years	76	35.5

	Total	214	100

Source: Primary data, February 2019.

Quality of Academic Managers in Higher Education Institutions in Uganda

The researcher surveyed on the quality of academic managers in higher education institutions. In this, the responses were analyzed by used of means and standard deviation in relation to the available related literature. The mean ranges were 1.00-1.79-very low, 1.80-2.59 implying low, 2.60-3.39 implying moderate, 3.40-4.19-high and 4.20-5.00 very high. The findings are shown in Table 2 below;

Table 2: Quality of Academic Managers in Higher Education Institutions in Uganda

S/N	Research Variable	Response					
		N	Min	Max	M	SD	Interpretation
1	Academic managers have a clear vision for this institution	214	1	5	2.40	1.06	Low
2	Academic managers in this institution are good at team-building	214	1	5	1.98	1.25	Very low
3	Staff are consulted about the existing challenges in this institution	214	1	5	1.00	0.05	Very low
4	Academic managers ensure that academic staff plan for their teaching materials in advance	214	1	5	2.47	0.51	Low
5	Management has adequate of planning and exercises it	214	1	5	2.32	1.46	Low
6	Management ensures that staff are involved in evaluation of the institutional performance	214	1	5	2.46	0.50	Low
7	Management envisages and supports Monitoring and Evaluation and takes it serious	214	1	5	2.65	0.64	Moderate
8	The available academic managers have good communication skills	214	1	5	3.33	0.81	Moderate
9	Management has good financial management skills and self-discipline	214	1	5	1.56	0.50	Low
10	Management aims at efficient capacity development for both senior managers and lower level staff	214	1	5	3.57	1.50	High
11	The experience of senior managers in managerial roles is ideal	214	1	5	3.99	1.03	High
12	Management is flexible and has adequate knowledge of decision making with maturity	214	1	5	4.50	0.52	Very High
13	The managers recruited have adequate skills of managing high level students and corporate staff	214	1	5	2.48	0.50	Low

14	Managers focus on the university/college other than personal interests	214	1	5	1.52	0.50	Very Low
15	Managers have adequate knowledge and experience in handling emergencies	214	1	5	2.00	0.02	Low
16	Managers have adequate financial and academic support lobbying skills	214	1	5	2.48	0.50	Low
17	Managers in this institution are experienced in managing large scale busy organizations	214	1	5	2.00	0.08	Low
18	Our academic managers consider curriculum development as a major pillar of learning in higher academic institutions	214	1	5	2.00	0.50	Low
19	The managers always come up with new and challenging institutional development goals and tasks	214	1	5	2.59	0.53	Low
20	Managers in this institution embrace research as one of the core areas of higher education	214	1	5	1.52	0.50	Very Low
	Overall Mean Average response on Quality of Academic Managers in Higher Education Institutions in Uganda				2.44	0.65	Low

Source: Primary data, February 2019.

From the data above, the quality of academic managers in higher education in Uganda was rated low or poor with an overall mean of 2.44. This was backed by the fact that few academic managers had clear visions for their organizations, poor team building capacities, lack of consultation of staff about the existing challenges in their institutions, negligence of academic managers in encouraging their staff to plan for their teaching materials in advance, inadequate planning, little of involvement of staff in evaluating institutional performance, among others. All these highly agree with the works of Sigford (2002) who argued that a good leader should have good interpersonal skills of they are to run their institutions successfully. In fact, the tone of the school or academic institution is set by the academic managers (Mason, 2007) yet the findings showed that most of the academic managers had no clear visions for their institutions which institutional principals should exhibit. This is a sign of poor quality leaders yet Fiore (2009) argued that a good leader should portray positive leadership qualities. Such leaders are thus responsible for the less morale of their staff as presupposed by Schaefer (2016) which later on affects employee satisfaction (Whitaker, 2009) which academic institutions should strive harder to have so as to have moving organizations in which staff are happy and willing to deliver. The quality of the academic managers can thus eventually affect the overall performance of the institution.

Non-Financial Rewarding Practices for Academic Managers

The researcher surveyed on the Non-Financial Rewarding Practices for Academic Managers in higher education institutions. In this, the responses were analyzed by used of means and standard deviation in relation to the available related literature. The mean ranges were 1.00-1.79-very poor, 1.80-2.59 implying poor, 2.60-3.39 implying moderate, 3.40-4.19-Strong and 4.20-5.00 very strong. The findings are shown in Table 3 below.

Table 3: Non-Financial Rewarding Practices for Academic Managers

S/N	Research Variable	Response					
		N	Min	Max	M	SD	Interpretation
1	Academic Managers' problems are understood by the university/college Board of Directors or council	214	1	5	2.16	1.36	Poor
2	The university or college board celebrates milestones with the academic managers and staff	214	1	5	3.19	1.30	Moderate
3	The Board respects opinions and personal dignity of heads of departments and faculty deans	214	1	5	2.60	1.34	Moderate
4	Academic managers in this institution have full authority to run the departments or colleges	214	1	5	3.03	1.06	Moderate
5	Academic managers are given chance to participate in the budgeting process	214	1	5	2.97	1.20	Moderate
6	Academic managers are well-equipped with tools and facilities of work for good performance	214	1	5	3.21	0.99	Moderate
7	Academic managers are involved in decision making in the university or college	214	1	5	2.76	1.17	Moderate
8	Academic managers are certain of their job security in this university/college	214	1	5	3.88	0.05	Strong
9	Top management exercises fairness in treatment of academic managers without divisions.	214	1	5	2.93	0.31	Moderate
10	There is a number of family incentives such as school fees for the children of academic managers	214	1	5	2.32	0.09	Moderate
	Overall Mean Average response on Non-Financial Rewarding Practices for Academic Managers				2.71	0.88	Moderate

Source: Primary Data, February 2019.

While assessing the non-financial rewarding practices in higher institutions of learning in Uganda, it was found out that these are moderately availed to academic managers (Mean=2.70). The study revealed that most of the Boards of Directors for the institutions did not understand the personal problems of the academic managers hence creating a relationship gap between them. Similarly, it was a moderate level that management would celebrate successes with their academic managers. The

opinions of the academic managers were found to have just an average attention from the governing boards, moderate chances to participate in budgetary processes, divisions among academic managers of the same institutions among deficiencies although the job security for most of the academic was found high. However, it should be noted once there is low staff morale arising from lack of such non-financial motivation, it is likely that job security would seize to have meaning. Many staff would opt of leaving the institution and yet recognizing their work (Hodges, 2005) would attract good academic managers. The study findings showed that non-financial rewards are just at moderate level which disagrees with what White (2014) argued, who was agitating for providing support and rewards to staff beyond their expectations and this would attract high quality staff especially when there is always time set aside by the board to plan for this as it was presupposed by Bieler (2012) yet all these were found just to be moderate.

Financial Rewarding Practices for Academic Managers

The researcher surveyed on the Financial Rewarding Practices for Academic Managers in higher education institutions. In this, the responses were analyzed by used of means and standard deviation in relation to the available related literature. The mean ranges were 1.00-1.79-very poor, 1.80-2.59 implying poor, 2.60-3.39 implying moderate, 3.40-4.19-Strong and 4.20-5.00-very strong. The findings are shown in Table 4 below.

Table 4: Financial Rewarding Practices for Academic Managers

S/N	Research Variable	Response					
		N	Min	Max	M	SD	Interpretation
1	Academic managers are paid adequately and promptly	214	1	5	2.43	0.35	Poor
2	There are transport, accommodation and medical facilities for academic managers	214	1	5	2.26	0.31	Poor
3	The remuneration system for academic managers addresses different levels of education	214	1	5	3.04	0.39	Moderate
4	Outstanding academic managers are given presents/gifts known to all staff	214	1	5	2.74	0.15	Moderate
5	Academic managers are given a 13th month's package at the end of each year	214	1	5	1.71	0.19	Poor
	Overall Mean Average response on Financial Rewarding Practices for Academic Managers				2.43	0.28	Poor

Source: Primary Data, February 2019.

From the findings, it was noted that the financial rewarding practices for academic managers were generally rated as poor (Mean=2.43). The respondents revealed that the academics were paid poorly, inadequately and not promptly. There less financial incentives for academic managers in higher institutions of learning in Uganda. Heathfield (2012) argued that payments or any rewards and benefit in form of cash highly motivates staff and can attract experienced and qualified staff just like Bozeman & Gaughan (2011) presupposed. Also, they are similar to what Kaweesa (2014) argued when he presupposed that a salary increase or bonus can boost staff morale and attract new staff. The new staff can be academic managers usually attracted by the financial capacity of an organization or institution as contended by Glickman (1990) and Azasu (2009) who believed that monetary rewards are very essential in attracting experienced managers and staff.

Relationship between rewarding practices and the Quality of Academic Managers

The study involved establishing the relationship between the rewarding practices and quality of academic managers and the findings are shown in Table 5 below.

Table 5: Relationship between rewarding practices and the Quality of Academic Managers

Correlations			
		Rewarding Practices	Quality of Academic Managers
Rewarding practices	Pearson Correlation	1	. 841**
	Sig. (2-tailed)		.000
	N	214	214
Quality of academic managers	Pearson Correlation	.841**	1
	Sig. (2-tailed)	.000	
	N	214	214
**. Correlation is significant at the 0.05 level (2-tailed).			

Source: Primary Data, February 2019.

The study findings showed a Pearson's Correlation Coefficient of 0.841 which was very high and positive. Thus there is a strong positive relationship between rewarding practices and the quality of academic managers in higher institutions of learning. The researcher also ran a multiple regression analysis as shown in Table 6 to show the contribution of both financial and non-financial rewarding practices towards the quality of academic managers attracted.

Table 6: Multiple Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.069	.042		-1.642	.104
	Financial Rewards	.059	.052	.749	8.068	.000
	Non-Financial Rewards	.601	.069	.251	4.071	.003
	a. Dependent Variable: Quality of Academic managers					

Source: Primary data, February 2019

From table 6 above, the findings revealed that the major significant rewarding practice which affects the quality of academic managers are the financial rewards with a significance of 0.000. Also, Non-financial rewards are significant towards affecting the quality of academic managers in higher institutions of learning.

Implications of the study findings

From the findings, it was observed that low or rewarding practices in higher institutions of learning are likely to result into;

- Attraction of poor quality academic managers who are not interested in their jobs and have no will to develop their institutions.
- Attraction of academic managers who have no good planning skills
- Managers who do not mind about monitoring their institutions and evaluating organizational performance.
- Failure to manage high level students and corporate staff due to the poor academic managers recruited.
- Recruiting managers with less financial and academic lobbying skills
- Attraction of poor quality managers arising from the disrespect and micro managing of academic managers by Boards of Directors or top institutional councils.
- Academic managers recruited have strong job security but without being allowed to fully participate in decision making in their institutions. Thus, only incompetent academic or educational managers can be attracted because no single manager would accept to be governed without having to take part in the decision making process.
- Attraction of poor quality academic or educational managers arising from having Boards of Directors that do not consider the personal challenges of their educational managers in their institutions.
- Higher institutions of learning are likely to suffer from low levels of growth arising from divisionism amongst staff usually created by the Boards of Directors in the higher institutions of learning.

Conclusion: Conclusively, the failure to have clear and strong rewarding systems for Academic or Educational Managers in higher institutions of learning would only attract very poor managers which also limits institutional growth and the

overall performance. Institutions with poor rewarding practices will always find it difficult to attract qualified highly experienced educational managers.

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Promoting foundational number sense: the potential for early grade mathematics instructional materials in Malawi by Tionge Weddington Saka

ABSTRACT
This paper discusses how early grade mathematics instructional materials in Malawi provide opportunities for the development of foundational number sense (FoNS). Foundational number sense (FoNS) is the learners' ability to flexibly work with numbers and quantity. Studies have shown that FoNS is a predictor of later mathematics achievement. Textbook research methodologies were used to explore whether there was adequate content to make learners 'foundational number sense aware'. Content analysis was performed on the standard 1 instructional materials (mathematics syllabus, teacher's guide and learners' book). The eight categories of FoNS was used as an interpretive framework. Much as the current grade 1 mathematics instructional materials cover a lot of content on early number, a lot of gaps were identified. Some of the gaps include; absence of activities on estimation on a number line and compositions and decompositions of number, and the non-existence of opportunities for exploring different number representations. These findings imply that learners are denied adequate enabling opportunities for them to become foundational number sense aware. This is detrimental to their mathematics

development journey. Revision of the instructional materials to incorporate content that is needed to promote learners' FoNS is proposed.

Keywords: Early mathematics curriculum, early mathematics learning, number sense, numeracy.

Introduction

This paper discusses how early grade mathematics instructional materials in Malawi provide opportunities for the development of foundational number sense (FoNS). Foundational number sense (FoNS) is the learners' ability to flexibly work with numbers and quantity in the early years. The importance of early number concept development cannot be overemphasized. Research across the globe provides evidence on the predictive relationship between children's early mathematical knowledge and skills on their later academic achievement and economic status (Platas, Ketterlin-Geller & Sitabkhan, 2016). In particular, studies have shown that FoNS is a predictor of later mathematics achievement (Sayers, Andrews & Boistrup, 2016). Meaning that learners who have effectively acquired the foundational number sense are like to perform well in mathematics later in their lives. This therefore calls for a good foundation for learners to be foundation number sense aware. This paper therefore presents the outcome of an exploration of how the content in the standard 1 mathematics instructional materials was packaged. This was done to determine whether there was adequate content to make learners 'foundational number sense aware'.

To provide a context for the study, the education system in Malawi is explained. The formal education system in the country follows an 8–4–4 structure, meaning that it has eight years of primary, four years of secondary and four years of tertiary education. The primary sub-sector is divided into three sections, namely: infant (Standards 1 to 2), junior (Standards 3 to 4) and senior (standards 5 to 8).Learners are taught ten subjects in the senior section and eight learning areas in the infant and junior sections. The ten subjects are Agriculture, Chichewa, English, Science and Technology, Mathematics, Expressive Arts, Social and Environmental sciences, Life Skills, Bible Knowledge or Religious Studies. The learning areas include: Literacy and Languages, Numeracy and Mathematics, Life Skills, Agriculture, Science and Technology, and Bible Knowledge or Religious Studies. It should however be noted that standard 1 learners are not exposed to Life skills they begin to learn it when they get to standard 2. According to Ministry of Education (MoE) (2009:4),

> 'the purpose of primary education shall be to promote the overall development of all learners so that each becomes literate, numerate, and has a basic understanding of science and technology, is responsible, morally sound and a productive citizen in a democratic society, who is also equipped with skills, values and attitudes to live a healthy life, survive socially and economically and has a desire for life-long learning'.

The purpose of education is expected to be achieved through the achievement of learning outcomes outlined in the syllabus for all the subjects at primary school level.

Early Number Concept Development

The importance of number concept development has been well documented. Number concept development 'is like acquiring the alphabet of the mathematics language with arithmetic facts as its words' (Sharma, 2015, p277). Developing concepts of number beyond the innate number concepts like the object tracking system (OTS) and the approximate number system (ANS) (Feigenson, Dehaene & Spelke, 2004) at an early age is very crucial. Cognitive theorists like Dehaene (2011) and Carey (2009)

have provided evidence on how early number concept development takes place. Sayers, Andrews and Boistrup (2016) however describes different types of number sense. These include; innate number sense (well described by Feigenson, Dehaene & Spelke, 2004; Dehaene, 2011), foundational number sense and applied number sense. Of particular interest in this paper is the foundational number sense which is supposed to be developed immediately during the early years of schooling.

Foundational Number Sense

According to Sayers, Andrews and Boistrup (2016), foundational number sense (FoNS) comprises those number-related understandings that require instruction and which typically occur during the first years of school. A review of literature by Sayers, Andrews and Boistrup (2016, pp374-377) revealed the following eight components of foundational number sense;

1. Number recognition: Ability to recognise number symbols and know their associated vocabulary and meaning. Learners should be able to identify a particular number symbol from a collection of number symbols and name a number when shown that symbol.
2. Systematic counting: Count systematically and understand ordinality, count to 20 and back or count upwards and backwards from an arbitrary starting point knowing that each number occupies a fixed position in the sequence of all numbers.
3. Awareness of the relationship between number and quantity: Understanding of the relationship between number and quantity. In particular, they understand not only the one-to-one correspondence between a number's name and the quantity it represents but also that the last number in a count represents the total number of objects.
4. Quantity discrimination: Understand magnitude and can compare different magnitudes. They deploy language like 'bigger than' or 'smaller than'. Understanding that eight represents a quantity that is bigger than six but smaller than ten. Magnitude-aware children have moved beyond counting as 'a memorized list and a mechanical routine, without attaching any sense of numerical magnitudes to the words'.
5. Different representations of number: Understand that numbers can be represented differently and that these 'act as different points of reference'
6. Estimation: Able to estimate, whether it be the size of a set or an object. Estimation involves moving between representations—sometimes the same, sometimes different—of number, for example, placing a number on an empty number line.
7. Simple arithmetical operations: Can perform simple arithmetical operations.
8. Awareness of number patterns: Understand and recognise number patterns and, in particular, can identify a missing number. Such skills reinforce the skills of counting and facilitate later arithmetical operations.

An explanation of what foundational number sense aware children are supposed to demonstrate after going through formal schooling in the early years has been explained. The paper therefore uses these categories to understand the extent to which the instructional materials provide opportunity for the development of FoNS.

The Standard 1 mathematics curriculum in Malawi

According to the Ministry of Education (2004) of Malawi, the mathematics curriculum aims at developing learners' critical awareness of how mathematical relationships are used in social, cultural and economic context. At an early stage, the curriculum is aimed at enabling learners to count and carry out basic mathematical operations. The mathematics curriculum has the following 6 core

elements or broad areas: Numbers, operations and relationships; patterns, functions and algebra; space and shape; measurement; data handling, and accounting and business studies. These broad areas cover the whole primary curriculum, what differs is the depth of coverage. Table 1 shows the coverage of mathematics in standard 1.

Table 1: Topics covered in standard 1

Core element	Topics
Numbers, operations and relationships	• Counting up to 9 • Addition of numbers with sums not exceeding 9 • Subtraction of numbers within the range of 0 to 9
Patterns, functions and algebra	• Patterns
Space and shape	• Shapes
Measurement	• Time • Height and length • Capacity
Data handling	• Graphs
Accounting and business studies	• Money

Source: Malawi Institute of Education (MIE), 2006)

It is clear that standard one learners in Malawi are exposed to numbers up to 9 but when they are exposed to numbers up to 99 when they get to standard 2. All operations on number in standard 1 therefore deal with numbers from 0 to 9.
There are 13 units that learners go through in standard 1. Out of these 13 units, six are on the broad areas of number, operations and relationships. The following are the unit titles of the six units.

- Unit 1 Counting up to 5
- Unit 2 Addition of numbers with sum not exceeding 5
- Unit 3 Subtraction of numbers within the range of 0 to 5
- Unit 4 Counting up to 9
- Unit 5 Addition of numbers with sum not exceeding 9
- Unit 6 Subtraction numbers within the range of 0 to 9

Learners are introduced to numbers in units 1 and 4. Within these units, learners are taken through the following four major activities when learning the numbers;

- introducing the number,
- recognising the symbol for the number,
- tracing the number and
- writing the number.

Learners are then taken through basic operations on the numbers they have been exposed to.

Problem Investigated

The Government of Malawi (2012) recognises the potential that a numerate youth has in fostering the growth of the economy and is however concerned about high illiteracy and innumeracy levels. Achievement of many school learners in mathematics, particularly in the primary school, as measured by several national

and international studies reveal consistent poor performance (Ministry of Education, Science and Technology (MoEST, 2017; Milner, Mulera, Banda, Matale & Chimombo, 2011; Makuwa, 2010) Malawi Institute of Education (MIE), 2008; Maganga, Mwale, Mapondera & Saka, 2010; MoEST, 2010). In early grades, such studies as Malawi Institute of Education (MIE) (2008 and Maganga, Mwale, Mapondera & Saka (2010) reveal the low learner achievement in mathematics. Further, the MoEST (2014a) conducted a monitoring learning achievement (MLA) study in 2012. In this study, learners in standards 2, 4 and 7 were targeted nationally. The respondents were given tests in English, mathematics and Chichewa. Results of the study showed that Standards 2, 4 and 7 learners' mean achievement in mathematics was 40.3%, 55.1% and 36.5% respectively (MoEST 2014a). The study revealed that only 5.1%, 11.8% and 0.3% of the learners in standards 2, 4 and 7 respectively achieved desirable levels (level 4).While several measures like assessment of learning outcomes through MLA studies and Early grade mathematics assessments, increase in time spent on learning by one hour, provision of teaching and learning materials such as text books where a ratio of 1:1 is targeted, provision of adequate classrooms to reduce overcrowding and ensure inclusion of learners (MoEST 2014b:37 - 38) have been put in place to address these challenges by the Malawi government, none focus on how the current early grade instructional materials provide opportunities for the development of early number concepts. Further, there is a dearth of studies focussing on inputs (like instructional materials). This paper therefore addresses this gap by analysing the current standard 1 instructional materials for mathematics, exploring the extent to which they provide opportunities for the development of FoNS.

Research Question

The analysis of the standard 1 mathematics instructional materials was guided by the following question; 'How does the current mathematics instructional materials for standard 1 provide opportunities for the development of foundational number sense?'

Research Methodology

This study used a review research design, specifically, it is a school textbook research as described by Pingel (2010) and Nicholls (2003). Using content analysis, the researcher investigated how the standard 1 mathematics curriculum provides opportunities for (or hinders) the development of foundational number sense. The standard 1 mathematics instructional materials (mathematics syllabus, teacher's guide and learners' book) constituted the sample of the study. The standard 1 mathematics syllabus has columns with the following headings: assessment standard, success criteria, topic/theme, suggested teaching and learning activities, Suggested teaching, learning and assessment methodologies and suggested teaching and learning resources. It is divided into three sections denoting a terms work. The work is on the following major areas (called core elements): Numbers, operations and relationships; accounting and business studies; space and shape; patterns, functions and algebra; measurement and data handling. On the other hand the standard 1 teachers guide has 13 units. The number of units is the same as those in the learners' book. The teachers' guide is basically an interpretation of the syllabus, it spells out how the content in the syllabus is supposed to be taught (see figure 2 for a page in the teachers' guide. The learners book however has exercises that learners are supposed to work on (see figure 1 for an example of pages in the learners' book).

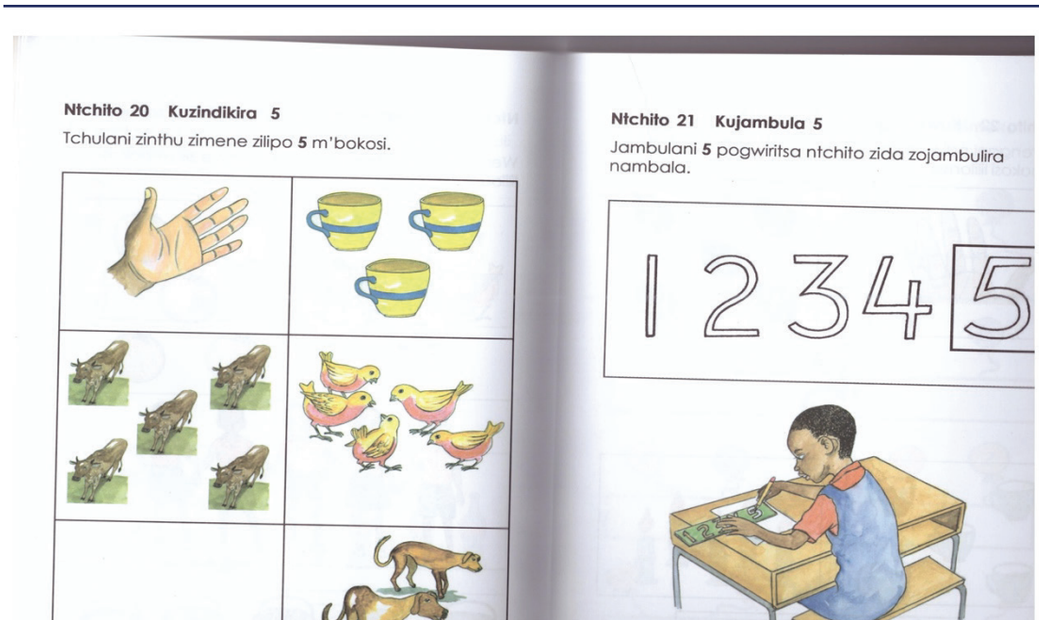


Figure 1: Two facing pages of a standard 1 learners' book

Standard 1 was chosen because this is the first class in Malawi where learners are formally introduced to the number concepts. This class comprises learners who are 6 years old, the official age at which leaners are supposed to join primary education in Malawi. This is so because preschool education is not fully developed in Malawi (MoEST, 2008) as a result, most learners are formally exposed to the number concepts in Standard 1. The eight categories of FoNS by Sayers, Andrews and Boistrup (2016) were used as an interpretive framework for the study.

To further understand the extent to which learners were provided with opportunities to have their FoNS developed, a study on teachers practice (the implemented curriculum) could have been done. The study however was limited to the intended curriculum by design.

Findings of the Study

The findings of this study are presented and discussed according to the interpretive framework that informed this study. As such the eight categories by Sayers, Andrews and Boistrup (2016), of FoNS constitute the themes that will be discussed in this section. Before discussing the findings, a summary is presented in table 2.

Table 2: Opportunity for the development of FoNS in Standard 1 instructional materials

Category of FoNS	Opportunity provided?	Comment of opportunity
Number recognition	Yes	Well covered
Systematic counting	Yes	Not adequately done
Awareness of the relationship between number and quantity	Yes	Not fully covered.
Quantity discrimination	Yes	Done but instructions not coming out clearly in the teachers' guide.

Category of FoNS	Opportunity provided?	Comment of opportunity
Different representations of number	Yes	Not adequately addressed
Estimation	No	Non existent
Simple arithmetical operations	Yes	Done but at a low level
Awareness of number patterns	Yes	Covered too late in the topic and fully covered.

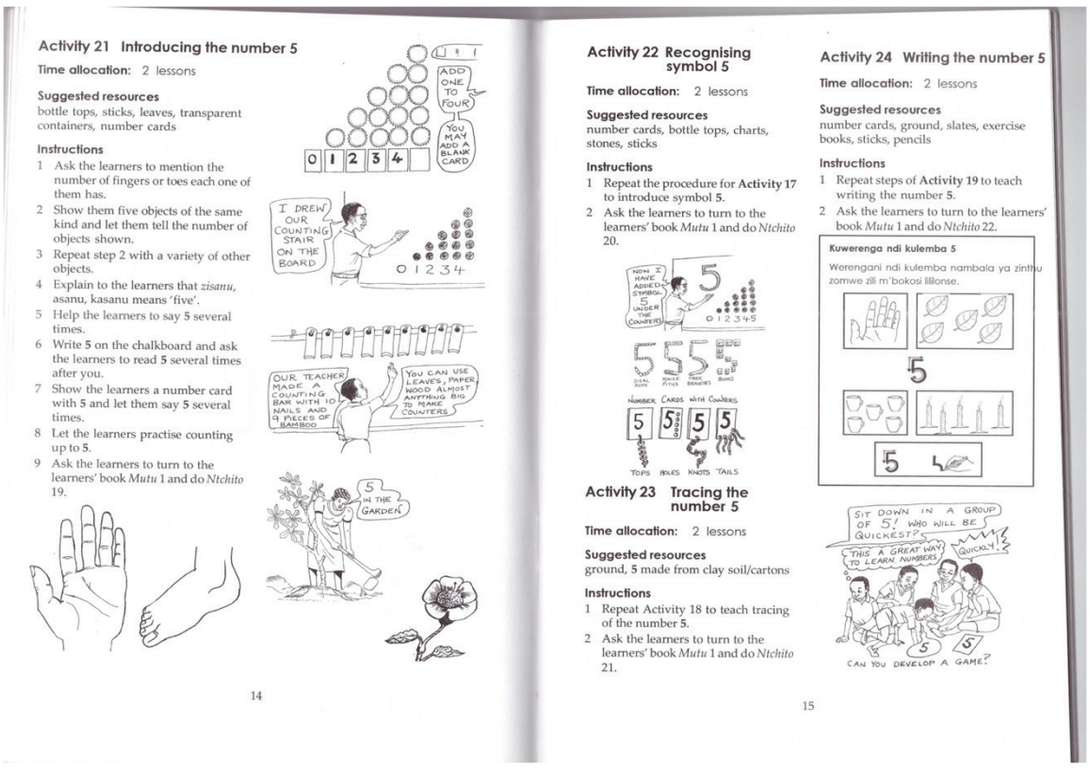
It is evident in table 2 that the instructional materials provide opportunities for seven out of the eight categories of FoNS. Further, of the seven categories where opportunities were provided, only two categories (number recognition and awareness of number patterns) were seen to have been fully addressed. A discussion of each of the eight categories ensues to provide more information.

Number recognition

The instructional materials provide several activities on recognition of number. An example of activities for recognising the number 3 is well explained (see MIE 2012b:7). Learners are provided with activities where they identify a particular number symbol from a collection of number symbols. This is done when learners are being introduced to the number and during another activity where learners are assisted to recognise numbers. In this case, they are asked to name a number when shown a symbol of that number. This is evident in units 1 and 4 of the teachers' guide and the learners' book (MIE 2012b). This is encouraging because as Sayers et. al (2016) pointed out, number recognition includes promoting learners ability to recognise number symbols and know their associated vocabulary and meaning. Further, it also includes enabling learners to identify a particular number symbol from a collection of number symbols and name a number when shown that symbol. Inclusion of activities on number recognition and ensuring that they are well taught will therefore put learners on road to working with numbers with ease.

Systematic counting

Learners are neither exposed to counting backwards nor skip counting. Systematic counting requires that learners count systematically and understand ordinality, count to 20 and back or count upwards and backwards from an arbitrary starting point knowing that each number occupies a fixed position in the sequence of all numbers. An illustrative example is seen in a page from the teachers' guide below where teachers are guided to introduce learners to the number 5.



Activity 21 Introducing the number 5

Time allocation: 2 lessons

Suggested resources
bottle tops, sticks, leaves, transparent containers, number cards

Instructions
1 Ask the learners to mention the number of fingers or toes each one of them has.
2 Show them five objects of the same kind and let them tell the number of objects shown.
3 Repeat step 2 with a variety of other objects.
4 Explain to the learners that *zisanu*, asanu, kasanu means 'five'.
5 Help the learners to say 5 several times.
6 Write 5 on the chalkboard and ask the learners to read 5 several times after you.
7 Show the learners a number card with 5 and let them say 5 several times.
8 Let the learners practise counting up to 5.
9 Ask the learners to turn to the learners' book *Mutu* 1 and do *Ntchito* 19.

14

Activity 22 Recognising symbol 5

Time allocation: 2 lessons

Suggested resources
number cards, bottle tops, charts, stones, sticks

Instructions
1 Repeat the procedure for **Activity 17** to introduce symbol 5.
2 Ask the learners to turn to the learners' book *Mutu* 1 and do *Ntchito* 20.

Activity 23 Tracing the number 5

Time allocation: 2 lessons

Suggested resources
ground, 5 made from clay soil/cartons

Instructions
1 Repeat Activity 18 to teach tracing of the number 5.
2 Ask the learners to turn to the learners' book *Mutu* 1 and do *Ntchito* 21.

Activity 24 Writing the number 5

Time allocation: 2 lessons

Suggested resources
number cards, ground, slates, exercise books, sticks, pencils

Instructions
1 Repeat steps of **Activity 19** to teach writing the number 5.
2 Ask the learners to turn to the learners' book *Mutu* 1 and do *Ntchito* 22.

Kuwerenga ndi kulemba 5

Werengani ndi kulemba nambala ya zinthu zomwe zili m'bokosi lilionse.

5

5

15

Figure 2: Introducing the number 5 to standard 1 learners

Going through activities 21 to 24 from figure 1 reveals the absence of instances where learners are exposed to counting backwards and skip counting. The review further revealed that learners are exposed to counting up to 9, meaning that they are exposed to a small range compared to their cognitive ability. There is however evidence that learners are assisted to understand the ordinality concept. An understanding of ordinality forms the basis on which the relationships between numbers are explored further (Fritz, Ehlert, & Balzer, 2013). Further, going through instructions, it is not clear how the teachers can reinforce the one-to-one correspondence during counting. With this, it is likely that teachers may not take learners through activities like 'physically taking an object from one point to another point' or 'touching the objects' to differentiate the 'already counted' from the 'to be counted'. It was therefore not surprising that this activity was not done in some of the lessons that Saka (2019) observed.

Awareness of the relationship between number and quantity
The review revealed that learners were given multiple opportunities where they were exploring the relationship between the number and quantity. An excerpt from the teachers' guide below demonstrates how it was done

1. Show the learners three objects and ask them to tell the number of objects being shown
2. Repeat step 1 with a variety of other objects
3. Explain that *zitatu* means 3
4. Help the learners to say 3 several times
5. Write the number 3 on the chalkboard and ask the learners to read the number 3
6. Show the learners a number card containing the number 3

7. Let the learners read 3 after you
8. Organise the learners into groups
9. Give the learners a variety of materials such as number cards, leaves, stones, bottle tops.
10. Let the learners show each other three objects at a time
11. Use wall charts to show different objects depicting 3.

(MIE 2012:12)

The excerpt above clearly shows an activity where learners were supposed to be given a number name and the quantity it represents. There was however no activity that was aimed at making learners understand that the last number in a count represents the total number of objects (cardinality concept).

Quantity discrimination

Much as learners are provided with opportunities where they are given a number and the quantity it represents (see figure 2 activity 21 for an example), there are no activities where learners are clearly expected to compare different magnitudes when learning about numbers. This therefore means that it is difficult to move learners beyond counting as a mechanical routine.

Different representations of number

Representing numbers differently lays foundation for operations on the numbers. Representations can include a number line; different partitions of a number; the use of fingers and various manipulatives. The review revealed that the use of fingers to represent numbers is not explained in the instructional materials. There are no activities on partitioning of numbers or part – part whole relationship (Fritz, Ehlert, & Balzer, 2013).

Estimation

An analysis of the standard 1 mathematics instructional materials revealed that activities on estimation are non-existent. The importance of estimation in daily lives is well documented by Siegler and Booth (2004). Much as learners are introduced to the number line, there is no attempt to provide activities where learners would locate a given number on a number line (see Siegler & Booth, 2004 for a detailed explanation of such activities).

Simple arithmetical operations

Learners are expected to be able to perform simple arithmetical operations or the transformation of small sets through addition and subtraction. The review revealed that there were many opportunities provided in the instructional materials (see units 2, 3, 5 and 6 in MIE, 2012a). The operations are however based on count all strategy for addition and take away for subtraction. This however, according to the Committee on Early Childhood Mathematics (2009) means that learners are exposed to lowest level (level 1) of operations. Learners are therefore not challenged in their mathematical thinking during the activities. This calls for the need to include activities that may expose learners to higher levels in line with their cognitive development. Arithmetic operations using 'count on' strategies (level 2) and 'derived facts' strategies (level 3) need to be included in the instructional materials.

Awareness of number patterns

The review showed that learners are provided with opportunities to identify a missing number. This activity is well covered. The activity however comes very late in the teaching sequence, it comes at the end of units 1 and 4. It is understandable for it to come after unit 1 but not at the end of unit 4. According to Roberts (2013), number

patterns involve: direction (forwards, getting bigger, ascending; backwards, getting smaller, descending), repeating (jumps the same, repeated addition / subtraction) and growing patterns (jumps different and doubling or repeated multiplication/division). The one presented in the instructional materials is limited in that it involves direction only. This however is not a big problem because instruction is supposed to be age appropriate and the work covered so far is appropriate to learners. It can at the same time be argued that the work is not challenging for learners. Some work on repeating patterns could have also been included. This would assist in reinforcing skip counting.

Conclusion

This paper has discussed how the current standard 1 mathematics instructional materials in Malawi provide opportunities for the development of FoNS. Much as the instructional materials cover a lot of content on early number concepts, a lot of gaps were unearthed. Some of the gaps include; exposing learners to numbers up 9 only, absence of activities on estimation on a number line and compositions and decompositions of number. Measures to address the identified gaps have been proposed.

Implications of the Findings of this Study

The findings presented in this study imply that learners are denied adequate enabling opportunities for them to become foundational number sense aware. This is detrimental to their mathematics development journey and may be one of the contributors to the prevailing low achievement of learners in mathematics in both national and international assessments in Malawi. There is therefore a great need for revising mathematics instructional materials for standard 1 to incorporate content that is needed to promote learners' FoNS. The revision should be followed by training standard 1 teachers who will use the revised instructional materials as some content may be new to many of them. The training should also be extended to student teachers currently in primary teacher training colleges to ensure that they leave the colleges with knowledge of how to make learners 'foundational number sense aware'.

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The effect of Textbook and syllabus non-alignment and English language acquisition by Dr. Esther Somé-Guiébré

Abstract
This study examined the inconsistencies between the textbook and the syllabi used in teaching English as a foreign language in Burkina Faso and the extent to which they hinder language acquisition. According to a 1983 Government regulatory note, the goal of foreign language teaching in Burkina Faso is to help learners develop communicative competence. The syllabi of English as a foreign language was revised in 2010, but the textbooks remained the same. That situation seemed to have created a discrepancy between the syllabi and the textbooks affecting the teaching/learning process. This paper attempted to highlight the discrepancy and understand the extent to which that discrepancy hinders the acquisition of the English language in 5e, the second year of middle school. The data collected for the study was qualitative and included observations, and interviews, and document analysis. The findings suggested that the inconsistency between the 5e textbook and syllabus is a significant source of hindrance to the English language learning in Burkina Faso, as teachers end up focusing on teaching grammar to the detriment of the other aspects of language learning that could highly contribute to the development of communicative competence.
Keywords: communicative competence, language acquisition, syllabi, textbooks, English as a foreign language, grammar teaching approaches.

Introduction

Curriculum development in Burkina Faso has been the prerogative of the Ministry of National Education, which created an office devoted to curriculum design and innovation. Curriculum innovation is initiated either by the national authorities in charge of education or by teachers and/or teacher supervisors. Once it is initiated, the office in charge of curriculum design and innovation takes the responsibility of organizing the relevant activities for rolling up the curriculum designed. The design of the curriculum is often overseen by teacher supervisors with the collaboration of a few teachers.

In the case of the textbooks and syllabi of EFL, for example, they were initiated by the ministry of education and designed by a team of teacher supervisors under the ministry's guidance. After the syllabi were designed, they went through an approval process at the ministry of education before being edited and disseminated in schools through school authorities.

Similarly, to all the other EFL textbooks in Burkina Faso, the textbook 'English for second year' (used to teach the second year of middle school students in Burkina Faso) has been in use since the 1990s in alignment with the traditional approaches to language teaching which laid a specific emphasis on grammar teaching methods. However, after realizing that students went through seven years of English language learning (from middle school to high school) without being able to hold basic conversations in English, Policymakers undertook a new project consisting of revising the syllabi in 2010.

The new syllabi said to be functional ones, aimed at helping teachers achieve communicative competence in their classrooms. Unfortunately, the change of syllabi was followed neither by a change of the teaching methodology, nor a change of the textbooks. Keeping the textbook unchanged created an inconsistency that seemingly slowed down the achievement of the communicative goals of EFL teaching in Burkina Faso (Somé-Guiébré, 2018). The creation of that inconsistency could be related to the organization of the two documents around different concepts (functional organization for the syllabi and structural organization for the textbooks).

In Burkina Faso, English as a foreign language is officially taught in post-primary and secondary levels. Post-primary levels take four years and secondary ones three years. In the first two years of post-primary level (6e and 5e), English is taught five hours a week as opposed to three hours a week for the remaining grade levels.

In this study, the researcher was particularly interested in the 5e (second year of post-primary school) classroom for several reasons. The first reason was that the students were already aware of some of the basics of the English language and were past the curiosity of discovering a new language. Besides, unlike the other grade levels where the syllabi included suggested texts based on current themes identified by policymakers, the syllabus of 5e did not have any text, and the themes developed were often different from those in the textbook. Some teachers then confessed to teaching that grade level without ever studying any text. Their teachings at that level were exclusively grammatical. This paper seeks to uncover the discrepancy between the syllabus of 5e and the textbook through classroom teaching practices and the extent to which it could hinder language acquisition. The author investigates the following questions:
What are the similarities and the differences between the syllabus and the textbook? To what extent does the use of the syllabus and the textbook promote the development of communicative competence? To what extent are teachers aware of communicative teaching approaches?

Literature Review
This study took the theoretical perspective of communicative competence as unveiled by Hymes (1972). Hymes viewed communicative competence in terms of sociocultural factors to language acquisition. He argued that language acquisition does not only consider knowledge of language structures but also the appropriateness of language use. Developing a communicative competence suggests acquiring 'competence as to when to speak, when not, and as to what to talk about with whom, when, where, in what manner.' (p. 60). According to Hymes, communicative competence implies developing a competence for language use and a competence for grammar. He asserted that 'within the developmental matrix in which knowledge of the sentences of a language is acquired, children also acquire knowledge of a set of ways in which the sentences are used (Hymes, 1972; p. 61).

Savignon (2018) similarly argued that the practice of spontaneous communication in the classroom 'could contribute to the development of communicative competence with no loss of grammatical accuracy' (p. 3). Savignon asserted that for the development of communicative competence, findings 'support the integration of form-focused exercises with meaning-focused experience' (p. 4). She reported that grammar was better learned when it was related to the communicated needs of the learners.

Similarly, Hiep (2007) stated that the "need for meaningful communication supports the language learning process, and, thus, classroom activities should focus on learners' genuine communication" (p. 194). Hiep also revealed the diversity of communicative competence interpretation and suggested that classroom teachers should figure out their understanding of the word communication and hence adapt it to their specific context. In the same vein, Fadilah (2018) suggested the need to adjust the communicative approach to teachers and students' needs in the context in which it is implemented.

Alamri (2018) is, on the other hand, critical to communicative language teaching (CLT). According to him, many teachers mistakenly believe that setting up communicative activities in the classroom is enough for learners to develop communicative competence. The issue, according to Alamri, is the is a focus on meaning while linguistic structures and teaching contexts are ignored. He advocated for attention to "learners' needs and motivation, context, cultures, and grammar" (p. 136).

Taking the perspective of communicative competence thus requires developing and implementing communicative materials, which influence classroom interactions and promote communicative language use (Richards and Rodgers, 2014). In a discussion about material development in language education, Richards (2006b) argued that the writer needs to consider his or her understanding of language and language use to set the goals for the materials to be developed and their focus and the activities. Richards also pointed out the need to set the material within the framework of a theory of learning.

Another essential discussion about teaching material in promoting communicative competence is relevant to the notion of 'authentic material.' According to Berardo (2006), authentic text refers to the real-life texts written for native speakers and produced for social purposes. The author contrasted authentic and non-authentic texts and pointed out that the latter is artificial and unvaried, concentrating on something that must be taught and often containing a series of *"false-text indicators"* that include:

- *perfectly formed sentences (all the time);*
- *a question using a grammatical structure, gets a full answer;*
- *repetition of structures;* and
- *very often does not "read" well. (p. 61)*

As for authentic materials, Berardo, (2006) argued that they "enable learners to interact with the real language and content rather than the form. Learners feel that they are learning a target language as it is used outside the classroom" (p. 62). Hiep (2007) however, argued that "the use of authentic material, meaning authentic to native speakers of English can be problematic in the Vietnamese or Chinese classroom" (p. 195). He suggested that teachers adapt the authenticity of the material to the context in which the language is taught. According to Omid (2016), authentic material should be related to the learners' needs and daily life and consider features that facilitate comprehension. Bax (2003) made a similar argument and urged language teaching professionals to emphasize learning context in their teaching practices. The learning context, including learner variables, is the crucial factor in successful language learning.

Methodology

The data for this study was collected through a qualitative methodology. Bogdan and Biklen (2003) referred to qualitative research as descriptive, naturalistic, and concerned with process. As for Watson-Gegeo (1988), she reported that "the

ethnographer's goal is to provide a description and an interpretive-explanatory account of what people do in a setting, the outcome of their interactions, and the way they understand what they are doing" (p. 576).

Both Bogdan and Biklen and Watson-Gegeo discussed qualitative study as being descriptive. This qualitative study seeks to observe and describe the phenomenon. The phenomenon here was the effect of the non-alignment of the textbook and the syllabus of 5e on language teaching. Conducting a qualitative study provided a deep insight into the phenomenon, which helped the researchers understand the data.

Study site and participants

This study took place in an urban area of Burkina Faso in Western Africa. The city in which the study was carried out was largely multicultural and multilingual, although there was a dominant local language. Most of the children involved in the study primarily spoke at least two languages: a local language and French, the language of education. The children only started learning English in 6e (first year of middle school). English was taught as a subject throughout the post-primary and secondary levels for 5 hours a week in the first two years and 3 hours a week for the rest of the grade levels.

This article deals with 5e grade level for a couple of reasons. The first reason is that 5e is the second year in post primary school and students are officially taught English. They usually start post-primary school very enthusiastic to learn English. However, that enthusiasm goes away as they move to higher grade levels. They often show little motivation to learn English in 5e. The second reason is that only 6e (first year of post-primary) and5e (second year of post-primary) have available textbooks in EFL teaching in Burkina Faso. The remaining grade levels do not have any and teachers rely mostly of the syllabi that suggest texts to be studied. However, the syllabus of 5e does not include any text and that leaves teachers unguided about their teaching practices.

This study participants were 5e students (second year of middle school) with their English teachers. The students were between the age of 11 and 17. They attended public post-primary schools and had been learning English for two (2) years. The data collection took place in five (5) 5e classrooms; each classroom counted about 90 students. As for the five teachers, they all majored in English from a national University. After their academic degree, they took a test to become teachers and received a two-year teacher education sanctioned by a teaching certificate. They had at least five years of teaching experience. In addition to the teachers and their students, the researcher approached four teacher supervisors, two from the curriculum development office and two from the teacher education college. Teacher supervisors are former high school teachers of EFL (with at least five years of teaching experience). They went through at least two years of theoretical and practical professional education at the national college of education to be promoted as teacher supervisors.

The sampling was purposeful. The teacher participants were expected to be teaching students in 5e (second year of middle school) with no distinction of age, gender, and professional experience. Teacher supervisors had to be affiliated either to the curriculum development office or the teacher education college.

Data collection

This study used three methods of data collection which were classroom observations, interviews, and document analysis. The study focused on an analysis of the textbook

of 5e and the syllabus in use. The analysis allowed the researcher to develop an insight into the phenomenon by pointing out possible sources of challenges. Each classroom was observed three (3) times for two hours each time. During the observation sessions, the researcher took notes of everything happening in the classroom. Recording everything that happened provided an insight into the general context of the classroom. It allowed the researcher to analyze the phenomenon considering the context of the classroom.

The researcher also examined the record book in the classroom. The record book's examination allowed the researcher to uncover the nature of the courses taught throughout the academic year. The researcher was then able to perceive which of the two documents were used during teaching practices and how it was used. Afterward, the teachers were interviewed, and the interview questions were based on observation insights. Each teacher was interviewed once, and the interviews lasted 20 to 30 minutes. The classroom observations, the interviews, and the document analysis allowed the researcher to understand the phenomenon. They were useful in identifying and analyzing recurrent themes (Watson-Gegeo, 1988).

Data analysis

The researcher used qualitative methods of data analysis in this paper. The data analysis procedure used is inductive. The analysis was grounded into the data included in the document analysis, the observations, and the interviews. Thematic units of analysis were then used to make sense of the data. Themes and subthemes were identified and used as a basis for discussing the findings. The researcher was most interested in themes relevant to the examination of the inconsistencies between the textbook and the syllabi used in teaching English as a foreign language in Burkina Faso and the extent to which it hinders language acquisition.

Trustworthiness

In a discussion about naturalistic inquiry, Guba and Lincoln (1982) discussed criteria to ensure the trustworthiness of naturalistic findings. Those criteria were credibility, transferability, dependability, and confirmability.

To ensure the credibility of the data collected, the researcher resorted to triangulation through multiple data collection methods. The methods (observation, interviews, and document analysis) allowed the researcher to cross-check the information received from the different sources. The researcher also used member checks as a way of confirming the data collected. Member checks often happened during the interviews through a re-wording of answers provided by participants under the format of another question. It also happened after the interviews when the interviewees were presented with the interview transcripts for confirmation.

Another criterion for trustworthiness discussed by Guba and Lincoln (1982) is transferability. Transferability was ensured by a sampling aimed at collecting information from multiple sources, mostly through participants' diverse identities. As an example, the student participants and the teachers came from a diversity of social, cultural, economic, and linguistic backgrounds. The diversity of their identities was reflected in their interactions. The sufficient information provided about the context consisted of an additional procedure for ensuring transferability of the study.

Besides, dependability is another criterion for trustworthiness. The researcher used a combination of methods to ensure data reliability and complementarity. Thus, the

information collected during the observation was crossed and complemented with interviews and document analysis.

Finally, confirmability was also ensured through triangulation. The researcher acknowledged her biases and connection to the phenomenon under investigation. As a former classroom teacher and a teacher educator, the researcher was sometimes frustrated by some teaching practices that affect the quality of English language teaching. Being aware of that frustration was useful, as it allowed the researcher to distance herself as much as possible from any assumptions to design a trustworthy study.

Findings

The findings are organized around two key themes: the inconsistencies in the syllabus and the textbook and how those inconsistencies hinder the target language's acquisition.

Inconsistencies between the textbook and the syllabus

This section about the inconsistencies between the textbook and the syllabus deals with the following questions:

- How can we describe the two documents and how are they different from one another?
- How are the syllabus and the textbook organized?

The textbook of 5e, used since the late 1980s to teach English as a foreign language in Burkina Faso, was designed to respond to the needs of grammar-translation teaching methods, emphasizing drills and memorizations. On the other hand, the goal of the syllabus designed in 2010 was to help students achieve communicative competence.

As far as the first question is concerned, examining the syllabus and the textbook of 5e showed that they were both organized around units. Each unit dealt with a specific theme, and each theme was divided into lessons. The table below lists the units for both the syllabus and the textbook.

Table 1. Display of textbook and syllabus units

	Textbook		Syllabus
Units	1- Fatou is late for supper 2- Sports 3- Letters 4- Gardening 5- Games 6- The house 7- Buildings 8- The naming ceremony 9- Marriage 10- Direction 11- At the tailor's 12- The lorry park	1-	2- Citizenship 3- Children's rights and duties 4- Gender issues 5- Environmental education 6- Health and sanitation 7- STI and HIV/AIDS 8- Information and communication technologies 9- Going abroad 10- Road safety

	Textbook		Syllabus
	13- At the hairdresser's 14- At the airport 15- The secretary 16- The nightlife 17- Trains 18- The police 19- Shopping 20- Test A 21- Test B		11- Art and culture 12- Fashion 13- Schooling opportunities in Burkina Faso 14- Jobs and activities

An adaptation of textbook and syllabus data

As it can be noted, the textbook includes 21 units while the syllabus only has 13. The themes developed in the units are different in the two sources. Although they are expected to be used in a complementary manner in the identical grade level, the 5e syllabus and textbook present noteworthy thematic and chronological discordance (See Table 1). In the best of worlds, the teachers could have used and paired the two sources' contents in a non-linear and creative manner. However, probably, because they were under-equipped to do so, the thematic and chronological discrepancies emerged as hurdles that affected the language teaching efficiency. Most of the teachers observed ended up sticking to only one of the resources and simultaneously ignored the other.

As for the second question, it explores the organization of the textbook and the syllabus. As it was mentioned above, the two documents are organized into units. The units were organized differently. Each of the units in the textbook included two texts in the form of either a narrative text or a dialogue. Each text was followed by grammar and vocabulary points to be addressed. In the views of teachers and teacher supervisors, that organization explicitly suggested that the focus of language teaching ought to be on structure.

The units of the syllabus are divided into sub-themes, and each sub-theme is organized around functions that included structural points to be addressed. The organization around functions assumes that the structural elements should be taught within the identified functions' framework.

The table below displays the organization of a lesson in the textbook and in the syllabus. While the syllabus suggests the lesson's aims and objectives, the textbook simple provides a list of grammar points to be addressed, leaving the definition of the goals and objections to the discretion of the teacher according to teacher supervisors.

Table 2. Textbook and syllabus organization.

Lesson	Aim	Objectives	Functions	Structures/lexis	Skils
SYLLABUS Election	To help the pupils acquire vocabulary related to elections	The pupils will be able to: - identify and name voting materials - enumerate the conditions to be an elector or be elected (age, mandate, nationality...)	Identifying Enumerating Naming	- Simple present - Present progressive - Passive voice - Relative pronouns (who, whom, that...)	Listening Speaking Reading Writing
TEXTBOOK Unit 2: Sports	Not mentioned	Not mentioned	Not mentioned	Adverbs of frequency: Usually, sometimes, often, always, never	Not mentioned

An adaptation of textbook and syllabus data

An analysis of the textbook reveals that only structural elements are displayed. No mention is made of either the aims, the objectives, the functions, or the skills involved in the teaching. If the teachers reported defining each lesson's aims and objectives, they acknowledged that the functions and skills were never considered relevant issues to address in their lesson plans.

How inconsistencies hinder language development

The findings in this section showed that the lack of alignment between the textbook and the syllabus could hinder successful language acquisition. It deals with the following research questions:

- To what extent does the use of the syllabus and the textbook promote the development of communicative competence?
- To what extent are teachers aware of communicative teaching approaches?

The section starts with an analysis of texts extracted from the textbook of 5e to explore the development of communicative competence and teachers' knowledge about communicative teaching approaches.

The first one below is titled 'SPORTS.'

Ali: When do you usually go on the playground?
Moussa: We have sports on Mondays and Fridays at 4 in the afternoon
Ali: But I saw your class on the field in the morning a week ago
Moussa: We sometimes have Physical Education in the morning
Ali: Does your Sports teacher often give you tests?
Moussa: Yes. He always tests us on the high jump and the long jump (p. 13)

A reading of the text allowed the researcher to identify the aims of the lesson, which is to teach frequency adverbs. Some of those adverbs (e.g.: often, always, …) are read in the dialogue above. After the dialogue, the textbook suggests grammatical points to be addressed. Those are followed by three assignments: true/false comprehension questions, completing sentences with appropriate adverbs of frequency, and rewriting sentences with frequency adverbs.

The second text, which is a narrative titled 'Mr Sadji likes sports', suggests vocabulary words to be addressed. Some of those vocabulary points were marked in bold. In addition, the textbook provides comprehension questions and a set of assignments on adverbs of frequency.

> Mr Sadji is always very happy on Mondays and Thursdays. He likes sports, and the government encourages workers to organize group sports at their workplaces on those days. Sports keep the workers healthy and puts them in good condition for their daily activities. So, on Monday and Thursday afternoons, Sadji usually goes to work in his tracksuit. (p.15)

The presence of the vocabulary and grammar points in the text suggested that teachers need to contextualize their teaching. However, none of the teacher respondents declared teaching grammar and vocabulary within the context of the text. One teacher reported: "*I usually don't teach the vocabulary relevant to the text. I often give the students the French equivalent or the English explanation of three to four difficult words during my reading comprehension classes. My vocabulary lessons are usually not related to reading comprehension.*"
The researcher verified this during classroom observations and record book analysis. During classroom visits, the researcher noted that vocabulary lessons were taught in isolation, often using pictures for illustration and asking students to repeat the words after the teacher for proper pronunciation. Afterward, teachers often asked students to provide sentences using the words just studied. This decontextualized approach to teaching the vocabulary lesson was in contradiction to the goals of the syllabus which was to promote a communicative approach to language teaching.

During the interviews, Teacher 1 noted the lack of correlation between the syllabus and the textbook. She reported that "*as a teacher, I am confused about the use of the syllabus. I don't understand its organization. I was told it is a communicative syllabus, but I don't know what that means.*" Teacher 2 had a similar argument and stated that he followed the grammatical progression of the syllabus, but when it came to studying reading comprehension, he would use the textbook. He said, "*the syllabus does not include any text. It's then difficult for me to discuss the themes in the syllabus. I prefer using the themes in the textbook.*" As for teacher 3, he stated that English teachers in his school had a meeting to harmonize their progressions at the different levels. However, they could not reach a compromise because they had different frames of reference.

As for teacher 4, he mentioned: "I teach my classes and use the syllabus alone. I only teach the grammar points." When asked if she taught anything else than grammar and vocabulary, she said, "the syllabus suggests texts for the different middle school levels. But for the 5e level, it does not include any text. So, I don't study any text in 5e." Similarly, teacher 3 revealed the following; "the syllabus has very important topics that could be relevant to the needs of the students, but I don't have any text to deal with those topics. I decided then to ignore them and deal with those in the textbook." On the other hand, teacher 5, noted that he used the syllabus and looked

up text dealing with the topics. He reported; “for the unit on citizenship, I often looked up texts used for the middle school level oral exam. Those texts are often easy and accessible. Whenever I could not get texts dealing with the topic, I wrote one myself.”

However, all the teachers stated that they disregarded the functions in their teachings. They reported not knowing the purpose of the functions identified in the syllabus. The teacher supervisors sustained their assertion and claimed that most teachers did not receive any training about functional syllabi and only used them as structural ones.

From the data collected through teacher interviews, it seemed apparent that there was no agreement between teachers about using the two guidance tools. Each teacher used the document that worked better for him/her. That lack of agreement in using the two documents affects the harmonization of language teaching in that grade level. In the same token, Supervisor 1 argued that teachers were expected to follow a given progression in their classroom, and that called for some harmonization of the topics to be addressed. However, it seemed difficult to reach that goal since teaching materials were not harmonized.

Besides, an observation of 5e classrooms and an examination of the record books revealed that teachers follow the syllabus's grammatical progression. They taught the grammar point of the syllabus in isolation. Following Teacher 4’s classes, the researcher observed that he used the three Ps (presentation, practice, production) to teach grammar deductively. For example, to teach the present perfect tense, he gave the students the rules of the present perfect tense, told them when to use it, and then gave them examples of sentences using it. When asked if his class was communicative, he responded, "*yes, it was communicative. If you noticed, the students participated in the classroom activities and responded to my questions. When I asked them to give me sentences using the present perfect tense, they provided good examples*.”

Teacher 4 did not seem to have a clear understanding of a communicative class, nor did he seem to know its implication on language learning. He took students’ participation and their response to his questions as a sign that his lesson was communicative. According to supervisors 2 and 3, it was hard for teachers to implement a communicative approach to language teaching because they did not know what it implies. They reported that when the decision was made to shift from grammar-focused syllabi to functional ones, there was an agreement that the textbooks and the teaching methodologies would also be changed. Unfortunately, they were not able to follow up on the textbooks and teaching methodologies.

The data above shows that the use of the textbook and the syllabus could hardly promote communicative competence for several reasons. First, they were based on different language teaching perspectives: traditional approaches for the textbook and communicative ones for the syllabus. Second, they were used by teachers who received little to no training about communicative competence and hardly understood the perspectives of a functional syllabus. Third, there seemed to be no conversation between teachers about their use of either of these documents.

Discussion

Inconsistencies between the textbook and the syllabus

An analysis of the data reveals an inconsistency between the textbook recommended in the classroom and the syllabus. That inconsistency was noticeable through the difference of topics discussed and their organization. The findings unveiled a

disagreement between teachers about the use of the textbook or that of the syllabus. If some teachers used both tools, others found an easy way out not teaching reading comprehension and limiting their classes to grammar and vocabulary lessons. The disagreement between the teachers affected student learning, as a group of learners might spend a whole academic year without being exposed to anything else other than structure. Referring to Canale and Swain's (1980) definition of communicative competence, it was most likely that the students might acquire some level of grammatical competence. However, sociolinguistics and strategic competence remained foreign concepts, which did not facilitate the development of communicative competence.

In the same vein, grammatical competence was most likely isolated since the teaching of grammar was not contextualized. As pointed out in the findings, the texts in the textbook included the grammatical points to be studied, which was an opportunity to promote contextualized form-focused teaching. However, classroom observations as well as interviews showed that teachers disregarded the texts when teaching grammar. The syllabus appeared to be a list of grammatical points to be addressed. Therefore, grammar teaching was devoid of any meaningful context and slowed down the acquisition of communicative competence (Hiep, 2007). Alamri (2018) suggested the inclusion of meaning, structures, assessment, and teaching context for effective teaching and learning of EFL.

Similarly, Savignon (2011) argued that communicative competence reflected on form-focused and meaning-focused experiences. It also considered the learners' communicative needs. However, exclusively teaching grammar or teaching it in isolation, as revealed during classroom observations, hindered the acquisition of a contextualized grammatical competence (Ko, 2013).
To be efficient, the contextualization of grammatical competence would need to be done through authentic texts. Berardo (2006) asserted that authentic materials allowed learners to interact with real-life language. However, the authenticity of the teaching material seemed to be problematic. An analysis of the texts in the textbook revealed that they were non-authentic as they focused more on structures than on real-life language. The goal of the dialogue on sports was not to help learners talk about their sportive activities but rather assist them in mastering the grammatical structures displayed in the text. The decontextualization of form-focused teaching could hardly promote a meaning focused grammatical competence that would be conducive to communicative competence. Authentic texts offered a sociocultural context that allowed learners to develop grammatical competence and sociocultural competence (Ko, 2013). Thus, the lack of authenticity of the classrooms' texts would most likely hinder language acquisition.

How inconsistencies hinder language development
The inconsistency of the two documents revealed issues related to classroom teachers' ignorance about the concept of communicative competence. As some of the teachers reported in the findings, they were unaware of the meaning of a communicative syllabus. They were expected to use a communicative syllabus to develop the communicative competence of their learners in EFL, but they did not know what that meant. As a result, they used a communicative syllabus structurally. Even the teachers who claimed to be aware of communicative competence seemed to have a misconception of it. Teacher 4, for instance, believed his class was communicative because his students participated in class and responded to his questions. He reduced the concept of communicative competence to the ability of students to answer his questions. Accordingly, he revealed his ignorance of communicative language teaching identified as a key approach to achieving

communicative competence in Burkina Faso. Communicative language teaching as defined by Richards (2006a), encompasses the goal of language teaching, the way learners learn, the type of activities used in the class, and the roles of both teachers and learners. Teacher 4 clearly disregarded all those key principles and only viewed communicative competence in terms of students' ability to respond to questions. The teacher overlooked the fact that the goals of education go beyond knowledge learning to embrace the development of students' learning abilities through critical thinking and creative activities (Kalantari and Hashemian, 2016; p. 232). Being able to answer questions based on a grammar lessons can hardly lead to the development of communicative competence. The major idea it suggested was that the learners were able to comprehend the lesson and most likely responded to the questions mechanically following the structures provided by the teachers.

The argument above pinpoints the thorny issue of the absence of teacher education. The achievement of the communicative competence goal imposed communicative language teaching as an approach to both in-service and pre-service teachers. It endowed them with theoretical and practical tools necessary to be successful teachers. According to Richards (2006a), a functional syllabus, as is the case of the syllabus of 5e, is '*organized according to the functions the learners should be able to carry out in English, such as expressing likes and dislikes, offering and accepting apologies, introducing someone, and giving explanations'* (p. 11). Such an understanding of the syllabus implied that teachers were aware of its use if they might help learners acquire those functions. Unfortunately, the findings revealed that teachers were unaware not only of what communicative language teaching was, but also how the syllabus needed to be used. Teachers' unawareness of communicative language teaching hence encouraged them to use the functional syllabus as a purely structural one while disregarding its communicative principles (Somé-Guiébré, 2018). That raised a problem about the relationship between teacher education and the successful achievement of teaching tasks. Humphries and Burns (2015) viewed the lack of teacher education as an impediment to understanding the principles underlying communicative language teaching. A relevant training would allow teachers to understand both the theory of communicative competence and hence adjust their understanding of the concept to their specific contexts (Hiep, 2007).

Another issue spotted in the data analysis is related to the relevance of the topics to the needs of the learners. Although the textbook displayed a variety of topics and the syllabus suggested themes to be addressed, a major concern was whether those elements considered the needs of the learners, which were pointed out as essential to a communicative syllabus and textbook design (Somé-Guiébré, 2018). An analysis of the narrative text on 'Mr. Sadji likes sports' shows that sports certainly is a current theme given the role it plays in the life of every human being regardless of the social and cultural context. However, the text did not create any connection between sports and the day-to-day life of the learners. It rather talked about Mr. Sadji who was an adult and a professional and most likely a parent. It would have been easier for the learners to identify to a character of their age group with situations that resonated with their real life. That would have allowed them to relate the text to their social context, that of students of a specific age group within a specific context (Littlewood, 1981; Alamry, 2018).

Conclusion

This study examined the discrepancy between the 5e textbook and syllabus in Burkina Faso and the extent to which it hindered the achievement of communicative competence. It revealed that both documents were organized around different

concepts (structural for the textbook and functional for the syllabus) and did not facilitate the acquisition of the language. Besides, the teachers' unawareness of communicative language teaching paired with the inefficient use of the functional syllabus conducted to a structural use of the syllabus, which subsequently led to teaching grammatical points in a rather decontextualized manner. The lack of teacher's education on communicative language teaching (CLT) and the isolated teaching approaches are complicated by the fact that the textbook did not reflect the sociocultural context of the learners with non-authentic texts, destined to teaching form-focused classes rather than meaning-focused ones.

All those arguments developed in this paper highlight the challenges faced by English as a foreign language teacher in Burkina Faso. To minimize those challenges, the author made some recommendations that could be valuable to the various parties involved in EFL teaching.

Recommendations and Policy Implications

It transpires from the findings that though the development of communicative competence is the overarching objective of English language teaching, teachers are not equipped with such vital skills in Burkina Faso. To significantly improve the quality of EFL teaching and learning, they need to impulse changes in the approach to language teaching.

The following recommendations outline a few paths for enabling learning spaces and conditions that would benefit teachers, learners, and policymakers, more broadly. First and foremost, it is essential for policymakers to align the syllabus and the textbook. The two documents should reflect the goals of foreign language teaching in Burkina Faso and have a common theoretical underpinning. The policymakers should streamline teaching materials with the syllabus to create proper conditions for language learning/acquisition. The apparent lack of coherence constrains teachers' knowledge while reducing their ability for effective language teaching.
Besides, the teaching materials and syllabus need to be contextualized and address the needs of the learners. The texts ought to be authentic and allow learners to connect with the topics being discussed. The authenticity of the texts will be a motivational factor for the students as they will be equipped with a language that will address their daily environment.

It is also imperative to equip and train teachers in teaching in general and, more specifically, in communicative competence by awarding them with the relevant theoretical and practical knowledge. More importantly, teachers need to be equipped with skills to develop teaching materials, which will come in handy in attempting to meet the diversity of their learners' needs. The leadership role of policymakers will prove central here. Subsequently, a special focus will need to be put on the themes, progression, theoretical and practical foundation of the functional syllabus already in use.

Attempting some of these basic but core recommendations lay the field for an English language teaching that promises to benefit both teachers and learners. Their implementation will more likely increase teachers' motivation and self-confidence, which, in turn, bears the potential to entail efficiency in their work. Learners will receive skills that will open the doors of the global community to them. They will be competent to enter the international academic market that will prepare them for international business participation with various positive implications for the country.

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Reimagining Teacher education in Higher Institutions of Learning: A case for Ugandan Universities

Fred Musisi

Abstract
In an attempt to ensure quality education, Uganda has made numerous adjustments in its curriculum in secondary schools. However, notwithstanding the above changes, curriculum implementation has been marred by the fact that little emphasis has been made to strengthen University teacher education. This study, therefore, sought to identify the gaps/ weakness in the University teacher training programs for Secondary teachers with a view of suggesting recommendations for strengthening this sector to ensure successful curriculum reforms and improvement in the delivery of quality education. Seeking a deeper understanding to the issues concerning teacher education in Uganda from responses of the different categories of people interviewed, the study adopted a qualitative research approach. Primary data was collected from two public and two private Universities, the Ministry of Education and Sports and the National Council for Higher Education. It was established that there are no uniform policy guidelines followed by the Universities on teacher training, in addition to the absence of a unified curriculum for teacher education.
Key Words; Curriculum implementation, Quality Education, Teacher education,

Introduction

The Ugandan Education system that comprises of pre-primary education, primary education, post- primary education and the tertiary and University education puts the teacher at the centre of activities carried out therein. Teachers do provide life-saving information and skills that help to provide meaningful life after school in addition, to bringing a sense of stability and hope in a community. As a result of the above Teacher education is key factor in achievement of Uganda's national vision of education. The Vision expresses Education as a basic tool for transformation of society, national integration and development. It is against this background that this study examines the policies relating to University teacher education in Uganda.

Historical Background

Formal education in Uganda was introduced by the Christian Missionaries in the 1880s who largely managed the education sector including the teaching. In 1925 however, the colonial government took over some degree of control in the sector. As the sector expanded so was the need to expand teacher education. The initial teacher training was largely for primary education carried out by the numerous Teacher training colleges spread throughout the country. To cater for secondary education teachers, some of the Teacher training colleges such as Muni established in 1947 and Kyambogo established in 1948 were transformed into National teachers' colleges to train teachers handling the Ordinary secondary education section. Makerere established as a technical college in 1922 pioneered university teacher education in the country and continued to be a major player in the field. However, with the 1988 liberalization of provision of Higher Education Services in the country a number of

universities emerged to the total of 45 by 2019. Many of these universities are providing University teacher education for secondary teachers the focus of this study.

Conceptual background

The terms teacher training and teacher Education have been often used interchangeably. However, a critical examination of the two may reveal slightly different processes. Teacher training may be taken to refer to that activity which involves training staff to undertake relatively routine tasks. On the other hand, the term Teacher Education as adopted by this study, implies the preparing of staff for a professional role as a reflective practitioner. In essence Teacher education refers to the policies and procedures designed to equip prospective teachers with knowledge, attitudes, behaviours and skills they require in the classroom, school, and wider community. It entails two major components, namely the Inservice teacher education and pre service education. Owing to the argument that teaching is considered as an art and science, where teacher acquires not only knowledge, but also skills that are called tricks of the trade. Teacher Education in this study is thus based on the theory that teachers are made, not born.

Theoretical background

Given that Pedagogy as an academic discipline that deals with how knowledge and skills are imparted in an educational context, in addition to considering the interactions that take place during learning; This study was guided by the pedagogical schools of Herbatianism. This theory was put forward by Johann Friderich Herbart (1776-1841). It highlights five components of pedagogy namely the *Preparation* that involves getting ready for the instructional process, the *Presentation*, that refers to the actual teaching and learning process, *Association,* a process of bringing ideas or events together such as in memory/ imaginations. Or a mental connection / relation between thoughts, feelings, ideas and-or sensations. The fourth component being the *Generalisation*, signifying either reasoning from detailed facts to general principles, or the formulation of general concepts from specific instances. The fifth being *Applications*, where what is learnt is put in to practice.

The above components are pertinent to teacher education and should be incorporated in teaching and learning processes. Teacher educators should employ relevant pedagogical strategies in their teaching, this so because, quality instruction is key to educational processes and it is dependent on pedagogy. Thus, given that pedagogical strategies stem from pedagogical theories, the study examined the extent to which teacher educators were knowledgeable about the above theory.

Contextual background

The primary aim of teacher education in Uganda is first; to develop educational skills that are compatible with education policies and secondly to enable teachers to deliver these policies. There are five teacher education training types currently being undertaken in Uganda. These are the Pre-primary teacher education, Primary teacher education, Secondary teacher education, Vocational teachers training and Higher education programmes. The Pre- primary and primary Teacher Education are carried out in Primary Teachers Colleges. However, upgrading primary Teachers can also access both National teacher colleges and Universities. Secondary Teacher Education, vocational training and Higher education programmes are by National Teachers colleges and Universities. The emphasise of this study is on Higher education programmes that involve Teacher education at Universities.

In Ugandan education system, an education degree course at the university takes three years. University Teacher education is conducted at the respective faculties of

education following basic minimum standards as guided by the National Council of Education and as enshrined in the Universities and Other Tertiary Institutions Act (UOTIA), 2001 (as amended). However, with regards Bachelor of education there are neither specific policies and guidelines nor set standards on how universities should handle teacher education. This partly explains the existence numerous names for education programmes leading to professional qualifications at Bachelor degree level across universities in the country. In addition to the above, to date, the 1992 Government White Paper on Education is largely still the key policy document that outlines several areas where the quality of teacher education should be emphasized, unfortunately, it lacks the rapidly changing dynamics of the 21st century secondary education. And neither does it articulate professional development of Teacher educators nor their induction. This is against the background where teachers and teacher educators are presently are under intense public scrutiny in the sight of the public than in any previous time in history.

Problem Investigated

Teacher education has and continues to be a subject of intense political and academic debate in many African countries, Uganda inclusive. It is seen as key to better qualified teachers who are able to educate pupils and students for the demands of the 21st century (OECD, 2005). Indeed, as noted "No country can be better than the quality of its education system and no education system can be better than the quality of its teachers." (Kajubi 1989). In Uganda, the rapid expansion in secondary education from the 1980s up to date and the 1988 liberalization of provision of Higher Education Services in the country has inappropriately affected the quality of Teacher Education. The drastic growth of secondary schools led the increased demand for teachers which opportunity was exploited by Universities leading to mass training of secondary education teachers. Unfortunately, policies that govern the teacher education and management at the university level have not been clearly articulated and disseminated. As a consequence of the above, most teacher educators are not conversant with the policies and guidelines regarding and ensuring the quality of the teacher being produced. Incidentally, policy makers have not given much attention to providing guidelines for teacher education. The purpose of this study, therefore, is to identify the weaknesses in the current teacher education policy guidelines and recommend ways of how this could be addressed as a mechanism of improving the quality of teacher education.

Research Objective

The study sought to;

1. Examine the existing policy guidelines with regards to teacher education in Uganda;
2. Identify the gaps/ weakness in University teacher education policies/programs in Uganda

Research Questions

What are the key features in current policy guidelines for teacher education in Uganda?

What are the gaps in University teacher education policies/programs in Uganda?

Literature Review

In their examination of the nature of teacher education in Uganda, Ngobi, Otaala, Maani, and Bakaira, G noted that for the existence of quality teacher education, is dependent on policy guidelines in relation to the actual contact hours between Teacher educators and teacher trainees, students 'lecture attends, the amount of content covered and the pedagogy used by teacher educators. In this same line of

argument Hanushek, (2003); Barber & Mourshed, (2007); Varga, (2007), too do agree that although a number of factors affect the quality of education in schools, many of these stems from policy inadequacy. These observations are pertinent issues that inspired this study to dig deeper into establishing the nature teacher education policies that exist in Uganda in relation to provision of quality education.
The OECD (2005) report based on an analysis of teacher training policies in 25 countries cogently comes to the conclusion that teacher quality is the most important factor in an education system to which this study concurs. Significant to point out that the Ministry of Education and Sports (MOES) Handbook on teacher training policies (2010) highlights the importance of teachers in the education system. It states that all Uganda's education systems must be manned by trained teachers/instructors/tutors. However, the 2008 Education Act which is the major legal instrument that guides the education sector does not handle university teacher education. The study therefore wanted to establish whether there are other policies that specifically handle university teacher education in the country.

Rawal (2103), points out that although numerous studies show that teachers are the strongest school level predictor of student learning; he urges that for this to happen the quality of the teacher must be put into consideration. This study dug deep into the above assertion with a view of establishing the extent to which the current policies do enforce the quality of training offered to university teacher trainees. With regards to the weakness in the existing policies, the remarks by Nampijja (2019), that the autonomous nature NCHE grants universities in the running of academic programs as enshrined in Universities and Other Tertiary Institutions Act (UOTIA), 2001 (as amended) comprises the quality of education being offered in universities was further examined in the study.

In addition, to concurring with Barber & Mourshed, (2007) that the quality of an education system cannot exceed the quality of its teachers"; the study was inspired by the desire to establish the weakness in the polices currently in use that are intended to guarantee quality teacher education in Ugandan Universities. The study made further analysis on observations of Fernandeze, Hauge and Moller (2000) supported by Huberman (1993) that there is limited research in the field of Teacher Education and that policy markers do pay less attention to teacher education.

Research methodology
Seeking a deeper understanding of the issues concerning teacher education in Uganda, the study adopted a qualitative research approach from responses of the different categories of people interviewed. Creswell (2014), points out that a qualitative research approach is an approach to exploring and understanding the meaning that individuals in a group ascribe to a social or human pattern. The approach focuses on an individual meaning and importance of rendering the complexity of the situation. The study started with a desk-review of literature on teacher education in Uganda with particular reference to policies relating to teacher education.

A purposive sampling procedure was utilised in which two public Universities of similar standards (Makerere and Kyambogo universities) and two private universities (Ndejje and Muteesa I Royal Universities) were identified. Purposive sampling was used because of the researcher needed to corollate data from the two oldest public universities in the country with the recently established private ones; with the intention of wishing to establish whether there is uniformity in teacher education among Public and Private Universities.

Data was collected through semi-structured in-depth interviews, Open-ended questionnaires, lecture room observation and document analysis (Policy guidelines, the education Act and The University and Other Tertiary Institutions Act), from the Ministry of Education and Sports, National Council for Higher Education and the Parliament of Uganda.

The sample of 5 interviewees from respective universities was randomly selected using nonprobability sampling – based on researcher's choice of accessibility and availability of respondents but who were quiet representative from schools/faculties of education. Responses were also received from face-to-face interviews of 20 key informants. These were officials from the Department of Teacher/ Tutor education and Training in the Ministry of Education and Sports as well as from the National Council for Higher Education, a statutory body in charge of higher education in Uganda.

Content from responses from interviews and lecture room observations were analysed using the narrative analysis. In order to improve on accuracy credibility and validity of the research, respondent validation was employed using the interview process. Under this technique initial findings of the study were summarised to the interviewees and later asked to comment and make a critical analysis of the findings.

FINDINGS

With regards to objective 1 of examining the existing policy guidelines with regards to teacher education in Uganda;

There are a number of policies enshrined in various Acts of Parliament that guide the education system in Uganda in general and teacher education in particular. These include; The Government white paper on Education (1992), The Constitution of the Republic of Uganda 1995, The University and other tertiary Institutions Act (2001) as amended, The Education Service Act (2002) and The Education (Pre-primary, Primary, Post-primary) Act 2008.

In addition, to the general guidelines, The Education (pre-primary primary and post-primary) Act 2008 singles out the issue of promotion of quality control of education and training in the country. Part v section 11 to 23 of the Act states that "No person shall teach in any public or private school of any description unless he or she is registered as a teacher or licensed to teach under this Act. While Sec 13 subsection (1) and (2) provides guidance on persons entitled to be registered which of course includes academic qualifications. The inclusion of academic qualifications was intended to provide guidelines on the quality of the qualifications a teacher should possess.

The MOE&S established the Department of Instructor and Tutor training that is mandated to facilitating recruitment of tutors, instructors, and Lectures with relevant experience, knowledge and skills, those that are self-driven, committed and hardworking.(Handbook on teacher instructor 2010) This measure was to ensure that the MOE&S takes over the responsibility for the training of teachers for primary schools, teachers for secondary schools, tutors for primary teachers' colleges, tutors for health training institutions, instructors for technical training institutions, and lecturers for the specialized training institutions including Colleges of Commerce, Technical Colleges, Agricultural Colleges and National Teachers Colleges responsible for producing teachers in the lower secondary.

It was further established the training of teachers for Secondary education is done at two levels i.e., at the National Teacher Training Colleges (NTCs) and at the university level.[1] The pre-service programme in NTCs consists of two years of training in content and pedagogy, with two school practice periods of 8 weeks each. The University Teacher education is three years with two school practice periods 6 weeks each. The control of the NTCs fall directly under MOE&S while the Universities are supervised by the National Council for Higher Education (NCHE). This in essence means that NCHE is mandated under Universities and Other Tertiary Institutions Act (UOTIA), 2001 (as amended) is to establish and maintain minimum standards for courses of study. This is to help in ensuring that what is taught in Ugandan universities, produces graduate competences that are comparable.

With regards to objective 2 of Identifying the gaps/ weakness in University teacher education policies/programs in Uganda; the following were established;

With regard to guidance on the curriculum, the MOE&S has had no meaningful engagements with both public and private universities in as far as teacher education is concerned. For instance, though, the department of Teacher Education and Training under the MOE&S is mandated under policy to liaise with Universities both public and private in respect of their teacher /instructor /tutor development programs, the policy does not give the department direct control over what takes place in the respective schools/faculties of education. Thus, as a consequence stemming from policy inadequacy, it was established from respondents that the department of Teacher Education and Training in the period under study for example, neither held workshops nor carried out inspections in their respective faculties. This definitely has negative bearing towards the quality of teacher.

The study found a discrepancy in the teacher training policies. For example, whereas The Education (Pre-primary, primary and Post primary) Act, 2008 aims at giving full effect to education policy of government functions and services by government; And mandates Government to promote quality control of education and training; it was established that whereas all NTCs follow a nationally approved curriculum under the MOE&S for quality control purposes, the Universities that are under NCHE mandated by UOTIA, 2001 (as amended) do run their individual curriculum. It was reported in the discussions that NCHE holds institutional autonomy and academic freedom for Universities as sacrosanct. It's standards only prescribe the body of knowledge below which Universities must not teach but leave the University with the freedom to design their courses based on the minimum standards. The Universities are free to add to these minimum course contents to meet their vision, mission, and individual uniqueness. It is in here that lies the weakness that comprises quality as each University eventually handles its own curriculum.

It is was also found out that whereas the MOE&S under Handbook on Teacher/Instructor/Tutor Education and Training Policies (2010) has well laid down guidelines upon which it directly monitors the quality teachers in the lower secondary this lacks with University teacher education. The MOE&S ensures that competent tutors are produced in the NTCs through well set out curriculum and guidelines, this unfortunately lacks with regards to University lectures that do handle teacher trainees. Such an anomaly has given room for lack of standardized

[1] The teachers from the NTCs hold diplomas and teach only the lower secondary. The teachers trained at the university hold bachelor's degree and teacher both levels of the secondary education.

products in terms of teachers being passed out. In addition, closely related to the above, at the university level there are no pedagogical guidelines given as the case is with the NTCs.

It was further established that in all the existing policies that deal with Teacher Education in the country, for example The Education (Pre-primary, primary and Post primary) Act, 2008 and Handbook on Teacher/Instructor/Tutor Education and Training Policies; there is none that prescribes a uniform type of qualification leading to the award of a bachelor's degree in professional qualification in education in terms of nomenclature. As a consequence, different universities use different names interchangeably to refer to the same qualification such as; Bachelor of Arts with Education, Bachelor of Arts Education, Bachelor of Education, Bachelor Education with ICT, Bachelor of Education (secondary), Bachelor Vocational studies with education and so on. This therefore makes it difficult for both the harmonization of professional qualification in education and production of teachers whose qualifications are mutually recognizable and comparable. This thus compromises the quality of teacher education owing to the fact that the crux of the entire process of teacher education lies in its curriculum, design structure and organization. The nomenclature definitely has a bearing on how the curriculum and design structure will be organized.

Finally, one of the fundamental lacunas identified in the existing policies such as The Education (Pre-primary, primary and Post primary) Act, 2008 and Handbook on Teacher/Instructor/Tutor Education and Training Policies and UOTIA, 2001 (as amended) was the failure to put in place the idea of professionalisation of university teacher educators and a framework for their continuous professional development. As a result, the qualification of university lecturers to handle student teachers is largely based on academic credentials other than professionalism in the education service. This has bearing on the quality of teacher trainees that come out of universities if not handled by individuals guided by professional standards. Significant to note like any other educational intervention; if quality education standards are to be achieved it would be easier to reshape individuals' attitudes towards development of quality education through professional commitments.

Conclusion

Although Teaching is one of the oldest and respected profession in the world however, the role, function, and competence of the teacher has kept on changing due to both the changing times and community needs. Consequently, as a way of ensuring quality teacher education in the country, these changes do also necessitate changes in the way teacher education should be conducted in Ugandan Universities. The best way to do this will be a critical examination of the existing teacher education policy guidelines with a view of addressing weakness therein.

Recommendations

As part of the minimum standards, NCHE working in conjunction with the Department of Teacher Education and Training, should in addition to enhancing the development and management of teachers, provide a framework to standardize the teaching across all universities. Issues of a uniform curriculum that embodies pedagogies and epistemologies that exemplifies the teaching profession should all be included.

To not interfere with the autonomous nature of Universities, the study recommends NCHE to mainstream cross-cutting issues in Teacher Education at Universities as

one of the mechanisms of standardization. This should be alongside a similar pedagogical approach.

The MOE&S should endeavour to disseminate the policies and policy guidelines that have been initiated to be implemented to all faculties/ schools of education in the Ugandan Universities. This will clearly enable the adaptation of well-articulated and disseminated policies that govern teacher training and management in the country.

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Biographies

Authors' Biographies

Paul Sawaya Dominick Mushi, PhD, Senior Lecturer and Head of Department of Education, Jordan University College (JUCo), a Constituent College of Saint Augustine University of Tanzania (SAUT). He has a well-to-do experience of 31 years of teaching at university level, developing and reforming curricula and working as a government CEO in decision-making and execution of all national curriculum leadership, research, design, development and reforms. Professionally, Paul led various curriculum movements in Africa when serving as IBE Council Member and UNESCO Technical Expert in the Basic Education for Africa Programme; Chair to Eastern and South Africa Curriculum Association and an Executive Committee Member of the African Curriculum Association. Paul has authored three textbooks on education and training for the informal sector (1995), teacher resource centres: theory and practice (2003) and innovative curriculum reforms-professionalization of teacher education (2019), which is available in eight (9) languages (English, French, German, Spanish, Italian, Dutch, Russian, Polish and Portuguese). He has also published extensively in local and international journals and carried out international, regional and local consultancies in education, programme and curriculum evaluation and reforms at the same time engaged in capacity building on developing competence-based curriculum and development of teacher education curriculum framework.
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Siima Gilbert Gift works at the Uganda National Curriculum Development Centre. He is a professional teacher of Mathematics and Physics who practised the profession as a classroom teacher for a period of six years. With further training he diversified and added Information Communication Technology (ICT) to the list of his teaching subjects. In the six years as a practicing teacher, he taught students following Uganda's national curriculum as well as the Cambridge IGSE curriculum. He is currently working as a Curriculum Specialist for ICT at the National Curriculum Development Centre (NCDC) in Uganda, a position he has held since 2009. At NCDC, he is charged with integration of ICT across the curriculum as a tool for effective curriculum delivery as well as developing ICT syllabus for equipping learners with ICT skills in the education system. At the NCDC, he has led the writing of a number of syllabuses and curriculum support materials that emphasise use of ICT as a tool for blended teaching and learning.
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Angela Kyagaba is a Senior Curriculum Specialist, National Curriculum Development Centre, Uganda. She holds a Masters of Education in Management and Planning, a Bachelor of Education degree in English Language and Literature in English, a Diploma in Education, a Post Graduate Diploma in Curriculum Design and Development and an Advanced Course in Textbook and other Learning Materials' Development. She is a secondary school teacher with an experience of 10 years and currently working with the National Curriculum Development Centre in the position of Senior Curriculum Specialist, having worked with the centre for 21 years.
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Stephen Ndawula, PhD is Head, Department of Curriculum, Instruction and Media, Kyambogo University, Uganda. **Stephen** has a PhD in Educational Communication and Technology and is currently Head of Department, Curriculum, Teaching,

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Mono Robert, Faculty of Education, Kyambogo University, Uganda. Robert holds a master's degree in Policy, Planning and Management of Kyambogo University and a Bachelor of Science with Education degree of Makerere University. He has been a teacher educator in South Sudan for the last 10 years. Robert is the Academic registrar at Yei Teacher Training College, South Sudan. He was part of the team that worked on the County Education Centre (CEC) support project for supporting and reactivating seven CECs in different parts of South Sudan funded by UNICEF.
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Fred Musisi, PhD. Faculty of Education, Muteesa I Royal University, Kampala, Uganda. Fred is a long serving educationist whose career spans over thirty years. Currently he serves as a Senior Lecturer at Muteesa I Royal University, Kampala Uganda. He has an experience of 31 years of teaching both at high school and at university level, especially in the area of teacher training. Fred's conviction is that in order to ensure quality education in Africa, there is a need to seek a deeper understanding to the issues concerning teacher education not only in Uganda in particular but also on the continent in general.
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Esther Somé-Guiébré, PhD. Esther has been a teacher educator and the Director of International cooperation at Ecole Normale Supérieure de Koudougou (ENSK), Burkina Faso. She holds a Bachelor's degree in English from Université de Ouagadougou, a Postgraduate degree in middle-school teaching from ENSK, a Master's degree in African Studies, a Master's Certificate in Gender Relations in International Development, and a PhD in Curriculum and Instruction from the University of Illinois at Urbana-Champaign (USA). She wrote her thesis and published articles on challenges faced by African immigrant children in American classrooms. Her academic work focuses English as a foreign language, communicative competence, syllabus design, multicultural education, and gender studies. Esther's teaching cores include applied linguistics, second/foreign language acquisition, and research methodologies. She supervised students' professional thesis in the field of English language teaching and academic Master's thesis in English didactics.
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Tionge Weddington Saka is the Director of the Directorate of Research, Evaluation and Policy Studies at Malawi Institute of Education, the National Curriculum Development Centre. He has extensive experience working in Malawi on curriculum development for basic and secondary education. He holds a PhD in Education obtained from the University of Johannesburg. His research interests are in early mathematics learning, education policy and curriculum development. He has produced several research outputs in early mathematics learning. He is currently working on a study aimed at understanding the strategies early grade learners in Malawi use in solving additive relationship problems.
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Editors' Biographies

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Betty Akullu Ezati, PhD, is an Associate Professor of Education, and holds a PhD in education and a postgraduate diploma in Educational Technology. She is the current Dean, School of Education Makerere University. Dr. Ezati has undertaken several research and published on teacher education, teaching and learning in higher education, gender and education, teaching and learning in a post conflict situations. She is also a trainer on online course design, facilitation and assessment. She has been involved in reviewing of articles for publications for several journals and publishers including International Journal of African Higher Education, Teacher Educators and Teachers, Uganda National Examination Board as well as SAGE publisher. Dr Ezati area of research includes teacher education, teaching and learning in higher education and African indigenous education, gender and education and education in conflict situation. Her current research is on learning at home during COVID-19 lock down.

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Bernadette Nambi Karuhanga, PhD, is the Deputy Director of the Uganda National Curriculum Development Centre. Bernadette has over 20 years' experience in curriculum design and development across all levels of education. She is a researcher and has published in a number of international Journals in the areas of Strategic Performance Management, Higher Education, Curriculum Development, Procurement and Public Finance. Bernadette has supervised over 100 university students in research and is an external Examiner for Masters and PhD students at the Nelson Mandela Metropolitan University (South Africa), North Western University (South Africa) and Nkumba University (Uganda). She is a reviewer with the African Journal of Economic and Management Studies, a publication of Emerald Publishing Company and the African Curriculum Journal.

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Gertrude Namubiru, PhD, is a professional teacher holding a Ph. D. in Educational Management. She has an MA degree in Education Management, Leadership, Planning and Administration. She has a degree in education Postgraduate Diploma in Curriculum Studies. She is a researcher and curriculum specialist in charge of Mathematics at National Curriculum Development Centre (NCDC) in Uganda.

Gertrude is the contact person for Enabel Uganda, Cotton on Uganda, ERF all these organisations work on curriculum issues with NCDC. She is coordinating financial literacy at NCDC. Gertrude coordinated the first international conference on curriculum for sustainable learning held in Uganda at Entebbe in May 2018. Gertrude is Secretary General of African Curriculum Association (ACA) and Coordinator representative of CESA curriculum cluster at the African Union. She contributed a lot to the initial plans to revive the African Curriculum Organisation that gave birth to African Curriculum Association.

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