REPUBLIC OF UGANDA

MINISTRY OF EDUCATION AND SPORTS

NCDC@50
NATIONAL CURRICULUM DEVELOPMENT CENTRE
1973 - 2023

The 1st International Conference on Curriculum Development

26-27 April 2023
Speke Resort
Kampala,
Uganda

Theme

Reconceptualising Curriculum in the 21st Century for Socio-Economic Transformation

CONFERENCE PROCEEDINGS

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AND SPORTS

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NCDC
NATIONAL CURRICULUM
DEVELOPMENT CENTRE

A product of the National Curriculum Development Centre for the Ministry of Education and Sports with support from the Government of Uganda

National Curriculum Development Centre

P.O. Box 7002,

Kampala- Uganda

www.ncdc.co.ug

ISBN: 978-9970-675-11-1

Conference Partners

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Message from
The Chairperson, Governing Council, NCDC

Dear colleagues and esteemed delegates,

It is with great pleasure that I congratulate the National Curriculum Development Centre (NCDC) fraternity for having celebrated the Centre's 50th anniversary. Among the activities prepared for the celebrations was the 1st International Conference on Curriculum Development.

The conference theme, "*Reconceptualising Curriculum in the 21st Century for Socioeconomic Transformation,*" is timely and critical for the development of education in Africa.

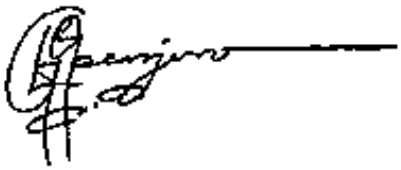
As we are all aware, a curriculum is at the centre of the teaching and learning process and has been viewed by some scholars like De Coninck (2008)1, as being at the centre of daily life and the responsibility of all stakeholders in the society as a whole.

As key stakeholders of education in our respective spheres of operation, your participation in this discussion is very critical and timely considering that many countries in Sub-Saharan Africa, Africa and the world at large, are rethinking the design of curricula, with a view of equipping learners with the necessary skills and competencies to encounter the Volatile, Uncertain, Complex and Ambiguous (VUCA) world we live in today. The sub-themes of this conference were well thought through and took into consideration the complexities of the world today.

As Chairperson of the NCDC (Uganda) Governing Council, I am confident that this book of conference proceedings will provide an excellent platform for the exchange of ideas, knowledge, and experiences among scholars, policymakers, and practitioners in the field of education. Together, we will critically examine and redefine the curriculum to meet the needs of the 21st century and contribute to socio-economic transformation in Africa. It is expected that by the end of the discussions and interactions, solutions to the challenges of the VUCA world will be realised. These will give an insight into the kind of curricula we should design for future generations.

Congratulations to NCDC on this remarkable achievement.

For God and my country



Prof. George Ladaah Openjuru

Chairperson, NCDC (Uganda) Governing Council

Message from The Director, NCDC

Dear ladies and gentlemen,

It is with great pleasure and joy that we celebrated 50 years of existence of the National Curriculum Development Centre (NCDC), Uganda.

As we celebrated our Golden Jubilee, the 1st International Conference on Curriculum Development was held under the theme *"Reconceptualising Curriculum in the 21st Century for Socioeconomic Transformation."* The focus of the conference was timely and relevant, given the global challenges we face and emerging trends in the world today. It is important to discuss how to align Uganda's curriculum with the ever-changing education environment and the labour market demands of the 21st century arising from the ICT revolution, the emerging pandemics, climate change, gender, and innovations.

National Curriculum Development Centre appreciates all those who worked tirelessly towards the development and production of the book of conference proceedings. The book of conference proceedings includes the contributions of all those who presented during the conference. The papers for presentation and the discussions were vital in shaping the ongoing efforts to transform education in Uganda, Africa, and the globe.

As we move forward, NCDC is committed to the development of a 21st-century curriculum that is responsive to the needs of our society. We recognise that the curriculum must be relevant, flexible, and dynamic to meet the demands of the digital age. Our strategic direction is to create a curriculum that promotes critical thinking, creativity, and innovation, and equips our young people with the skills and competencies required for the future workforce.

Furthermore, we are committed to localising and decolonising the curriculum by ensuring that our young people learn about our rich cultural heritage and values. We also recognise the significant role of ICT in education and are exploring innovative ways to integrate technology into the curriculum.

Finally, we believe that stakeholders' involvement is crucial to the success of curriculum development and implementation. We are committed to engaging all stakeholders, including teachers, parents, students, policymakers, and the private sector, in transforming the education sector.

As key stakeholders, we are eager to learn from your experiences which will provide an opportunity for us to explore better ways of reconceptualising the curriculum as we grapple with the need for socio-economic transformation.

In conclusion, I would like to thank all authors for the papers that were presented which were guided productive discussions and recommendations that will contribute to the transformation of education in Uganda and Africa.

For God and my country.

Dr Grace K. Baguma - DIRECTOR NCDC

Message from The Editor-in-Chief

Dear distinguished delegates,

It is with great pleasure that I introduce this collection of papers from the 1st International Conference on Curriculum matters held by the National Curriculum Development Centre on 26th – 27th April 2023.

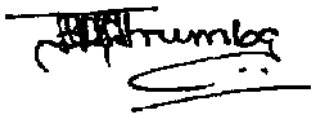
The participants in this conference have demonstrated their commitment and scholarly rigour by offering insightful contributions and research findings to the field of curriculum development and education.

My sincere gratitude goes out to the management of NCDC, whose vision and leadership have been crucial in shaping this publication. The quality of the papers in this volume is a testament to their exacting attention to detail and dedication to academic excellence.

Additionally, I would like to express my gratitude to the editorial board members and reviewers for their diligent efforts and commitment in examining the submissions and offering insightful commentary to the authors. The outstanding quality and applicability of the papers included in this collection have been guaranteed by their knowledge and perceptions.

Finally, I would like to thank every author whose work has helped to make this publication possible. Your scholarship and research have been crucial to the development of our field, and I am sure that both researchers and educators will find great value in this collection.

I hope that this publication will spur further research and cooperation in the field of curriculum development and education. I also look forward to witnessing our community's continued expansion and influence.



Dr Richard Irumba

Deputy Director – Research, Consultancy and Library Services/Editor-in-Chief

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Keynote Speakers

Introduction

This book is related to the 1st International Conference on Curriculum Development of the National Curriculum Development Centre. The conference was held from 26th -27th April 2023 and it was attended by a number of persons from all corners of Uganda and the world at large. The Conference hosted 4 keynote speakers who presented on different topics that relate to curriculum development and the 21st century. They include:

1. **Dr Ahmad Kaweesa Sengendo:** Localisation and Decolonisation of the curriculum in Africa.
2. **Prof. Rosnani Hashim:** Rethinking and reconceptualization of curriculum development for the 21st century.
3. **H.E. Sheikh Manssour Bin Mussallam:** Global trends in Educational Reforms.
4. **Prof. Muyinda Birevu:** The ICT revolution in curriculum development and implementation.

Keynote Speaker 1

Localisation and Decolonisation Of The Curriculum In Africa

Ahmad Kaweesa Sengendo, PhD, Senior Lecturer
Assistant Secretary General Economic Affairs,
Organization of Islamic Cooperation
Miiro Farooq PhD Coordinator Centre for Wisdom Pedagogy,
Institute of Teacher Education Research

Abstract

As the World Bank (2006) noted, the welfare of a nation cannot be greater than the education of its people. Education is a powerful tool for not only raising people from a lower social status to a higher one, but also socio-economic transformation of nations and states. Modern civilization owes both its origin and continued dominance of human affairs to advancements in education. The quality of education received by citizens of any nation determines the level of socio-economic advancement of that nation. Quality curriculum is one of the determinants of quality education. This paper examines the central role Africa has played in the rise of the Western world at the disadvantage of Africa herself. The paper urges that African societies were not allowed to evolve their potential naturally as their own natural evolution was crudely and decisively disrupted by two historical events of slave trade and colonialism. The introduction of Western education to African societies by the colonialists helped the later to take control of the minds of the Africans. Even after independence, intellectual colonialization continues to this day through the colonial type of education that still dominates Africa's education system. Despite Africa's huge and unparalleled natural resources, large land size and a growing population, African peoples remain the poorest on earth. This paradoxical situation is re-enforced by the Africans themselves, especially the elites who are products of a flawed education system.

This paper will demonstrate that for Africa to get out of her current precarious situation and occupy her rightful position on the world stage, there is urgent need to overhaul the entire education system. This includes a reconceptualization of the curriculum used at all the levels of the education system in Africa, with a view to localizing and decolonizing the curriculum and the entire education system. Key terminologies are defined, and suggestions on the key aspects a reconceptualized, localized and decolonized curriculum could focus on are made. The paper concludes with an assertion that for any meaningful and fundamental changes in the education system in Africa to happen, political will of the leaders of Africa at all levels is required.

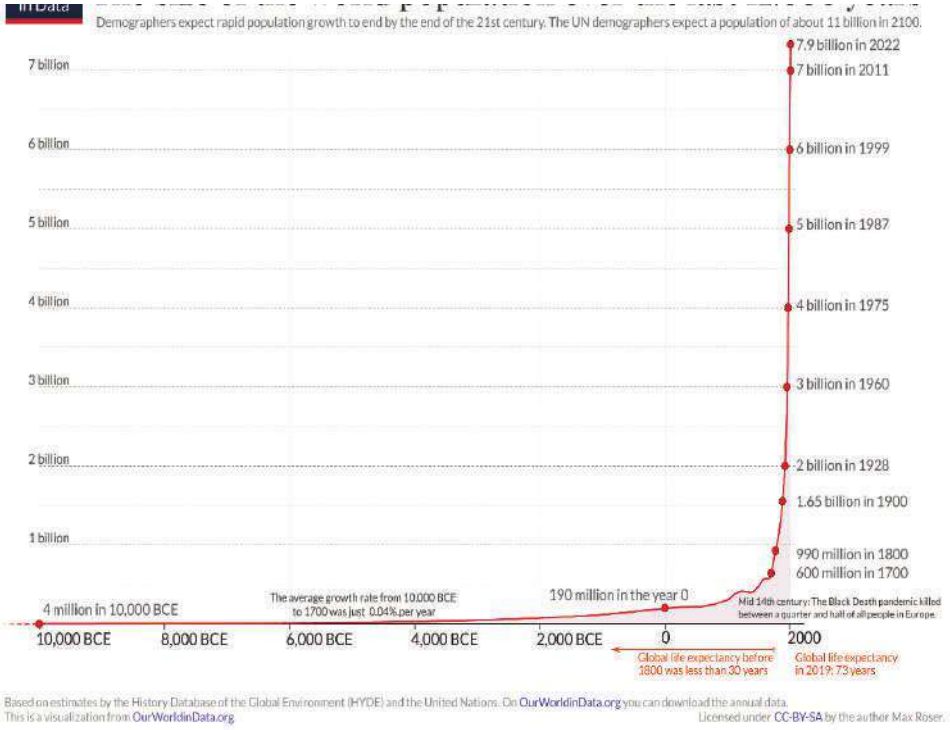
Key words: Localization, Decolonization, Curriculum

1.0 Introduction

There is no debate about the importance of education in the socio-economic development of any nation or state. One of the key indicator in countries that have been able to develop themselves is high literacy rates. As the World Bank (2006) noted, "*the welfare of a nation cannot be greater than the education of its peoples"*. In the 1960s, then President Kennedy of the United States of America (USA) asserted that "*the progress of our nation cannot be faster than the progress of our education system".*

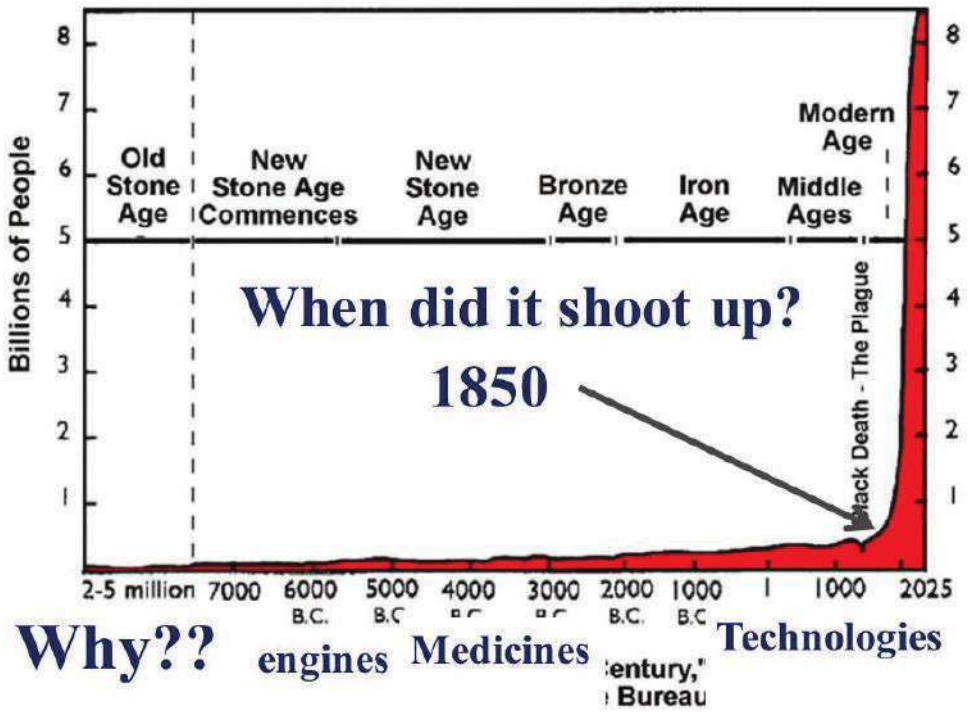
At any one time in human history, there is a key imperative which determines the path human civilization takes. Societies that are able to master the imperative of the time advance and survive better than those that are not able to do so. The graph1 below it clearly indicates population growth over the last 12,000 years

Graph 1: The size of the world population over the last 12,000 years



Increased mastery of the key imperative means greater chances of survival and multiplication. The above human population graph shows that since the invention of the key medicines, human beings have been able to survive better and increase tremendously.

Graph 2: World Population growth through history



(https://www.google.com/search?q=relation+between+key+innovations+and+human+populations+over+time+graph&tbm=isch&source=univ&fir=ET-)

Great human inventions such as the internal combustion engine, various medicines plus technological advancements helped man to survive and multiply at a very fast rate since the 1850s. The key role played by education in this historical journey of mankind was the ability to pass-over the new knowledge to many people as well as to share and cross-fertilise the knowledge to come up with more advance knowledge. Key among the discoveries, was the discovery of medicines, especially antibiotics, to treat various diseases. Mr BC Young has given the following timeline in the discovery of antibiotics.

2.0 Historical perspective of Africa

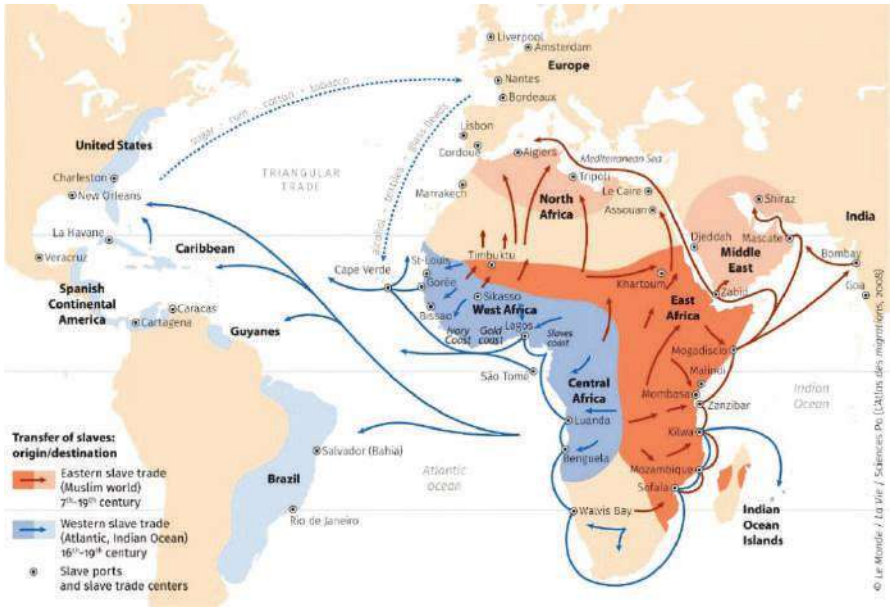
Africa is the only continent that suffered two historical catastrophic events. These were slave trade and colonialism. As a result of these two events, African societies were not allowed to evolve naturally as the natural evolution of the African societies was crudely and decisively interrupted and thrown off course.

2.1 Slave trade

For over four centuries, human traffickers and traders invaded Africa and shipped away millions of the most healthy and able-boded young Africans to Europe and the Americas. The methods used to capture these Africans, their treatment after capture and during transportation of this human cargo were the most inhuman anyone can think of. The conditions of the forced labour were some of the most despicable and wicked conditions one human being should never ever subject to another human being.

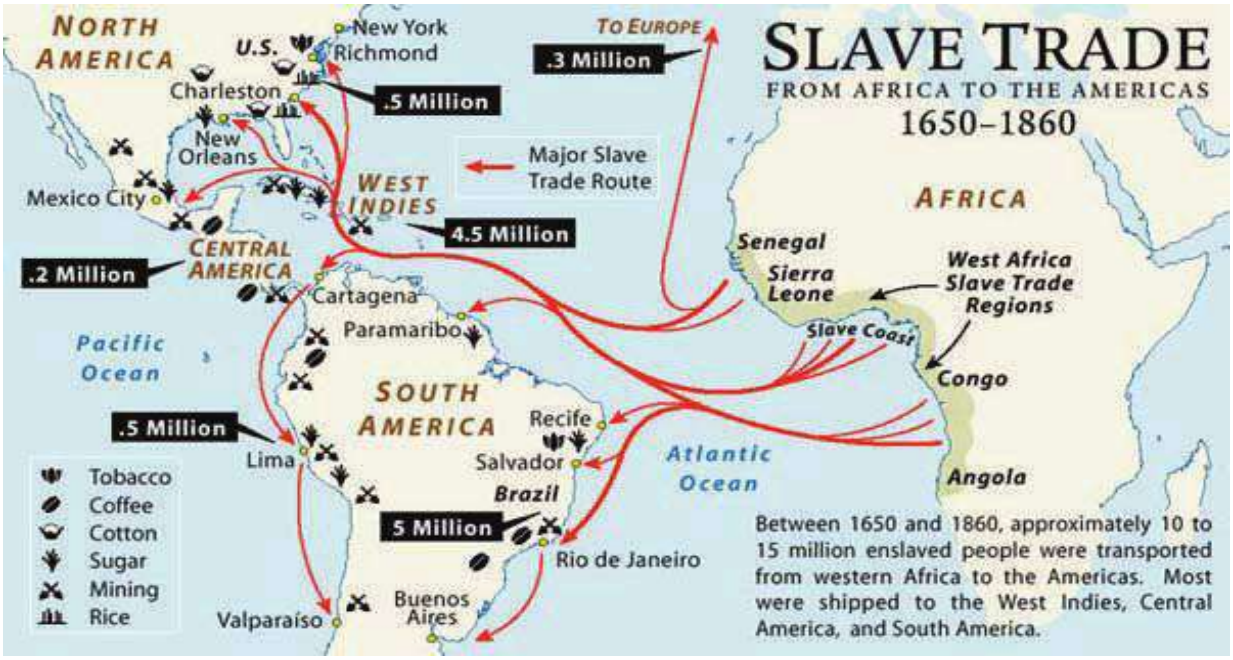
While the actual number of people shipped out of Africa as slaves may never be known, historians indicate that at least 17 million people were shipped out of as slave from Africa between 1500 and 1900 (https://en.wikipedia.org/wiki/Slavery_in_Africa). Suffice it to note that the population of Africa in 1500 was about 62 million.

Figure 1: Western and Eastern Slave Trave



Western and Eastern Slave trade routes

Figure 2 Slave Trade from Africa to the Americas (1650 – 1860)

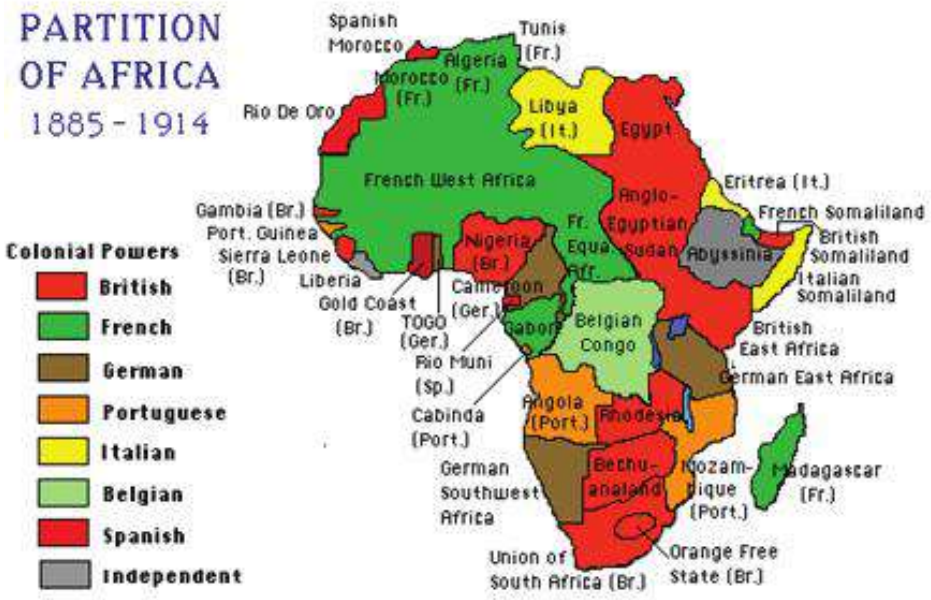


"*Evidence suggests that Africa's slave trade played an important part in the shaping of the continent not only in terms of economic outcomes, but cultural and social outcomes as well*." (Understanding the long-run effects of Africa's slave trades by Nathan Nunn, 27 Feb 2017).

2.2 Colonialism

Africa was colonized, mostly by European powers, for about 100 years. Later neo-colonialist emerged after independence. One can actually say, without any fear of contradiction, that even after African countries gained their political independence, most remained economically, educationally and socially colonized. Even politically, the influence of the former colonial masters is not hard to noticed to the present day.

Figure 3: Map of the partition of Africa



During the colonial times, Africa's resources were looted and taken to build the modern day former colonial states. After independence, the plunder continued with the "consent" of the Africans. The present-day socio-economic relationship of Africa was laid during the colonial era. Africa, for example continues to be a source of cheap raw materials, whose prices are determined by those who buy them.

3.0 Current State of Africa

Africa is large continent with relatively few people. The map below shows the size of Africa as compared to other big countries.**Figure 4: Current State of Africa**

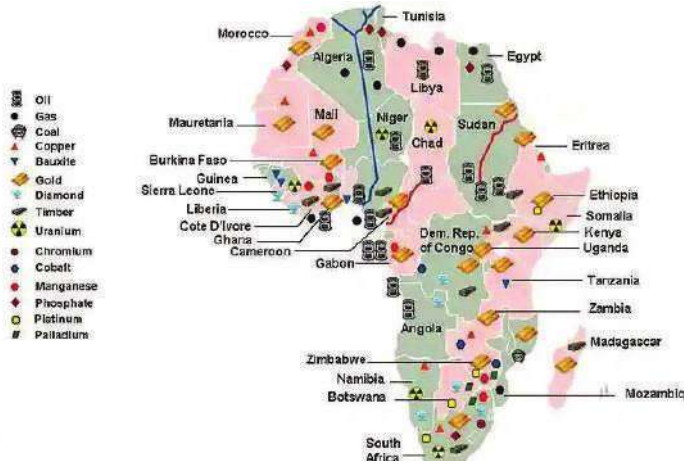
Africa's population:

1. 228 million people in 1950 (9% of world population)
2. 1.4 billion people in 2022 (17% of world population)
3. 2.5 billion people in 2050 (25.6% of world population)
4. Africa has a young population – 60% below 24 years with a median age of 19 years.
5. Africa is not over populated because it is a big continent – 30.37 million Km^2.

3.1 Africa's Natural Resources

Africa is the richest continent on planet earth in terms of natural resources, yet it continues to be the poorest! This diabolic contraction finds its roots in colonialism.


gp
Africa
Petroleum & Natural Gas
Crude Oil
Crude Oil & Petroleum Products
Iron Ore
Cotton
Uranium
Oil
Gold
Coffee
Grains
Diamonds
Tea
Copper
Aluminium
Platinum
Clothing & Shoes
Oil
Food / Drink
Metals / Minerals
Precious Metals / Minerals
Wood Products
Textile / Apparel
Machinery / Transportation
Electronics Related
Other


Oil
Gas
Coal
Copper
Bauxite
Gold
Diamond
Timber
Uranium
Chromium
Cobalt
Manganese
Phosphate
Platinum
Palladium
Morocco
Tunisia
Algeria
Egypt
Libya
Mauretania
Mali
Niger
Chad
Sudan
Eritrea
Burkina Faso
Guinea
Sierra Leone
Liberia
Cote D'Ivore
Ghana
Cameroon
Gabon
Dem. Rep. of Congo
Ethiopia
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Zambia
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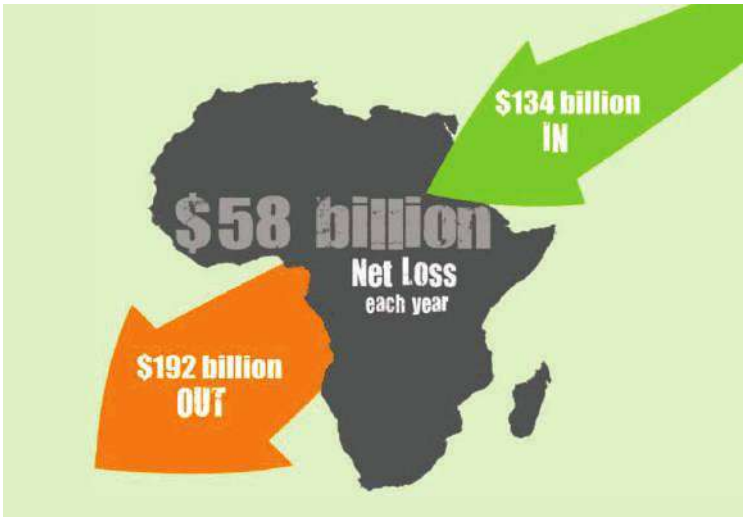
Madagascar
Zimbabwe
Namibia
Botswana
Mozambic
South Africa


$134 billion IN
$58 billion
Net Loss
each year
$192 billion OUT

4.0 Why does Africa still matter and is the new frontier again?

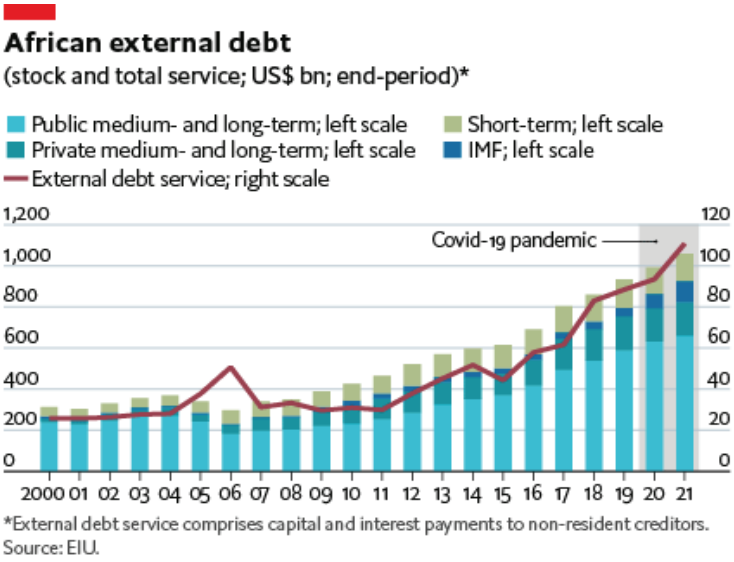
Africa has:

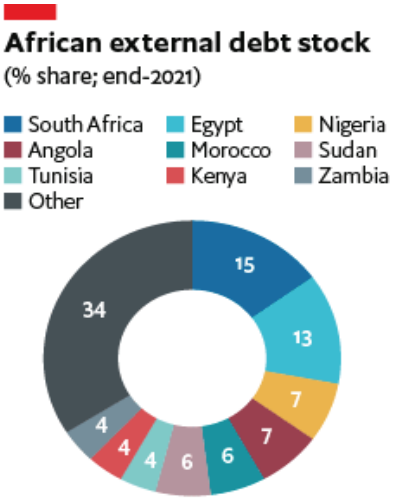
- ✓ 10% of the global oil output;
- ✓ 90% of the world's platinum supply;
- ✓ 90% of the world's cobalt supply;
- ✓ 50% of world's gold supply;
- ✓ 68% of the world's manganese;
- ✓ 35% of the world's uranium;
- ✓ 75% of the world's coltan; and
- ✓ 54 Votes in the UN General Assembly.

5.0 Africa's Debt Burden

Amidst her huge natural resources, Africa continues to borrow beyond her capacity to pay from those who take her resources.

According to the African Development Bank Group Report entitled "*African Economic Outlook 2021: Africa's growth prospects bullish despite COVID-19 constraints and debt burden*", indicated that the average debt to-GDP ratio had stabilized around 60 percent of GDP. Further, according to the Economist Intelligence report released on 27th May 2022, the *"stock of total external debt held in Africa—debt accrued by public- and private-sector entities and owed to foreign lenders—surpassed US$1trn and related annual servicing costs broke through the US$100bn threshold for the first time ever in 2021"* (emphasis mine).





20 countries with the highest debt-to-GDP ratio in Africa

According to an article in the Business Insider Africa published on March 21, 2022 12:40 pm by Emmanuel Abara Benson, the following countries of Africa have the highest debt-to-GDP ratio:

1. **Eritrea:** The national debt in this Horn of Africa country stands at 175.1% of the GDP.
2. **Cabo Verde:** This island nation has a debt-to-GDP ratio of 160.7%.
3. **Mozambique:** Mozambique has a debt-to-GDP ratio of 133.6%.
4. **Angola:** This Southern African country has a debt-to-GDP ratio of 103.7%.
5. **Mauritius:** This island country's gross debt stands at 101% of its GDP.
6. **Zambia:** Zambia's gross national debt also stands at 101% of its GDP.
7. **Republic of Congo**: This country in Central Africa has a debt-to-GDP ratio of 85.4%.
8. **Ghana:** Ghana›s debt to GDP ratio currently stands at 83.5%.
9. **The Gambia**: In this country, the debt-to-GDP ratio is at 82.3%.
10. **Seychelles:** This island country has a debt-to-GDP ratio of 81.9%.
11. **Guinea-Bissau**: This country's debt-to-GDP ratio currently stands at 79.1%.
12. **Rwanda:** Rwanda›s debt-to-GDP is at 74.8%.
13. **Burundi**: The Eastern African country has a debt-to-GDP ratio of 72.4%.
14. **Gabon:** In Gabon, the debt-to-GDP ratio is 72.1%.
15. **Senegal:** This Francophone West African country has a debt-to-GDP ratio of 71.9%.
16. **Sierra-Leone**: The Anglophone West African country has a debt-to-GDP ratio of 71.1%.
17. **Namibia:** This country has a debt-to-GDP ratio of 69.9%.
18. **Kenya:** Kenya's debt-to-GDP ratio is 69.7%.
19. **South Africa:** This country has a debt-to-GDP ratio of 68.8%.
20. **South Sudan:** South Sudan has a debt-to-GDP ratio of 64.4%.

Uganda: about 53.1% (The Independent, Dec 29 2022, Daily Monitor, 7 March 2023) – USD 20.99 billion

The bottom line is that Africa's continued status quo as exporters of raw materials, borrower, aid recipient, and generally underdeveloped, is critical to global economy and prosperity. Much of the developed world cannot sustain their development and consumption levels if Africa was to start processing its products and export value-added products – in which case most Africa countries would have no need of borrowing, would also pay back all debts, and would have excess income well beyond their recurrent budgetary needs.

Is Africa about to take that route of exporting value-added goods? Definitely NO! Those who benefit from Africa's current status, will not allow Africa to get out of it without a big fight. For them, Africa's reawakening is an existential threat to those who benefit from Africa's slumber.

The question is: how sustainable is this model? My personal view is that it is not sustainable in the long-run. As recent events indicate, the world is going through another "cold-to-warm" war. There are new global re-alignments taking place and Africa has not been out of it. China is one of the biggest financiers of many development projects in Africa. China for the first time in history has opened up a military base in Africa. France is reorganizing its military operations in Africa having withdrawn from Mali and Burkina Faso recently, USA has 29 known military facilities in 15 African countries, and Britain also has military facilities in some African countries, etc. The map of foreign military bases in Africa tells the story of Africa's strategic encirclement.

Source: Institute of Security Studies article "Will countries heed the AU Peace and Security Council's concerns about foreign military bases on the continent?" by Andrews Atta-Asamoah, 27 Aug 2019.

Source: Institute of Security Studies - Top of Form

The new realignments can only mean more scramble for Africa's resources. According to Boston University Global Development Policy Center, GCI POLICY BRIEF 012 • 04/2022, "*estimates Chinese financiers signed 1,188 loan commitments worth $160 billion with 49 African governments, their state-owned enterprises and five regional multilateral organizations between 2000 and 2020".* Some economists have pointed out that China does not only offer loans but has also a deliberate policy of investing in Africa – which is a good development as Africa need investors. India, Turkey and some Middle East countries are also gaining ground in Africa. If these new comers come in with new economic paradigm – of a win-win approach, they could help change the fortunes of Africa. A win-win approach is what one would recommend to all of Africa's development partners because ultimately, it is the only sustainable model given the new realities that are emerging, both globally and in Africa herself.

6.0 The Importance of Education

It is generally agreed (or understood) that education is a key to socio-economic development. Many individuals and nations that have attained good quality of education have also been able to advance themselves in most spheres of human endeavours. Education indicators tend to predict the human development indicators.

"*An investment in knowledge pays the greatest interest*",(Franklin, 2009)

Nelson Mandela asserted that "*Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mineworker can become the head of the mine, that a child of farm workers can become the president of a great nation. It is what we make of what we have, not what we are given, that separates one person from the other*"

On his part, George Eastman opined that "*The progress of the world depends almost entirely upon education.*"

The benefits of education can only be realised if is of the right quality and relevance. Miseducation can have catastrophic consequences for society. Some scholars even question whether education can truly drive socioeconomic transformation. They point to the fact that many bureaucrats who embezzle billions of dollars annually in Africa are "well" educated, often holding master's or doctorate degrees. A famous quote by the late Robert Mugambe, former President of Zimbabwe, serves as a rude reminder of the corruption among Africa's elites: "***If you see a guard guarding a government building during working hours, tell him that the thieves are already inside".***

7.0 What is education?

There are many definitions of the term education. Some of those that interest me include the following:

- ***"Education is what remains after one has forgotten what one has learnt in school."*** Albert Einstein.

- The implications here are that education should not be memorizing and remembering facts or everything one has learnt in school. Education should focus on moulding an individual into the best possible version of him/herself as human being. The concept of a Humanversity as propounded by some scholars, is in line with Eistein's definition of education. "***The ideal of a Humaniversity … is grounded in a commitment to humanity, knowledge, moderation and above all wisdom***", (Dlouhá, 2014; Kovačić Supervisor & Varbanova, 2015).

- Einstein's definition if well understood and followed, must inevitably lead us to question what really guides our education systems and educational institutions. We need to interrogate our own understanding of our education institutions and what they ought to be doing. One inevitable outcome of such a review must be the fact that the education institutions are a product of history, and these necessities a rethink of the narrative and values of these institutions.

- The definition also reminds us of what one scholar who said that the failures of the 21st Century will be those who "*cannot learn, unlearn and relearn".* With the ever-increasing knowledge implosion and explosion, the ability to forget what one has learned, and still be able to teach oneself the realities of life and how to successfully navigate through them, would be a great accomplishment.

- This definition is in tandem with Dr John G. Hibben who said that: "***Education is the ability to meet life's situations.***"

- It is also in agreement with John Dewey who said that "***Education is not preparation for life, education is life itself.***"

- This definition also calls upon curriculum designers, implementers, and evaluators to provide not only for the learners' Intelligent Quotient (IQ) needs, but also for their Social Quotient (SQ) and Emotional Quotient (EQ) needs. We will come back to this later.

- The definition also is not in favour of standardised summative evaluation of the Uganda National Examination Board (UNEB) type. The common type of evaluation we have is based on the learner recalling information and then apply it or used to analyse or synthesize given knowledge portions. On the other hand, the definition is asking us to evaluate the learner after he has forgotten whatever he had learnt is school. Clearly, this calls for a different type of evaluation which also requires different tools.

i) ***"Education is the progressive discovery of our own ignorance".*** Dr (Mrs) Urmila Sharma

- This definition is very intriguing. It points out that the key step to start learning, is to admit that one is ignorant – an acceptance that there are lots of things one does not know. This self-admission creates the desire, appetite, thirst or hunger for knowledge and learning. Learners who are thirsty or hungry for knowledge are the best to teach. Their reward is not necessarily good marks or grades, but the new knowledge acquired – more like the excitement of a baby after it has learnt how to stand, walk and run around the house.

- In this situation, the learner takes responsibility for his/her learning because s/he has the self-drive or intrinsic motivation. This type of learner would hid the advice of Roy T. Bennet who said that: ***"Let the improvement of yourself keep you so busy that you have no time to criticize others."***

- The learner also can easily evaluate his or her progress based on the amount of his own ignorance s/he is able to discover across time. This fits in well with John Holt's view that "*learning is not a product of teaching – but rather a product of the learners' activities".*

- In this definition, the purpose of education then becomes to turn the ignorance one is not aware of, into the ignorance of which one is aware.

- The definition agrees with Socrates who said that ***"To know is to know that you know nothing. That is the true meaning of knowledge".***

8.0 Curriculum: a key ingredient of the education system

Every education system follows a certain curriculum designed to achieve certain learning outcomes.

8.1 What is curriculum?

There are various definitions of what curriculum is, the types of curricular and purpose of the curriculum. Here are some of them:

i) From Wikipedia, the free encyclopaedia " *In education, **curriculum** ... is broadly defined as the totality of student experiences that occur in the educational process.[1] [2] The term often refers specifically to a planned sequence of instruction, or to a view of the student›s experiences in terms of the educator›s or school›s instructional goals.*

ii) *A curriculum may incorporate the planned interaction of pupils with instructional content, materials, resources, and processes for evaluating the attainment of educational objectives."*

iii) *The term* ***curriculum*** *refers to the lessons and academic content taught in a school or in a specific course or program***.** The Glossary of Education Reform

9.0 Why we must reconceptualise the curriculum

Whereas education is supposed to have helped African countries to advance their socio-economic development, we all know that this has not been the case. At independence, almost all African countries inherited the colonial system of education of their respective colonisers. Over half a century after independence, many African countries are either worse off than they were at independence, or have not made much socio-economic progress. Yes, all countries have more educated citizens and professionals than they had at the time of independence, but these have not been able to deliver to all their fellow citizens the promised fruits of education.

Suffice it to add, the colonial type of education that still exists in most of Africa, was designed to produce clerks and functionaries who would get jobs immediately after completing the required education standard. It was never designed to produce creative or innovative graduates who could help the African countries to benefit maximally from the enormous natural resources that the Creator bestowed upon them. To this day, our education system does very little if anything to develop the thinking skills of the learners.

In short, intellectual colonization and enslavement still exists in most of Africa's education system. The curricular are designed the same way the were designed by the colonial masters. Any attempt at educational reform is either initiated by "*development partners*" from the Western capitals or at least the exercise itself is very closely midwifed by "*experts*" from the same capitals. I am yet to learn of a curriculum reform endeavour that is truly initiated, managed and concluded by the Africans themselves.

Our current curriculum is Euro-centric and the evaluation is very much based on western models of evaluation. To this day, one can sit Cambridge University examination for his/her "O" or "A" level certificate, and it will be recognized throughout the British Commonwealth at least. The ranking of universities, assessment of "impact factor", and other quality indicators are based on yardsticks that are alien to Africa – forcing our institutions to play a game in which the rules of the game are set by the opponents.

The existing curricular are more theoretical and offer little skills. That is why we graduate agriculturalists who buy everything they eat, and electrical engineers who cannot wire their own houses and have to hire semi-illiterate and self-made electricians (Kamyufus) to wire their houses. Africa's roads are built by experts from abroad at exorbitant costs, and the bulk of the research is funded from abroad.

Experts are now talking of a new emerging danger called "***Food Colonialism***" which is likely to create the most catastrophic dependence danger worse than slave trade and colonialism. With the bulk of research funded from abroad, genetically modified foods are almost replacing our traditional indigenous varieties especially among cereals.

Already in some countries one has to buy maize seeds at every planting season plus fertilisers. This is because the indigenous varieties have all been wiped out and replaced by genetically modified varieties, most of which have an exterminator gene imbedded in them. The exterminator gene makes them give good yields only once or few times at best. Some researchers have indicated that in at least one country in Southern Africa, to plant one hectare of maize a farmer needs US$ 245 to buy seeds and fertilizer. This amount is well too far off for most rural farmers, resulting in serious food shortages. So, one of my recommendations is that as we endeavour to localize the curriculum, **we should ensure that there is a critical mass of people, especially the rural farmers, who have knowledge of preserving the genetic resources of our foodstuffs.**

Another reason why we must reconceive the curriculum is that the Euro-centric curriculum marginalized our cultures and values. Since knowledge in not value-free, many critical African values were replaced by Western values. In the case of Uganda where even do not have a national language, our situation is not enviable. We have a situation where studying English Language is compulsory from kindergarten to doctorate level, and yet studying Agriculture is optional. That is why the late President Mugambe mused that we can speak good English but we have no food. In a continent that is endowed with a lot of tribes and cultures, for our education system not to provide for a mechanism of appreciating and loving them, is a prescription for constant internal antagonistic contradictions – which are not uncommon as of now.

The current education system creates a sense of entitlement from society rather than one of responsibility to society. I guess that is why stories of medicines and other consumables like gloves are stolen from hospitals by some health workers, some teachers cheat exams for their learners, sex for marks scandals are prevalent, some civil servants siphoning billions of shillings every year, and many other unbelievable scandals in our societies. Corruption has almost become systemic hampering infrastructure development and service delivery in spite of high literacy rates and massification of higher education in Africa.

Unemployed graduates at all levels of our education system are increasing every year. This is because the current system trains job seekers and not job creators. There is a great skills mismatch between what the labour market, especially in the private sector, needs and what our graduates have.

With a growing population, huge debt burden, and an economy that is not generating sufficient jobs for the youth, staying the course of our current curriculum and indeed the entire education system, is risking the future of our nations.

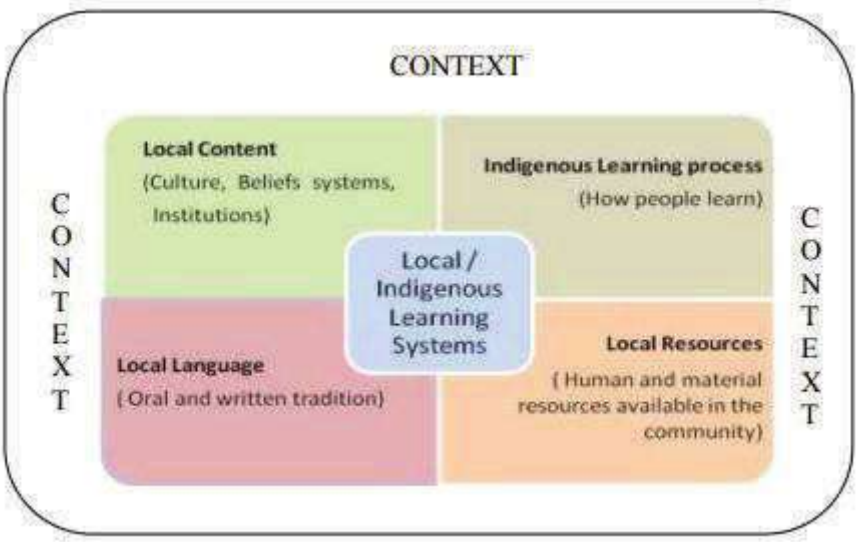
10.0 What is localization of the curriculum?

We must never lose sight of the fact that a good education is supposed to help solve the challenges communities and nations encounter. In other words, the curriculum is supposed to address the local needs of the people it serves. In this context, localizing the curriculum refers to the process of ensuring that the learning resources, activities and teaching processes are designed in such a way that they are relevant to the learners in the location where the learning is taking place. In this case one could say that it means “Africanising” the curriculum. In other words, can the curriculum help to address Africa’s challenges? Can we teach in such a way that the learners quickly derive meaning and relevancy from their learning experiences through use of local examples, researches and materials?

To me localization of curriculum should endeavour to bring indigenous knowledge into our curriculum and classrooms. Africa had and still has a wealth of indigenous knowledge on a variety of subjects that needs to be preserved and enhanced.

With the exceptions of Thailand, Singapore and to some extent Malaysia, I am not aware of any other developed country that conducts its education in a foreign language. The development of African languages and their integration into the socio-economic activities of our countries should have happened 50 years ago. In the case of Uganda, localization of the curriculum should include incorporation and development of an agreed national language.

The figure below shows the elements considered in the Localization of the Curriculum according to Maria Mercedes Arzadon, of the University of Philippines. It emphasizes the local context as the key consideration when localizing the curriculum.



11.0 What is decolonisation of the curriculum?

As already stated, the current curriculum in most African countries is more or less the same the colonial masters left behind. This was and still is based on Western models of education. Both in history and at present times, Europe and Africa have had different developmental paths although both have influenced each other. While Africa's contribute to the development of Europe has been largely positive, the same cannot be said of Europe.

"*In education, decolonisation involves acknowledging and critically examining the influence of colonial legacies on education systems as a whole, and its various sub-components such as knowledge and the curriculum. There is a consensus that decolonisation is by definition an iterative and ongoing process.*" Martin Johnson and Melissa Mouthaan (2021) in Runnymede Trust.

On her part, Education activist Sofia Akel, of London Metropolitan University, said that decolonising the curriculum is usually "*understood as the process in which we rethink, reframe and reconstruct the curricula and research that preserve the Europe-centred, colonial lens. It should not be mistaken for 'diversification,' as diversity can still exist within this western bias. Decolonisation goes further and deeper in challenging the institutional hierarchy and monopoly on knowledge, moving out of a western framework.*"

While explaining the effects of the colonial system of education to the colonized, S.M. Muhamed Idris (2012) pointed out the fact it resulted in a social reengineering of the colonized societies. He explained that:

"The result of this social reengineering was that it produced a local elite with colonized minds, crippled imagination and lacking in creativity and originality. It was a caricature of them, their confidence, self-esteem and dignity. Their life-style, tastes, and values were far removed from those of the ordinary masses and closer to their colonial masters. They were, as Macaulay would have put it, a class of persons Indians, Malays, Chinese, Africans in blood and colour, but English in tastes, in opinions, in morals and in intellect.

When the colonialists folded their flags and left, power passed into the hands of the members of this class. They took charge of the institutions – the civil service, judiciary, police, universities, etc. – created by colonialism to serve its interests, and continued to operate them without dismantling their philosophical and ideological underpinnings.

Our universities are the purveyors of the imperialist world-view and ideology. They play the role of perpetuating Western hegemony through their education models that are so destructive to our own culture, language, way of life, knowledge systems and dignity."

As a way forward, he proposes that *"to achieve true liberation and recover our authentic selves, we need to purge the West that within us*." The West that is within us, was baptised "**the Columbus within",** by Claude Alvares and others.

12.0 What elements should be in the reconceptualised, localized and decolonised curriculum?

12.1 Afrocentric curriculum

If our education system must avoid to produce the Columbus within, we must craft an Afrocentric curriculum for all our educational institutions. In this regard, B. Mukasa Lutu (2012) would advise that such a curriculum "*must draw their inspiration from the rich African heritage embedded in the African peoples' cultures and philosophies as well as their institutions which they have created over the centuries, and add on new experiences that take into account the demands of their contemporary situation."*

We need a curriculum that restores our self-worth and self-esteem as Africans – so that we love ourselves absolutely with no need of being affirmed by others. Our young people should stop bleaching themselves and be proud of the amount melanin in their skins. We need to rediscover our cultural values, be proud of our traditional dresses, foods, art, and above all, our world-view. We need to redefine the purpose of life based on our world-view.

Bogere Seezi in article published in the Monitor newspaper of April 19, 2021 advised that:

"Education on the continent [of Africa] needs to help people learn about who they are, what resources they have, and how they can use the resources available to them for their human development. It is such an education that starts from self-awareness, and self-appreciation that can release creative juices that can respond to the needs of the continent."

12.2 Solve Africa's challenges

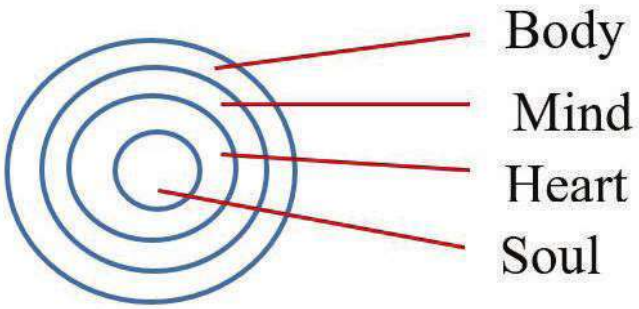
The reconceived curriculum must enable its graduates to solve Africa's socio-economic development challenges. This include ability to secure, harness and preserve our resources for the common good of all our peoples. In this context, the curriculum should be flexible enough to allow different communities focus on curriculum aspects that enable them to meet their developmental needs.

This should enable a Karamajong or Masai boy/girl who plans to stay in his home area and improve the quality and management of the local cattle herds to focus on those curriculum parts that help him to acquire the relevant knowledge and skills that s/he needs.

12.3 Focus on all the four dimensions of man

The current curriculum focuses mainly on two dimensions of humankind: the body and the. The new curriculum should focus on the other two dimensions of humankind: the heart and the soul.

Throughout history, Africans have always had a spiritual connection to a Supreme Being. African values have always been based on an inner-self that controls what the mind and the body do – the heart. The heart is the moral campus that guides behaviours, attitudes, and character formation. Enduring African values of 'Obuntu" were cultivated through the brain to the heart and soul and released through the body as behaviours and character.



Knowledge is not value-free. The current curriculum, in many subtle ways, inculcates European values to the Africans. We need to purge them out and replace them with African values hinged in African philosophies of life. We need to have graduates who understand that not to steal or misuse public funds is in their own personal interests. We want them to have hearts full of empathy, love and respect of others and public properties. They should be self-accountable and with a firm a belief in the ultimate accountability to their Creator – Katonda, Ruhanga, Imana or Allah.

12.4 Local languages

We think, learn and dream in a language. The more mastery of the language we use to think or learn, the easier it is to accomplish the tasks before us. The belief that when one cannot speak the coloniser's language one is illiterate, is an absurd colonial hungover that is still being reinforced by our education systems. We actually now have many educated young Africans who have no mastery of any language – they cannot speak their mother tongue and their English is horrible! How can such people even have any meaningful dreams to pursue? Such a situation produces graduates who, at best are semi-illiterate, and at worst educated fools lacking the capacity to positively impact their communities.

12.5 Cater for the demands of a Knowledge Society

The 21st century witnessed the emergency of a knowledge society running knowledge economies. The new curriculum must prepare its recipients to be capable of overcoming the challenges of living and working in a knowledge society. Creativity and innovativeness are the key drivers of a knowledge society. Therefore, the curriculum should provide opportunities for learners to learn to be creative and innovative.

12.6 Cater for the Information Age

It is estimated that the available information and knowledge doubles every six months. This is driven by unparalleled knowledge implosion and explosion plus unprecedented advances in science and technology (S&T) as well as research and development (R&D).

With the increasing access to the internet and world-wide-web, any curriculum that forces learners to spend a lot of time learning things at the knowledge and comprehension levels is total waste of learners' time and brain power. Definitions, years when Europeans saw the rivers, lakes, and mountains of Africa, plus a lot other concepts learns spent time in class being taught, can easily (and more accurately) be given by Uncle Google. There is no need any more to spend lots of time on such curriculum content. Of course, we have to provide for the rural poor kids who do not have smart phones or internet connectivity. One would rather spend that time helping rural kids to learn how to identify and treat sick local chicken using locally available herbs.

12.7 Avoid outdated and useless curriculum content

Learning time, resources and efforts should be spent on content that is beneficial to the learners given their African setting. What is the value of spending time teaching learners how human being evolved from monkeys millions of years ago? In the first place, it is not true at all those human beings evolved from monkeys. If it is true, how come some monkeys have refused to become human beings and chose to remain monkeys? But where is a monkey that is actually about to become a human being? Even Charles Darwin himself abandoned his own Theory of Evolution before he died. Secondly, no matter what the origin was, the important thing is that we are now here. What we do with ourselves to better ourselves and the world is the important assignment we have before us –and that is what the curriculum should focus on, rather than when we started to walk on two legs instead of four.

12.8 Have a good balance of skills and theoretical knowledge

One scholar said that an idea not put into practice, can never grow bigger than the brain cell it occupies. Ultimately it is what we do, rather than what we say, that finally makes the critical difference as we struggle to build our careers and economies. In this context, it is important to have a curriculum that enable learners to develop an organic relationship with their environment. It is this organic relationship with the environment and local circumstances that will enable learners to appreciate the natural resources they have and how to harness and benefit from them in a sustainable manner. Such learners will not look at going back to their villages to engage in agriculture as failure.

The curriculum should graduate producers and not consumers of things – producers of knowledge, goods and services. For that to happen they need to have knowledge, skills and the right attitude. I must emphasise that knowledge, skills and attitudes is not a one-size-fit-all. In fact, *the greatest injustice in life is treat two unequal people equally*. Hence, the curriculum should have sufficient latitude for both the teachers and learners to choose what is most appropriate for them.

For this to be achieved, the appropriate curriculum cannot be made by technocrats sited in our capital cities, with advice of the so-called experts who fly-in from abroad with preconceived or neocolonial notions of what is good for the Africans. The local communities must have a significant (not cosmetic) input when developing such a curriculum. Localisation of the curriculum should mean having a curriculum that helps to solve household challenges. How else can this be achieved besides allowing the household owners to define their needs, hopes and aspirations for themselves and their neighbourhoods?

12.9 **Move from the 3Rs to 7Rs**

The colonial education emphasised the 3Rs of **reading, writing**, and **arithmetic** because that was what was actually needed for people to become clerks and typical civil servants under European masters. The challenges of living and working in a globalised and knowledge-driven 21st century requires us to have more skills so that we are able to build bridges and become global citizens and workers. In other words, as we endeavour to localise the curriculum, we must not be oblivious of the fact that we live in shared world with others who are not like us, because we are not like them, but have some common interests, opportunities and challenges to handle together for mutual benefits.

The other 4Rs are religion, relations, recreation and responsibility. Let us briefly examine each of them.

Religion: As earlier stated, Africans have always had a religion of some form. The concept of a Supreme Being was well known by most African societies long before the Muslims and Christians arrived in Africa. One African politician once said that when the Europeans came to Africa, they gave us the Bible and took our land. During the colonial era, religion was also used as a tool to divide African communities along religious divides.

In recent times, religion has also become commercialised and some extremists have hijacked religion and used it for wrong ends. Nonetheless, religion remains a great tool to enhance peace, harmony, and development if properly taught and practiced. There cannot be a truly good Christian or Muslim, who is not a good citizen. One of the best ways to stop fanatics and opportunist to hijack religion and use it for wrong ends, is to bring it back into the centre of our education system and accord it sufficient importance. The idea of a secular state is one of the colonial tools used to subdue revolutionary ideas against injustices meted upon the colonized communities. People were expected and taught to suffer peacefully hitting their heads against church walls seeking for divine courage to help them endure the pain and not to annoy their tormentors. Even then, the motto of the most secular state, the USA, is "*In God we Trust".* That of Uganda, which is a secular state, is "*For God and my Country"*. All meetings start with a prayer, meaning that the role of the Almighty in scheme of our lives is a well-recognised fact. What is now required is to give the teaching of true religious beliefs the attention and importance it deserves so that we have better citizens. **The current dilemma is that people start a meeting with a prayer, lie throughout the meeting, and end it with an even a bigger prayer!**

Relations: The importance of good relations has always been recognized in most education systems. It is usually termed socialisation. However, with increasing individualized behaviours, suicide rates, broken families and marriages, unholy practices such as homosexuality, etc, there is need to have effective social skills. The curriculum should therefore provide for activities that develop the Social Quotient (SQ) as well as the Emotional Quotient (EQ) of learners.

In a globalised world, having well developed SQ and EQ skills can be more important than just a good Intelligent Quotient (IQ). While a good IQ will help one to get a job after passing the exams, one needs good SQ and EQ to keep the job. A good character is built by a good EQ, while a good SQ will enable one to have such important social skills like being a team player that are becoming increasing very important for employers.

The family has always been the foundation of the African societies. The African family typically is composed of a man, woman (wife), children, relatives and neighbours. We need to maintain this family configuration for our survival as a great people. **The increasing divorce and single parent families among the elites and middle class group in Africa is worrying.**

The infiltration of homosexual behaviours in our schools is a serious existential threat to not only the African values but also the psycho-social well-being of our society. ***We are now a continent and a people at the greatest of all risks. The curriculum must address this most dangerous attack on our most important natural resource – our children.***

Recreation: Schools have what they call extra or co-curricular activities. One the activities done under this heading is games and sport. This is a small component of recreation. With the internet and social media plus urbanisation, recreation is taking on a new importance. It is not unusual to find kids spending many hours a day watching pornography and other filthy materials and videos on the internet in their bedrooms. The effects of such activities on the mental health of the children can be devastating. If we are to raise generations of physically, mentally and emotionally stable citizens, we have to provide appropriate recreational curriculum and facilities. We also need to train or retool the teachers to be able to provide appropriate guidance, counselling, and training to the learners.

Responsibility: As earlier stated, the current educations system produces graduates who feel entitled to a privileged good treatment by society. They feel society owes them – a good job that is well paying, unquestionable respect, and a good life even at the expense of others. Most of them have no sense of responsibility, especially to the common good. When entrusted with public assets, if they do not steal them, they treat them as personal assets or simply do not take good care of them. We hear of public officers who refuse to handle over government vehicles when dropped from their positions.

Personal responsibility is equally important. So many people cannot even manage themselves. Some drink themselves to stupidity, other spend all the monthly salary the same day s/he gets it and then resorts to begging from friends for the rest of the month. Others have sold every asset the clan had to put the money to useless cravings. Our curriculum has to help young people learn to be responsible to themselves and society.

12.10 Celebrate diversity

Africa is a very diverse continent with diverse peoples and culture. This diversity needs to be appreciated and celebrated as a great asset. The curriculum must help learners to appreciate that diversity is the rule of nature, and that it is diversity that creates the viability and continuity of life itself. Eight billion human beings on earth, but no two people are identical – even identical twins are not identical. No two zebras have the same colour partners.

The curriculum has to help the learners and all involved to appreciate diversity, build synergies across cultural, tribal, racial, religious, and other divides. God knew what He was doing when he ensured that we are all different. We just have to build on our collective problem-solving abilities to overcome our development challenges. Collective intelligence that harnesses the diverse qualities of everyone can be a powerful tool for crafting a better future for ourselves and humanity at large.

The bottom line is that when all our various variabilities are distilled, they all crystalise into a physiognomy of distinctive collectivity called human beings. However, there is a big difference between human being and being human. It is on the latter that our curriculum endeavours must focus.

12.11 Open minded individuals

In order to be able to celebrate diversity, work smoothly in diverse environments, and learn effectively from all and sundry, one needs an open mind. Tolerating and accommodating views contrary to one's own requires an open mind. With so much information out there, we all must have the self-discipline and humility to know that we could be wrong and others could be right. An open mind, buttressed with a good SQ and EQ, should be able help us tame our egos, humble ourselves and afford us a chance to listen to others, and in the worst of circumstances, politely agree to disagree, but still have a cup of tea together in the evening. If we were able to achieve this, we would make the world a better place.

12.12 Appropriate evaluation

A good curriculum must be easy to evaluate. Proper evaluation is critical to determine whether or not the objectives and goals of the curriculum have been achieved. The current standardized summative evaluation common in our education systems is not the best. Standardised examinations do not drive-up academic standards. They only drive-up stress and help to widen the gap between the haves and the have-nots. With UPE and USE covering every sub-county in Uganda, access to education has significantly increased pushing up the literacy rates. This is good but it is not the end of the story.

Most rural schools either completely lack most of the basic facilities or have poor facilities. Many do not have enough qualified teachers either. On the other hand, urban schools where the children of the rich study from have very good facilities and attract the best teachers. In such as situation, when you administer the same standard examination to both groups of learners, what exactly are you evaluating? Such an exam is only useful to discriminate against the have nots, but at the same time get them to blame themselves for their failure, as the sons and daughters of the rich walk to government universities on full government scholarships because they "allegedly passed" with flying colours.

As far as my genetics knowledge informs me, the genes that code for intelligence are not influenced by the size of the bank account and/or list of assets the parents have. There are many brilliant and highly gifted kids in rural areas who only need a chance to succeed in life. The lack of facilities in rural schools denies such kids a fair chance to succeed and effectively contribute to the building of their nations. As we wait and pray for better facilities to reach the rural schools, the curriculum should have a mechanism of identifying talented kids early enough so that appropriate arrangements can be made for them to excel. I have seen one good example in Malaysia we could discuss at an appropriate opportunity.

13.0 Other factors that enable effective implementation of a curriculum

13.1 Quality and well-motivated teachers

"Teachers are NOT common people and common people are not teachers. Please do not choose to become a teacher until you are worth it." (OECD, 2010)

Teacher training needs to be looked at again. The curriculum used in teacher training institutions needs to be localized and decolonized as well.

The teaching profession needs to be made more attractive so that it attracts some of the brilliant learners to it. Currently, most people go into the teaching profession as last resort after failing to gain admission into the "juicy" programmes. Consequently, while we have many excellent and great teachers in our schools, but we also have a significant number of mediocre teachers.

The effectiveness such mediocre teachers is further undermined by lack of basic facilities and regular in-service capacity building programmes. In such a situation, many brilliant learners fail to make it through – not because they have a learning problem, but because there is a teaching problem.

We need to borrow a leaf from Germany and some Scandinavian countries where teachers are the best paid civil servants. This will attract some of best brains into the teaching profession. Then we can now talk of have creativity and innovativeness in our classrooms. The recent Government of Uganda decision to increase the salaries of science teachers up to Shs 4 million is a very commendable policy. We pray that the arts teachers will also join the same scales soon to avoid a disruptive salary differential in the school system. The Government can even go further and abolish the PAYE tax on the teachers' salaries or reduce it to a small percentage. Pakistan between 2000 and 2008 increased teachers' salaries very significantly, and reduced the tax on teachers' salaries to a maximum of 10% with a high thresh-hold. Within that paid, Pakistan experienced a brain gain instead of a brain drain.

Teachers' other conditions of service also need to improve. In the past, rural schools used to have staff houses at the school which enabled government to post there good teachers from other regions of the country. This needs to be revived.

The number of teachers need to be improved to cope with the increasing number of learners. To be able to implement effectively the reconceived curriculum as outlined herein, the teacher: student ratio must be good enough to allow more individualised attention to learners.

13.2 Basic facilities: infrastructure

Effective curriculum implementation is only possible if the minimum basic facilities and infrastructure are available. This requires good money and this money ought to be found. Most of the African countries are spending less on education as compared to other sectors. I think they need to take another look at this. Quality education is not cheap. The consolation is that if we empty our coffers into the heads of our children, the future will be better for all of us. Japan and Malaysia are good examples to bench-mark on this.

13.3 Appropriate Textbooks and other learning materials

For so long we have depended too much on textbooks written by others. We need to develop capacity to write all our textbooks used to implement the localized and decolonized curriculum. Text books, like other written materials, are not values-free. They can be used to promote the values and notions we want to achieve from the curriculum, besides the content.

13.4 Enabling policies/regulatory frameworks

Curriculum reviews, implementation and evaluation are significantly enhanced if enabling policies and regulatory frameworks are in place. Such policies should be reviewed regularly to ensure that they are in tandem with the changing realities facing the education system.

13.5 Continuous improvements

Even the best-written and thought-through curriculum will always have room for improvement. Change in policies, local and global environment may necessitate certain changes in the curriculum. Hence regular and effective monitoring of the curriculum implementation in vital. The involvement of all stakeholders in the monitoring is crucial. Also important is having a competent team of monitors, researchers, evaluators, and other experts.

Continuous upskilling and upgrading of all key implementers of the curriculum is necessary. Opportunities have to made available, especially for teachers, to continue to grow professionally.

13.6 Sufficient funding

The bottom line is that there is no cheap quality education. No matter how good a given country's curriculum might be, without the resources to implement it effectively, grow the economy so that it generates sufficient numbers of jobs for the graduates of the curriculum, invest in cutting-edge research and development (R&D) to guarantee sustainability, the good curriculum degenerates to a paper tiger unable to catch the slowest of antelopes.

African governments must be willing to provided sufficient funds to the education sector. Funding education by using foreign funds is never a good idea for any society – because there is no free lunch.

13.7 The bottom line: Need for Political Will

At the end of the day, every decision is a political decision. Africa's dilemma when it comes to crucial issues that can determine the fate of the Africans is that ***for every solution there is a problem.*** This is because of the interference from other forces who would not like to see Africa develop.

The struggle for the intellectual liberation of Africa must be championed by the political leaders at all levels. It is a more difficult liberation struggle than that of political colonization because most the Africans may not even realise that there is a problem that needs to be addressed.

It is the politicians who control the budgetary allocations of the national cake. With their support, the education sector can get sufficient resources to reinvigorate itself and serve the countries better.

14.0 Conclusion

The absurdity of our education system was summarized by the late Robert Mugabe who he is quoted to have said that:

"African Education System has surprising outcomes. The smartest students pass with 1st Class and get admitted to Medical& Engineering schools. The 2nd Class students get MBAs and LLBs to manage the First-Class students. The 3rd Class students enter politics, and rule both 1st and 2nd Class students. The failures join the army and control politicians who, if they are not happy with, they kick or kill them. … Best of all those who did not attend any school, become prophets & witch doctors, and everybody follows them."

Africa, the cradle of mankind, is a big, rich, diverse and strategic continent on the global scene. Her level of underdevelopment is astonishing given its enormous natural resources. Both slave trade and colonialism disrupted Africa's natural evolution into a developed and self-propelling continent. The attainment of independence, over 50 years ago for most countries, has not helped to develop Africa. This is mainly because colonialism has never totally left. While political colonialism was said to have ended, intellectual colonialism stayed and continues to determine the fate of the African peoples. Overhaul of the entire education system is required if Africa is to realise her full potential and play her rightful role on the world stage. To this end, we can begin with localizing and decolonizing the curriculum offered in our schools.

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Keynote Speaker 2

Rethinking and reconceptualization of curriculum development for the 21st Century

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Introduction

It is most appropriate to begin with a brief overview of education and the problems that beset the curriculum of most educational institutions today. This will then provide the proper context for the discussion on the rethinking and the reconceptualization of the curriculum.

It has been acknowledged by educationists throughout the world that education serves a dual purpose, for the individuals and society. It is through proper education that an individual's potentials--physical, intellectual, moral, spiritual, and emotional--are drawn out, cultivated and developed. It is in this sense that Socrates referred to a teacher as a midwife because of his or her role to draw out something already innate in the child. Of course, what is drawn out and how soon depend very much on the skills and ability of the teachers. Education also serves another important role which is to transmit and transform the cultures, values and legacy of a particular society. Education is said to be playing a conservative role when it just transmits the prevailing cultures, values and beliefs from one generation to the next or maintains the status quo. However, it is also capable of playing a more radical role when it attempts to bring about changes in an effort to reform society. In general, education does play both conservative and radical roles with the progress of civilization.

Education can be distinguished into three types: the informal, the formal and the non-formal. Home is the most important institution of informal education whereby learning takes place in an unstructured and indirect manner. Thus, the home is considered as the first school and the mother as the first teacher. The school is the most important institution of learning for formal education in which learning experiences are structured and organized systematically to achieve specific learning outcomes. In a formal education, the school curriculum and the teachers are very important agents of learning. Learning also occurs through non-formal ways which means providing education through organized efforts by institutions or organizations other than the school such the community, non-governmental organizations, the mosque or the church.

Changes at the beginning of the 21st century

Much has changed in education and the way schooling is operated since the dawn of globalization in the 1990s, a new era brought about by the power of the Information and Communication Technologies.

The present generation of students – children and adolescents, is different from previous generations. They grew up surrounded by digital media. They have the radio and television that we also had but they have more – multimedia computer systems, then the greatest of all the internet with its email for brief, speedy communication; for transporting text, audio and video files; then the world wide web with Google and its search engine for almost anything that exist in man's vocabulary; social media networks, and the list keeps growing. Today we have hand phones, smart phones, iPod, iPad, tablets etc. to connect communities in a cyber world and now we have artificial intelligence IR4.0 then IR5.0. This generation believes that technology is part of the natural landscape without which they will not be able to survive. The power of connectivity via the internet is tremendous. Education is no longer seen as the instruction by the sage on the stage to the pupils. The sage is no longer seen as someone with the know all and the pupils as empty vessels upon which the sage can pour his or her knowledge. The subject-centred classroom is now being challenged greatly so by the learner-centred classroom. The blackboard as the major equipment for writing or drawing to aid in explanation is being replaced with not only a typical whiteboard but an electronic one too. Teaching of an ever-growing body of knowledge now occurs in so many different forms and ways.

The world today is also beset by environmental degradation, socio-economic dysfunction and geopolitical instability. The effect of climatic changes through pollution, unexpected floods, earthquakes, fires and weathers are causing damage to crops resulting in famines and death of livestock that threaten lives due to shortage of food. In short, the current developmental trajectory is impelling mankind and our planet towards crisis. However, the main international discourse on education continues to see it primarily as a tool for enhancing economic growth, and takes for granted the intrinsically beneficial nature both of growth and of schooling. To hope for a future that is peaceful, prosperous and environmentally sustainable depend on grasping the broader meaning and potential of education. Thus, the United Nation (2015) has drawn up 17 sustainable development goals (SDG) for this purpose which are divided into three categories as follows:

(1) Environmental: natural resources (water, energy, agriculture, biodiversity), climate change, rural development, sustainable urbanization, disaster prevention, and mitigation;

(2) Socio-cultural: human rights, peace and human security, gender equality, cultural diversity and intercultural understanding, health, HIV/AIDS, and governance; and

(3) *Economic*: poverty reduction, corporate responsibility and accountability, and market economy

Sustainability is a paradigm for thinking about a future in which environmental, social and economic considerations are balanced in the pursuit of development and an improved quality of life. These three spheres are intertwined. How to sustain our planet's resources? The sustainability paradigm is a consequence of the failure of the paradigm of economic development.

To make matter worse, Corona virus or Covid broke out in 2019 which rampaged the world killing thousands and affecting millions. To avoid the virus, a total world lockdown was declared by the World Health Organization (WHO), where all have to stay home, isolate themselves and wear protective masks if there was a need to go out of their homes. Schools were physically closed down until 2022 which means there exist a generation of lost children.

Effects of Globalisation, Sustainability and the Covid Pandemic on Education

Globalisation

It will be useful to examine the effects of these changes for education, in terms of the curriculum, the teachers and learners. More than two decades ago, Carnoy (1999) warned that there were at least six major effects of globalisation in education. First, when the World Trade Organization (WTO) set the rules and regulate the international trade in the services sector even for intellectual property, this opens up national education systems to the global education market. As a result, there develops a pressure towards internationally recognised accreditation of educational institutions. Education becomes a marketable commodity instead of just a social commodity and that knowledge will be exportable in the form of universities becoming an export industry. Courses are advertised in international markets to attract students and parents who are willing to spend large amounts of money for a degree. It also means that one has to pay expensively for learning.

Second, globalization brings back colonization but in a new form. This time it is no longer physical but through the medium of English language and culture. Globalization generates and consolidates the colonizing effect of English domination. Majority of the data in Google or in the internet are conveyed in English. A large amount of money is spent to ensure children will acquire competence in English which will become the language of instruction at universities in different parts of the world. Although we have the internet also in Japanese, Spanish, Turkish, Chinese or Arabic, these will be not as dominant as English. This will have a domino effect on local education with many private colleges switching to use English as its medium of instruction creating the bifurcation between private and public higher education institutions.

Third, globalization increases the process of internationalisation as a consequence of migration and work especially movement of human capital and resources from countries with high population density to countries with high business capital. Similarly, movements occur due to study abroad, international and exchange programs plus the establishment of International and English schools and universities. The process of internationalization results in recognition of racial and cultural diversities, tension and the dominance of English. Fourth, globalisation affects the conceptualisation of 'valuable' knowledge. It gives a higher value to knowledge with immediate economic benefits to improve economic productivity over social knowledge such as the humanities, arts, religious, ethical and moral studies. In this way, globalisation determines curriculum formation, education policy and practice. Increasing numbers of students would opt for science and technology which created real pressures for universities to become more vocationally-oriented. There is a growing tendency towards curriculum reform that makes education system more responsive to globalisation trends - English language, computer literacy, STEM (science, technology, engineering and mathematics) literacy, economics, and management.

Fifth, with globalization it is expected to see increasing decentralisation, that is redefinition of the relationship between education, the state, and the market through transfers of decision-making powers from central Ministries of Education to intermediate governments, local governments, communities, and schools. It usually involves public-private partnership. Decentralisation supposedly improves efficiency, transparency, accountability, and responsiveness of service provision compared with centralised systems. However, evidence is mixed.

Sixth, international testing and ranking has become more pronounced as means for emphasising accountability and raising standards in education. The OECD (Organization for Economic Co-operation and Development) conducts the Programme for International Student Assessment (PISA) across schools in member countries for comparison of performance in mathematics, science and reading, in addition to TIMSS (Trends in International Mathematics and Science Study) conducted by IEA.

For higher education, many countries have adopted league tables to place universities in hierarchical order according to their performance assessment, which is part of education marketing. The introduction of the new public management principles such ISO 9001 and business models in education had a consequence in the explosion of testing. Educational measurement promoted by international organisations, such as the THE (Times Higher Education World), QS (Quacquarelli Symonds), Shanghai Ranking (ARWU) and the World Bank represents a highly quantitative view of progress and finance driven-reforms rather than an attempt towards school improvement. There is a growing convergence in terms of 'quality' between different educational settings. When the language of accountability is dominant, the indicators of true quality narrow to measurable data. This emphasis on testing and ranking shifted the value system between students and academic staffs in private institutions and in public institutions in terms of their worldviews and values. To be ahead in the competition, academic staffs in university not only teach but have to become entrepreneurs to draw research grants or contracts to their universities and to publish. In both research and publication, quantity of money and number of articles and books matter more than the quality. This might spell the death of the intellectuals.

The pace of change of lifestyles with ICT, the precursor of globalization, and AI is phenomenal. With ICT alone education has changed from emphasis in product (memorisation and application) to process (thinking skills). The twenty first century skills encompass the ability to search and sort information for problem solving, formulate and implement research, analyse and synthesise data, apply the learning in a new situation, monitor and improve their own learning and achievements, communicate well in various forms, work in a team, learning independently or self-learning (Darling-Hammond, 2008). With IR 4.0 and 5.0 in which many routine tasks are being handled by robot equipped with AI that gives it the capacity of some form of thinking ability, this has changed the nature of occupations which will be instead to command over the robot or computers. Consequently, the nature of education for economic growth and human resource capital will have to change too.

Climatic Changes and Education for Sustainable Development

The threat that our planet Earth will perish seems more real now than before. The change envision by the liberal economists in their economic pursuits are now being scrutinised by environmentalist as detrimental to the well-being of humans and the environment. The nature of the pursuit of economic development in this mode seems like to have no place within the sustainability paradigm as a concern raised by Ban Ki Moon, the former UN Secretary General in 2007: "We hold the future in our hands. Together, we must ensure that our grandchildren will not have to ask why we failed to do the right thing, and let them suffer the consequences." The UN Sustainable Development Goals (SDGs) are intended to set the global development agenda until 2030. Goal 4 exhorts member states to ensure 'inclusive and equitable quality education and promote lifelong learning opportunities for all'. Under SDG 4, Target 4.7 calls for countries to integrate value-based and action-oriented learning into their education systems:

> By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

Consequently, UNESCO (de Lores Report, 1996) advocated educational programmes for quality education and fostering human development that are based on the four pillars of education**:** i) Learning to know, ii) learning to do, iii) learning to live together, iv) learning to be, and later after the SDG movement added, v) learning to transform oneself and society.

It is interesting that Malaysia has developed an educational philosophy and curriculum that are value-based about a decade earlier in 1987.

COVID-19 and education

To make matter worse, COVID-19 had caused learning physically face-to-face to cease, something that had never happened before. Learning had to go virtual on the Net. Before the pandemic, universities found it difficult to persuade both lecturers and students to have online classroom. The problem was due to access to the internet and its infrastructures, and also its asynchronous, monologue nature. It was probably only used by those universities with Online Distance Learning programmes.

However, the COVID-2019 pandemic has accelerated the use of ICT in the classroom through Google meet and Zoom apps, and registration of students in virtual classes like Google Classroom, Edmodo and LMS such as MOODLE all of which happened to be created at the right time. These applications and tools were much better than previous ones because the nature of the physical classroom activities could be duplicated - lecturing, questions and answers, dialogue, board for writing and group discussions. The pandemic made it clear that it was not only for the universities but necessary for the schools too. Cheaper smart phones, telephone lines and government subsidies had to be formulated to provide access to all students. Without this digital technology, it would have been impossible to teach in a virtual environment. We can say that Google meet and Zoom save humanity in terms of education and also living. These tools and applications are not only used for classroom teaching but also for hosting webinars. These apps have expanded the use of the Web for virtual education. To make learning using these possible, students, teachers and universities lecturers had to be trained and despite the initial teething issues, by the first month of its introduction, most could use it. However, because it was not possible to provide for all, the digital divide still persists in many societies.

Issues Related to the Changes

The new technologies require an education where the students or learners are no longer spoon fed but must be transformed to problem solvers. For this, they ought to be critical and creative and learn to work in a team so as to be able to see problems and generate new ideas as part of the solution. Working as a team will afford them to see different perspectives and alternatives and build upon new feasible ideas. Consequently, as team members, they need the skills of communication and collaboration for a meaningful discussion. They will also need to have self-confidence and inter-personal and social skills. They need to learn the ethics of discussion in a community of inquirers such as mutual respect, tolerance for differences of views, learning to listen, have understanding and empathy. Definitely the students need to be more tech-savvy and become independent learners with self-initiative to self-lead themselves for their own good instead of waiting for instruction from their teachers. Thus, they have to learn to be self-disciplined.

Teachers also have to undergo transformation from their previous roles as instructors, giving notes, pushing students to already set learning outcomes and being the sage on the stage. They are now going to be facilitators who orchestrate the classroom discussion – building it up from a scratch of idea till it reaches much bigger with a certain conclusion, be tech-savvy because they will be the point of reference for students with software and hardware problems, or when they need to search for data on the Net. The methods of teaching will change from teacher-centred to student-centred, more inquiry-based with questions and thus, dialogues to obtain the answers. Students need not memorized a lot since they can remember better through dialogue and discussion. The nature of assessment will change with this new emphasis on the process of learning where it is authentic, that is in real situations. Teachers can evaluate their students' performance from the discussion and also from continuous assignments given.

Hence the class will be less information-driven but more transformation-driven. In most cases since the class composition will be more diverse in terms of race, culture and religion, the teachers need to be sensitive to the cultural baggage students brought with them so as to be able to capitalise on it rather than to cause misunderstanding.

There are some major issues that have arisen with these changes. The most critical is the availability of the educational tools such as the smartphones, software, hardware, mobile applications and internet lines to students and the readiness of students, teachers and parents on the application of ICT in the classroom especially if the students are unfamiliar with the language of the internet. Another issue deals with discipline in browsing through the internet. Students can easily be distracted from the main subject to switch to something that interest them and thus spend more time searching than is necessary. Another major concern especially in using the social media is being misguided to pornographic pages with unsuitable images for their age or they might broadcast dangerous or fake news. Students might also spend their time on Net games which in most cases are about violence (killing, shooting and bombing), competitiveness, although there exist educational games such as scrabble, chess and jigsaw puzzles. The emergence of digital technologies and a more global and digital society has brought about the need to develop and educate students in digital citizenship, as well as to study how youth are taught to participate and learn citizenship in a digital age. However, the negative effects can be avoided if students are taught how to properly surf the internet and the ethics as users.

Another issue arises from parents who are less tech-savvy and could not help their children with their classroom tasks. Many were confused with the changes going in school like their children are not reading any books at home or are not given any homework. Definitely there will be no more bookworm as they probably were during their times. They seem to believe that students will not learn without the standardised tests, deep reading, high stake examinations and with no more class position.

Concerning education for sustainable development, there does not seem to be much evidence of collective effort on the basic care for the environment and sustainability, for example actions in the 3R – Reduce, Reuse and Recycle programme or taking care of pets and school gardens. Diversity in the schools which means students and teachers from various ethnicity, culture, gender or religion, working together in activities with many common aspirations for the common good and subscribing to common universal, values is better fostered.

At the level of higher education, there are also more problems. It seems that commodification of knowledge has elevated the values of STEM which can create new products and jobs that will generate more growth in the industry. However, because of the inability of the humanities and social sciences to do so, its programme became marginalized due to a lack of enrolment. This seems to contradict the purpose of the founding of the first school in man's history. Religious values, moral values, and conduct were among the most important reasons for the establishment of schools. Instead, today the schools and universities have become more vocational in response to the market demand. Lewis (2007) shocked the academia with a sharp "critique of the blend of incremental decisions and mission drift allowing the market to control the academy" in reference to Harvard. Lewis argued that "Universities have lost the sense that their educational mission is to transform teenagers, whose lives have been structured by their families and their high schools, into adults with the learning and wisdom to take responsibility for their own lives and for civil society" (xiv).

Global ranking among universities too has led to negligence of the ethical values as each desired to be ranked higher even if it means having to cheat, to plagiarize or to pay a high sum of money to publish.

It also means that professors are not going to deal with social issues that do not rank high in getting published.

According to a study by United Nation Report of Education for Sustainability in Asia (2017), Asian countries that were reviewed generally emphasize the instrumental role of education in fostering national identity and developing human resources for economic development. However, concepts associated with gender equality, peace, and global citizenship were found to be widely absent from national education policy and curricular documents. It seems that there will be challenges involved in reorienting education in Asia towards global citizenship which is a necessary outcome of globalisation. The same study states that 'critical thinking', 'creative thinking' and 'problem-solving' skills, as well as 'collaboration' and 'empathy' are evidently in vogue amongst policymakers and curriculum developers across Asia. But the overwhelming stress is generally on the instrumental dimension of these attributes. Such skills and competencies tend to be presented as important primarily for ensuring a flow of human resources for enhancing economic competitiveness. References to 'civil liberties' (under the category 'human rights') were completely absent. Most featured no reference to the concepts included in the category of 'activism' ('participation in civic protest', 'engagement in debates on socio-political issues', and 'action on issues of global reach'). By contrast, notion of 'civic engagement' (under the category 'responsible lifestyle') appeared to be endorsed in curricular documents across most countries.

The UN Report for Asia mentioned that Environmental aspects of sustainable development were widely cited, with an emphasis on conservation. However, 'climate change' and 'renewable energy' rated little coverage. No concern for climate warming, nor illegal logging in forests on a mountain, improper drainage in cities all of which cause heavy flooding. Only positive effects of AI are covered but no concern over its impending dangers as warned by Hawkins and now Elon Musk who along with more than 1,000 other tech leaders, called for a halt to the development of artificial intelligence in an open letter that warned of "profound risks to society and humanity." AI developers are "locked in an out-of-control race to develop and deploy ever more powerful digital minds that no one — not even their creators — can understand, predict or reliably control," the tech leaders wrote (Future of Life Institute, 2023).

The paper argues that as we enter the 21st century, the curricula found in schools faced many challenges as discussed above which affect the community and hence, there is a need to rethink and reconceptualize the curriculum so that it is meaningful and useful for the advancement and harmony of society. The education curriculum is very important to the extent that it has been named the queen of the educational sciences. The curriculum is a reflection of the educational philosophy of an institution, in fact, it is the mechanism by which the goals are attained.

Rethinking and Reconceptualising the Curriculum

Curriculum development is a process of improving the curriculum. Various approaches have been used in developing curricula. According to Kaddu & Haumba (2018), commonly used approaches consist of analysis (i.e. need analysis, task analysis), design (i.e. objective design), selecting (i.e. choosing appropriate learning/teaching methods and appropriate assessment methods), formation (i.e. formation of the curriculum implementation committee / curriculum evaluation committee) and review (i.e. curriculum review committee).-To rethink and reconceptualise the curriculum, we need to analyse the concepts and needs, design and select the appropriate contents, the teaching methods and assessment consistent with the philosophy, then we do the synthesis. We need to look at the goals and objectives of education, its content, method and assessment.

Educational Aims

Historically, organized education was initiated and instituted to serve many purposes: spiritual salvation, political socialization, moral upliftment, societal stability, social mobility, mental discipline, vocational efficiency and social reform. It tends to be conservative in the sense that it desired to preserve and transmit the society's cultures and values. This is especially true among society that possesses the Book or Scripture. Literacy then, became a prerequisite for understanding the Book. There is no way to transmit its content except through reading, teaching or preaching to a group of people, whether young or old. Hence, educational practices are religious or tradition bound.

But as communities organised itself into a country, then education was a means for political socialisation, vocational efficiency and social reform. The Enlightenment brought to light the importance of natural science, and the goals of education shifted to the material world. The aims of education then were free development of personality, general efficiency, observation of facts, and knowledge of causes and effects of things. The Industrial Revolution brought yet another transformation in educational ends. With the power over nature wielded from the accumulation of scientific knowledge, education aimed to free man from non-rational beliefs including religious dogmas and the authority of the Church. The goals of education turned to the development of the individual according to a state's ideology--democratic, socialist, or communist. Economic interests also began to find a place in education, and the aim of producing skilled manpower became a dominant theme, manifested in the importance of vocational education (Gutek, 1972).

Thus, we see in the 21st century, ICT, globalisation, state and economic interests have shifted educational aims increasingly toward vocational education at the expense of holistic development, which to a certain extent is dehumanizing man. The education of the holistic, virtuous man has been thwarted. Therefore, it is not surprising that contemporary Western education has been criticized especially by Christian educators such as Maritain (1943) for giving false and incomplete ideas concerning the nature of the end of education. He argues that the aim of education is intertwined with the answer to the question of what is man? Lewis (2006) also made a critique of education having lost its soul and so do Muslim philosophers (Nasr 1987, 1988; Al-Attas 1978, 1979) who criticized modern science and secularism respectively for the loss of the Sacred. Today many are witnessing the truth of these criticisms. The aims of education should be redefined for this coming century. Most would agree that education should aim for the happiness of man but in which sense. Probably one that will develop his potentials, have excellent morals, knowledgeable and competent and can think wisely so that he can live peacefully and harmoniously with his self, his Creator and all of Creation (Nature and the environment).

Content

The content of the latent, formal curriculum are knowledge, values and skills. In the Traditional epistemology, various sources of knowledge are recognized from the highest in revelation, to inspiration, rational thinking (intellect), and finally, sense experience. Knowledge which has been classified into perennial or revealed sciences and acquired sciences derived through the mind or sense experience forms a unity of truth. Both knowledge, whether in the form of the text (al-Qur'an or Bible) or in the form of God's creation in Nature are derived from the same source, that is God. Since both are important signs of God both would have to be preserved in the school and university curriculum. In particular, the perennial knowledge based on revelation (the Scriptures) must form the core fundamental knowledge which will provide the moral and spiritual compass to not abuse Nature in all our activities. It should permeate all subject matters or all faculties in the university. Therefore, a few courses from these perennial sciences have to be made into graduation requirements for all students, regardless of their specialisation instead of only the acquired sciences (natural sciences, humanities, social sciences, applied sciences and arts).

With respect to education for vocation, it is acknowledged that in the 21st century, we cannot really train students for a particular vocation because we do not really know the nature of the future jobs. Therefore, in this case the liberal arts education which is to develop all the potentials—intellectuals, moral and spiritual included, and soft skills will be an advantage for graduates because they can then adapt to any jobs that they find suitable.

Definitely, the approach of teaching these sciences in the university ought to be different from that of the schools especially when university students now are more matured and capable of thinking and reflecting over the texts and also relate it to their social reality. Similarly, a few courses from the acquired sciences such as the natural sciences, the social sciences, and humanities must be required of our students, especially those specialising in the perennial sciences. This curriculum which is more integrated but still possessing a core should be adopted by schools and universities so that it is holistic. An integrated curriculum would enable students to prepare to specialize in any of the perennial or acquired sciences from within the same school system. From the religious perspective, subject matters or courses offered in the curriculum must be free from secular elements that deny the unity of Creation and the Creator, the sacred and the profane. These elements must be replaced with the world view based on the Unity of God for it is only in this manner that Man will learn to respect Creation which has its souls and thus preserve the Planet Earth.

In the context of environmental sustainability, the subject of science has to be reviewed in the way it is taught and believed to be. School science typically reverberates with the popular belief that science proclaims human mastery over nature. Many scientific discoveries and inventions are projected in the popular media as well as in textbooks as instances of humanity's ability to tame nature and harness it to the pursuit of prosperity (Gunderson, 2014). Such an anthropocentric view of nature is incompatible with the objective of environmental sustainability, now widely enshrined in education policy statements at national and transnational levels. A tension thus often exists between the established culture of science and the emerging discourse of environmental conservation (Ratcliffe and Grace, 2003). While statements of environmental concern have been duly inserted into many school curricula worldwide over recent years, there has often been insufficient examination of what such concerns imply for the overall approach to teaching science. Curricula need to confront learners with these complexities, rather than inculcating a blind faith in the capacity of science and technology to solve all our dilemmas.

Twenty first century has brought the world close together as in a global village which is culturally diverse and this forms a challenge to democracy in terms of the global citizens. It is necessary that all children acquire the skills they need as digital citizens to participate actively and responsibly in a democratic society (Richardson & Milovidov, 2019). Digital citizenship is "the ability to engage competently and positively with digital technologies (creating, working, sharing, socialising, investigating, playing, communicating, and learning); as well as, participating actively and responsibly (values, skills, attitudes, knowledge and critical understanding) in communities at all levels (political, economic, social, cultural and intercultural). It is a process of being involved in all lifelong learning settings (formal, non-formal and informal) and defending human rights and dignity" (Richardson & Milovidov, 2019, pp.11-12). Three pillars of training are required to exercise digital citizenship: 1) democratic knowledge and behaviours for citizen participation; 2) social skills that include communicative abilities, critical and axiological attitudes, creativity and finally, 3) digital literacy that include management and handling of information. In order to reduce the digital gap, researchers and educators must improve the development of digital and social skills.

Methods

The method of instruction has to change the most as we march into the 21st century. It is true that in the past the amount of content or information a student is able to store in his memory and applied is prized more than anything else. But today what is prized is not the quantity of information but rather the process leading to the ability to solve problem. Hence, new methods of instruction must be explored and teachers or lecturers should be creative and innovative. Students need to be exposed to the process of learning including the scientific method and problem solving, and not just the product. Therefore, they need to learn the doing of critical and creative thinking. Moreover, a balance must be struck between student-centred and teacher-centred approaches.

In general, eight shifts of interactive learning have been found happening with the advent of ICT (Tapscott, 1999). These shifts in learning are from (1) linear to hypermedia, that is from textbooks, novels, texts etc which are linear, to the Net that is non-linear; (2) instructional to constructional whereby instead of the learner assimilating knowledge, he or she now constructs knowledge anew since people learn best by *doing* rather than listening; (3) absorbing material to learning how to navigate and how to synthesize the data they have collected; (4) teacher-centred to learner-centred teaching which is more active with students discussing, debating, researching, and collaborating on projects with one another and with the teacher; (5) teacher as the sage on the stage to the sage by the side which means shifts from being a transmitter to a facilitator. Teaching and Learning become a social activity and the classroom becomes a community of inquiry where teachers do not have to answer all the questions, but instead help students to find the solutions through various means or prepare to discuss this in class; (6) learning as torture to learning as fun or an entertainment which means "to keep, hold, or maintain in the mind" just as teachers throughout history have been entertainers. Using the new media, the learner also becomes the entertainer and, in doing so, enjoys, is motivated toward, and feels responsible for learning; (7) one-size-fits-all to customized learning in which the digital media enables students to be treated as individuals based on their backgrounds, individual talents, age levels, cognitive styles and interpersonal preferences; and from (8) schooling to lifelong learning that is learning is continuous, a lifelong process.

In this regard, an approach to teacher education that is consistent with the educational philosophy should be developed. The teacher education programme—pre-service and in-service should also emphasise teacher personality development, in particular the moral and spiritual, which have been mostly neglected. Teachers are the most crucial element in bringing changes in education and they ought to know and be able to see the new direction. Pre-service teacher education programmes seem to emphasise thinking skill and information technology but downplay the importance of foundations of education and personality development, especially moral and spiritual. Virtual education will grow in importance as we marched into the century. Thus, both students and teachers should be trained to be technologically savvy because it is necessary in their lives. Almost everything in life today has been digitized even in the public and commercial systems. One cannot survive without this knowledge. Although the covid pandemic has almost gone and we are back to face-to-face learning, these tech-savvy skills should not be abandoned. To preserve them, blended teaching and learning should continue.

Educational Evaluation

Evaluation is a powerful device for clarifying and measuring the attainment of educational objectives or learning outcomes. It is a "process for finding out how far the learning experiences as developed and organized are actually producing the desired results and the process of evaluation will involve identifying the strengths and weaknesses of the plan" (Tyler, 1975:103). "Evaluation is the process for determining the degree to which changes in behaviour are actually taking place" (Tyler, 1975: 206). Therefore in 21st century learning, it is important to dispel the notion that evaluation is synonymous with giving the paper and pencil test.

Evaluation is also a powerful motivating force for learning. Students are influenced in their learning and teachers are influenced in their teaching by the kind of evaluation expected. Thus, evaluation or assessment is a very important component of the curriculum. Consequently, "unless the evaluation procedure closely parallels the educational objectives of the curriculum the evaluation procedure may become the focus of the students' attention and even of the teachers' attention rather than the curriculum objectives set up" (Tyler, 1975: 124).

Thus, new methods of assessment that is authentic such as project works based on problems, fieldworks, demonstration, presentation and continuous assessment should be introduced. This is true too especially with respect to moral and spiritual objectives. We should expect some changes in student behaviours since these are the objectives but unfortunately in the previous assessment mode, students score highly on paper and pencil tests but do not exhibit expected moral behaviours. Thus, the curriculum ought to be revised with respect to the learning experiences offered to them, the instructional method and the kind of evaluation administered. In this context, we expect more authentic assessment such as continuous assessments throughout the learning experience which consist of both cognitive and affective domains. The evaluation is interested in the process and not in just the product. So, there should be checklists on student performance in the community of inquiry with respect to critical reasoning, creative responses, communication skills, collaboration skills, caring thinking, sustainability and so on. It is also pertinent to evaluate the progress of the small groups. As for product, one can evaluate their scores in formative assignments and also the few summative tests.

Summary and Conclusion

In summary, the twenty-first century curriculum is about abandoning textbook-driven, teacher-centred, paper and pencil schooling. It brings another perspective in understanding the concept of knowledge and a new meaning of the educated person. Hence, a new way of conceptualising, designing and delivering the curriculum is required. Twenty-first century curriculum is project-based, research-driven and interdisciplinary. It is linked to the community – local, state, national and global. Sometimes students may collaborate with students from other schools or from other countries in various projects. The curriculum incorporates higher order thinking skills, multiple intelligences, technology and multimedia, the multiple literacies of the 21st century, and authentic assessments. Service learning, which is a blend of theory learned in the classroom and practice within the community for real benefit of both is an important component. The curriculum is no longer driven by the textbook nor is it fragmented, but should be thematic, project-based and integrated.

Students are not taught content and skills as an end in themselves, but they are acquired through research and application in students' projects. The skills and content become relevant and needed as students require this information to complete their projects. A major conceptual shift is in the concept of the textbook, which is now considered as just one of many resources. Knowledge is constructed through research and application, and no more just memorization of facts and figures. Assessment shifts from regurgitation of memorized facts and disconnected processes to demonstration of understanding through application in a variety of contexts. Real-world audiences are an important part of the assessment process, as is self-assessment.

The concepts of School, Teacher and Learner are redefined appropriately for the 21st century. *Schools* are redefined "from 'buildings' to 'nerve centres', with walls that are porous and transparent, connecting teachers, students and the community to the wealth of knowledge that exists in the world." *Teachers* will shift from primary role as a transmitter of information to a facilitator or an orchestrator of learning and helping students turn information into knowledge, and knowledge into wisdom.

The 21st century will require knowledge generation, not just information delivery, and schools will need to create a "culture of inquiry" (www.21stcenturyschool.com accessed 1 Apr 2023).

In the past a *learner* was a young person who went to school, spent a specified amount of time in certain courses, received passing grades and graduated. Today learners must be seen in a new context. First, we have to sustain student interest by helping them see how what they are learning prepares them for life in the real world. Second, we must inculcate curiosity or wondering, which is fundamental to lifelong learning. Third, we must be flexible in how we teach. Fourth we must excite learners to become even more resourceful and more disciplined so that they will continue to learn even when they are outside the formal school day. This will give them the foundation for a lifelong learning (www.21stcenturyschool.com accessed 1 Apr 2023).

In the past, education was mainly to serve the state-centred idea of economic development and school serves as a place to train the manpower needed. The idea of the active and reflective citizen who engages critically with the state in a participatory democracy is largely absent from official educational discourse, even in societies where electoral democracy is relatively well established. Even the movement for cultivating students with higher order thinking skills is geared towards that critical and innovative worker and not to encourage the critical citizens. Thus, critical and creative thinking through dialogue and deliberation in the community of inquiry is should serve a broader spectrum including as a teaching method to open up the minds of students, to learn how to respect, listen and care for others and to be tolerant toward differences of views which are important characters for living in a culturally diverse democracy which is necessary in 21st century education.

In conclusion, we have analysed and reconceptualized the concept of curriculum development for the 21st century. We began the discussion with describing the problems that plagued schools today and examining the source of the drastic changes affecting education especially with the advent of ICT. We elaborated on the issues related to education that arose from these changes. Finally, we discussed the reconceptualization of education based on educational aims, curricular content, teaching methods and educational evaluation. We discussed how education will change drastically.

First, we discuss how the 21st century education changes major concepts of schools, learners and teachers. We highlighted how the goal of education has become narrower towards vocationalism and missing the human dimension of morality and spirituality. We have become more dehumanised and this can be seen from our disrespect for Nature while doing science to the extent that our planet began to show many symptoms of ailing with climate changes, pollutions, global warming etc. Second, in discussing the curriculum content we admonish that science be taught from the perspective of revering our planet earth which is our home, by being concern with environmental sustainability. Similarly, we should also be concerned of sustainability with economics and socio-cultural activities. In this respect we need to give attention to the other sources of knowledge which is the revealed scriptures for guidance and an integrated, holistic curriculum should acknowledge some courses on it in the core requirement. We also discussed the needs for teaching the skills and knowledge in developing the digital citizens for the diverse world we live in today and not just apply it for scientific and economic purposes. Third, we highlight the changes in teaching methods to accompany the changes in philosophy and objectives which are greatly influenced by the ICT. Finally, we discussed the changes that have to occur in educational evaluation as a result of all these changes in objectives. Thus the 21st century teaching and learning is challenging but it also provides an opportunity for us to learn to live together and transform our world community to be more peaceful and prosperous for we have ultimately, the same destiny.

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Conference Theme and Sub-themes

The theme of the conference was "Reconceptualising Curriculum in the 21st Century for Socio-Economic Transformation".
The conference was organised under seven sub-themes, namely;

1. Competency-based curriculum development and implementation
2. The ICT revolution in Education
3. Stakeholders' involvement in education
4. Global trends in education reforms
5. Quality education for Socio-economic transformation
6. The 21st Century Curriculum (design and development, implementation, assessment, evaluation, innovations, skills and pedagogies)
7. Localisation and decolonisation of the curriculum in Africa
8. Current and future financing for curriculum development and implementations

Sub-Theme 1:

Competency Based Curriculum Development and Implementation

The Status of Implementation of the Reviewed Uganda Lower Secondary Curriculum: The Teachers' Perspective

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Abstract

The Uganda lower secondary curriculum underwent critical review following concerns of an obsolete, subject-centred and examination-oriented curriculum that did not meet the 21st Century needs. Consequently, a competence-based curriculum (CBC) was developed and rolled out for implementation in January 2020. This paper presents the status of the implementation of the curriculum three years later by responding to the question: What are the concerns of Ugandan secondary school teachers about the transition into the CBC? The Concerns-Based Adoption Model offers a theoretical framework through which the concerns of these teachers are analysed. A total of 383 teachers from selected Ugandan Government secondary schools were interrogated regarding their experiences with the implementation of the CBC by use of a structured questionnaire. Their qualitative responses were compiled into a database and analysed using content analysis. Results indicate that the curriculum is perceived positively by majority of the teachers. However, management, informational, and refocusing concerns were most prevalent among the teachers. The insufficiency of instructional materials; poor infrastructure; large student to teacher ratios; lack of access to technological devices; and poor or no internet connection in most secondary schools presents a serious bottleneck to the effective implementation of the lower secondary curriculum. It is recommended that the Ministry of Education and its affiliate agencies resolve these issues in order to achieve the overall objectives of the reviewed curriculum.

Keywords: Competence-based curriculum, change facilitators, change implementers, implementation, teacher concerns

Introduction

Teachers are central to the success of any curriculum reform. Depending on the education system, teachers may take up diverse roles including that of: curriculum developers, implementers, and evaluators. Unfortunately, many curriculum reform processes often relegate teachers to the role of mere implementers. This is common to mandated top-down change which demands fidelity on the part of the teacher (Fullan, 2015; Iskandar, 2020).

While both top-down and bottom-up educational reforms present unique opportunities and challenges, it must be acknowledged that each approach affects teachers and their consequent implementation of the curriculum reform in different ways. This paper shall exemplify implementation of a top-down curriculum reform as in Uganda.

Research on curriculum reform has revealed the importance of paying attention to the experiences that teachers undergo in implementing change (Altinyelken, 2010; Fullan, 2015; Ornstein & Hunkins, 2018; Vandeyar, 2017). Indeed, Fullan (2015) pointed out that change facilitators err in neglecting the phenomenology of change as experienced by implementers. In his seminal book: *The New Meaning of Educational Change*, Fullan quipped: "Educational change depends on what teachers do and think - it's as simple and complex as that" (2015, p.97). Thus, it is critical for change facilitators to work on engendering teacher commitment to curriculum reform at the earliest opportunity possible. A committed teacher will be more willing to expend the extra effort and shoulder additional burdens of self and professional development necessary to sustain a curriculum reform and this is facilitated through change leadership (Liu, 2015; Sodha, 2019).

Majority of curriculum change facilitators at national and school level rely on staff training and capacity development programmes as the main avenue of achieving teacher commitment (Hall & Hord, 2015). However, educational change scholarship has demonstrated that staff training is insufficient; rather, the personal side of change for every change implementer must be attended to (Fullan, 2015; Hall & Hord, 2015; Ornstein & Hunkins, 2018). Moreover, there is a need to interrogate the myriad other factors that besiege teachers as they attempt to implement the curriculum reform.

Unfortunately, some educational researchers have summarily presented the teachers' responses towards the curriculum reform in Uganda as negative and tending towards resistance (Mubangizi, 2020; Olema et al., 2021). Acknowledging that resistance to change is real, Fullan (2015) nonetheless asserted that it is worthwhile to investigate the experiences that engender this resistance. This study bridged the knowledge gap about the concerns of Ugandan secondary school teachers regarding curriculum reform and hence responded to the recommendation by Altinyelken (2010) that more research be done into curriculum implementation processes in developing countries especially taking school realities into context. It also responded to the proposal by the International Commission on the Futures of Education (2021) that teachers be fully engaged in public debate and dialogue on the futures of education as represented by the curriculum reform in Uganda. This study is thus among the first to explore the concerns of Ugandan teachers in the curriculum reform effort and hence aims to contribute to the management and policy guidance around curriculum reform in Uganda and similar contexts.

Research Objective

The aim of this study was to discover the status of implementation of the lower secondary competence-based curriculum through the perspective of teachers. It sought to answer the question: What are the concerns of Ugandan secondary school teachers in their implementation of the competence-based curriculum (CBC)?

Literature Review

The Uganda Education System

The Education sector in Uganda is overseen by the Ministry of Education and Sports (MoES) whose mandate is to provide technical and policy guidance in order to achieve quality education for all Ugandans. Established in 1961 (Scanlon, 1964), the MoES currently comprises several departments including, among others, the National Curriculum Development Centre (NCDC), the Uganda National Examinations Board (UNEB), and the Directorate of Education Standards (DES).

The Uganda education system offers four main levels of education: pre-primary, primary, post primary education and training, and tertiary and university education. The primary level is completed in a minimum of seven years while the secondary school level consists of the ordinary level which goes for a minimum of four years and the advanced level which goes for a minimum of two years. The 1992 Government White Paper on Education is the foundational policy framework for the education sector. It stipulated that all Ugandan educational curricula should reflect three key issues: a scientific and technological orientation, development of the ability to use data and information in decision-making, and environmental awareness and concern (Ministry of Education and Sports [MoES], 1992). The 2020 Lower Secondary Curriculum (LSC) reform was guided by these three concerns.

The Uganda Lower Secondary Curriculum Reform

A national curriculum is the primary instrument through which a country actualizes its socioeconomic aspirations. This is because it is the means by which human capital is moulded to meet the specific needs of the country. Under the NCDC, Uganda has operated a secondary school curriculum that has remained largely unaltered since independence in 1962. This curriculum has come under intense criticism over the past decade and a half primarily because it seems to have failed to produce a market-ready labour force. The 2020 State of the Youth Report showed that while access to education had drastically improved in Uganda, the education system fell short in quality since it was more theoretical than practical (Kwesiga et al., 2019).

The Curriculum, Assessment, and Examinations Report commissioned by the World Bank in partnership with the Uganda Ministry of Education (Clegg et al., 2007; Museveni, 2020) highlighted seven key areas in which the secondary curriculum was proving inadequate:

i) the curriculum espoused teaching methodologies that were examinations-oriented to the detriment of effective learning and skills acquisition,

ii) it lacked a guiding framework, resulting in an overloaded curriculum,

iii) the curriculum catered to an exclusive academic elite leaving out a majority for students,

iv) it was failing to produce a competent workforce to support socio-economic growth,

v) much of the knowledge content in the curriculum was obsolete,

vi) it was unable to develop metacognitive skills relevant to the 21st century, and

vii) it was unsustainably costly owing to the numerous optional subjects, especially in the vocational, science, and technical categories.

Consequently, in accordance to the Education Sector Strategic Plans 2009/2018 and 2017/2020 (National Curriculum Development Centre, 2020), the LSC was reviewed to make it competence-based. This competence-based curriculum was to be a departure from the previous knowledge-based curriculum in that, among other aspects, it is less examinations-oriented, placing greater emphasis on the acquisition of skills and values by learners (NCDC, 2020).

The new curriculum stipulated new roles for the teacher and the learner. This was in order to transform the educational experience into one which is learner-driven rather than teacher-driven as had been the case. In the previous curriculum, the teacher was the custodian of knowledge and transmitted this to the learners primarily through the lecture method and note-taking. Summative assessment in form of end of topic tests and end of term examinations were relied upon to determine academic achievement of learners. In the new curriculum, however, the learner became the originator of knowledge with the teacher guiding and building upon the learners' knowledge.

The new curriculum introduced a kaleidoscope of learning methods, including: projects, debates, drama, research, problem-solving activities, field trips, and community engagements (NCDC, 2018). Moreover, assessment was now split between formative and summative assessment with the former constituting 20% of the end of cycle grade. This role reversal was a stark departure from both established practice and the teacher training received by majority of in-service Ugandan teachers. Unsurprisingly, therefore, teachers are implementing the curriculum amid various concerns which, if unattended to, may hinder the success of the reform.

Teacher Concerns

Concerns are a ubiquitous part of any social environment, including the school. Concerns represent heightened thoughts, feelings, and perceptions regarding a particular phenomenon (George et al., 2006). Educational reforms are one such phenomenon that trigger the development of concerns among stakeholders. Scholars of educational change have shown that the concerns of change implementers present the most superior outlook of how the reform process is unfolding (Fullan, 2015; Hall & Hord, 2015; Leithwood et al., 1994). The individual teacher's personal journey through change is succinctly encapsulated in the concerns they express as they implement the curriculum. Thus, teachers' concerns in a curriculum reform effort present an excellent point of leverage for curriculum change facilitators to track the progress of individual teachers as well as groups in the implementation process thereby allowing them to guide and support teachers in a relevant and effective manner (Fullan, 2015; Hall & Hord, 2015).

When the LSC was introduced in Uganda, various stakeholders, including parliamentarians, parents, community leaders, school leaders, and teachers expressed concerns about it (Ahimbisibwe, 2020; Museveni, 2020). While all stakeholder concerns are of import, this paper argues that the concerns of teachers should be keenly noted, monitored, and addressed in order to support a successful curriculum reform process. Being the clinical educational experts, teachers possess a keen understanding of the technicalities of classroom instruction and hence curriculum delivery (Gouëdard et al., 2020; Ornstein & Hunkins, 2018).

According to the MoES' roadmap for the LSC reform, training of teachers on the curriculum implementation including classroom-based assessment was to begin in 2019. This training utilised a cascaded model in which a selection of teachers was trained and these were tasked with training their colleagues at school level. Teacher training and support was to continue all through the implementation process. This paper argues that a predetermined teacher training schedule can only go so far to address teachers' needs and concerns about a curriculum. While it may serve to provide a basic framework of knowledge and skills required by the teacher, the unique individual and school contexts cannot be anticipated by such a training programme. These must be investigated at school level as this study has attempted to accomplish. Change facilitators must recognise that addressing teacher concerns regarding a curriculum reform is not a one-off endeavour. Research into the concerns of teachers has revealed that they are developmental and can be categorised into three main stages: self, task, and impact (George et al., 2006). Therefore, when one level of concerns is addressed for an individual teacher, he then transitions to another level of concerns. This continues all through the curriculum implementation process.

Research on teacher concerns in several countries has proved to be revelatory and instructive on the curriculum reform processes in those countries. Unfortunately, there is a significant paucity of research on teacher concerns in Africa with majority of the available studies conducted in Southern Africa and West Africa. In Malaysia, Lo (2018) found that English teachers using the Common European Framework of References for Languages Innovation were manifesting a distrustful non-user profile. These teachers had high awareness, personal, and management concerns which pointed to a need for intervention programmes to support the teachers in the curriculum implementation.

A study by Yan and Deng (2019) on the concerns of teachers implementing an inclusive education programme in China revealed that their concerns varied according to certain demographic factors. The teachers' implementation of the programme was being guided by their knowledge of it and whether or not they believed it to be effective, hence it was imperative that educational leaders conduct effective professional development programmes to address this.

In Africa, a study by Oguoma et al. (2019) found that, in the implementation of practical work in the physical sciences curriculum in South Africa, teachers were grappling with the day-to-day management of the curriculum. This was a siren call to educational leaders to support teachers in that regard. Sarfo et al. (2020) investigated teacher concerns on the implementation of the information and communication technology curriculum in Ghana and their results showed that teachers lacked prerequisite knowledge to implement the curriculum innovation and were also highly concerned about its impact on their students' learning. Apau (2021) reported that a study on the implementation of a standards-based curriculum in Ghana revealed that teachers' main concern was to promote peer collaboration as well as to work with change facilitators to implement the curriculum. This implied that teachers had embraced the curriculum and were implementing it well. Such studies have great instructional potential for change facilitators since they help to point them in the right direction as regards how to support teachers in their implementation of curriculum reforms. These studies demonstrate the need to investigate teacher concerns in any educational innovation, particularly a high-stakes one like a curriculum reform in order to facilitate its success.

The Concerns Based Adoption Model (CBAM)

The basis for scholarship on teacher concerns was provided by Fuller et al. (1974) who conducted a study of pre-service teachers investigating what their primary concerns were. Findings from the study revealed that these pre-service teachers' concerns were actually expressions of felt need that affected their motivation for learning (Fuller et al., 1974). Fuller's concerns theory therefore postulated that the concerns of student teachers progressed with experience from self to task, and ultimately to impact concerns. The Concerns Based Adoption Model (CBAM) was developed by researchers at the University of Texas Research and Development Centre for Teacher Education as a spin-off from Fuller's concerns theory.

The CBAM supports change facilitators to measure the implementation of an innovation by revealing the affective and behavioural processes that change implementers undergo. An innovation is conceptualised as a change (Hall & Hord, 2015) and in this study, the LSC reform was the educational change and hence innovation in focus. The CBAM (Figure 1) provides three diagnostic tools with which to track the implementation of an innovation: the stages of concerns questionnaire, the levels of use interview tool, the innovations configuration tool.

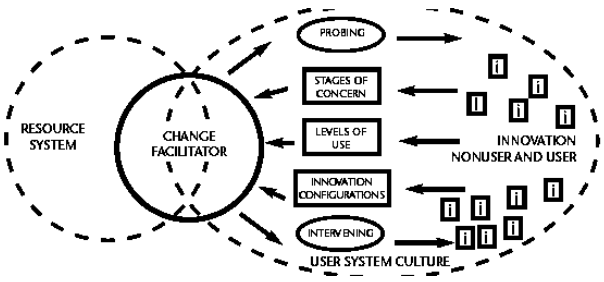

Figure 1: The Concerns Based Adoption Model (George et al., 2006, p. 1)

Note: Adapted from *Measuring Implementation in Schools: The Stages of Concern Questionnaire* (p. 1), by George A.; Hall, G; and Stiegelbauer, S.M., 2006, SEDL. Copyright 2006 by SEDL. Adapted with permission.

According to the CBAM, change implementers, in this case teachers, undergo seven stages in their implementation of an innovation: stage 0 (awareness), stage 1 (information), stage 2 (personal), stage 3 (management), stage 4 (consequence), stage 5 (collaboration), and stage 6 (refocusing) (George et al., 2006). At the awareness stage, teachers are pre-occupied with other tasks besides the curriculum under question and are therefore less involved with it. Teachers at the informational stage manifest a basic awareness of the curriculum and a need to learn more about it. At the personal stage, teachers are preoccupied with the ways in which the curriculum reform will affect them personally in terms of work demands, changing roles, commitments and remuneration. At the management stage, the teachers' focus is on how to navigate the curriculum in terms of processes, daily tasks, and resources required. Teachers who are at the consequences stage are more concerned about how the curriculum will affect the learning of their students. Those at the collaboration stage are keenly looking for opportunities to cooperate with other change implementers and even facilitators in implementing the curriculum. Finally, those at the refocusing stage are beginning to look beyond the curriculum, to modify it in order to glean greater benefits for students, or to replace it altogether with a better curriculum.

All these concerns manifest differently depending on a number of factors, including the individual teacher's predispositions, school culture and affinity to reforms, the school socioeconomic context, and curriculum reform strategies employed by change facilitators. Hall and Hord (2015) referred to the curriculum reform strategies as the functions of interventions. They enumerated six functions that they believed needed to be undertaken by change facilitators in order to facilitate a successful innovation. These functions were: the articulation and communication of a shared vision of the change, planning for and providing resources, facilitating continuous professional development for change implementers, monitoring of progress, provision of continuous assistance, and creating contexts that are supportive of change in terms of culture, staffing, resources and infrastructure (p. 35).

Figure 2 shows a conceptual framework of how three key factors: curriculum reform strategies, teacher concerns, and quality of curriculum implementation interact to bring about a successful curriculum reform. They are conceptualised as three cogs in a machine. Ideally, curriculum reform strategies should drive implementation of the curriculum. However, teacher concerns, whether acknowledged or not, and if unattended to, may present a significant barrier to effective curriculum implementation. Therefore, change facilitators do well to continuously attend to and address these concerns.

Figure 2: Conceptual model (Authors, 2023)

Note: The model shows the interaction between curriculum reform strategies that may be employed by change facilitators, teacher concerns in the curriculum reform, and the quality of curriculum implementation by teachers who are the main change implementers.

Research Design

This paper was based on a mixed methods study in which teacher concerns and their relationship to the implementation of a curriculum reform were investigated. It was grounded in the pragmatic philosophical worldview. The study utilised a structured questionnaire consisting of three sections: the stages of concerns questionnaire (George et al., 2006), a closed-ended section interrogating the teachers' experiences with the curriculum reform process and their implementation of the LSC, and a comments section at the end. Participants' responses to the comments section provided data for this paper. Here, participants were prompted to express their concerns in their own words by making a comment on their experience with implementation of the curriculum or on any of the issues that had been highlighted in the two foregoing sections. This allowed a deeper probing of teachers' concerns and experiences by allowing participants freedom to highlight specific issues pertinent to them. It also allowed an analysis of frequently occurring themes.

Population, Sampling Frame and Sample

The target population for this study was all secondary school teachers in Uganda. The Uganda Bureau of Statistics report of 2019 numbered the secondary school teachers at 114,859 (Ministry of Education and Sports, 2020). Therefore, at a confidence interval of 95% and a 5% margin error, a sample size of 383 was considered representative of the total population (Cohen et al., 2018). The sampling frame consisted of government-aided secondary schools within the central sub-region of Uganda. Due to its proximity to the administrative capital, Kampala, and hence perceived ease of access to resources like instructional materials and trainers, the central sub-region was deemed appropriate to provide a benchmark for the nature of teacher concerns. Government-aided schools were selected for study because they are directly resourced and supervised by the Government of Uganda (Education Act Uganda, 2008) and hence it was assumed that they are more likely to be implementing the LSC reform with greater fidelity.

Sampling was done by cluster random sampling in which schools were randomly selected from the sampling frame. According to the Uganda MoES, the central sub-region boasts 267 secondary schools (Ministry of Education and Sports, 2019). Thus 40 government-aided secondary schools were randomly selected from this list. All teachers present on the day that the researchers visited were included in the sample and requested to fill out the questionnaire. At every school that was visited, an average of 10 teachers were present and on duty. No school was visited twice. A total of 383 secondary school teachers participated in the survey. Of these, 286 (74%) provided a qualitative response in the last section of the questionnaire. Demographic information on the study participants was collected on five criteria: gender, highest academic qualification, length of teaching experience, subject group taught, and main source of information regarding the LSC reform as shown in Table 1:

Table 1: Demographic characteristics of study participants. (Source: Field data, 2023)

Characteristic	Number of respondents (n= 286)	%
Gender		
Male	191	66.78
Female	95	33.22
Highest academic qualification		

Characteristic	Number of respondents (n= 286)	%
Certificate	0	0.35
Diploma	41	14.34
Bachelor's degree	212	74.13
Masters	32	11.19
Teaching experience (years)		
0 to 5	69	24.13
6 to 10	59	20.63
11 to 15	70	24.48
Over 15	88	30.77
Subject group taught		
Humanities, Business, and Languages	130	45.45
Math and Sciences	100	34.97
Vocational and Arts	56	19.58
Main information source		
NCDC Training	212	74.13
School administrators	26	9.09
Fellow teachers	44	15.38
Internet	4	1.40

Ethical Considerations

At every study site, school administrators including the head teacher, deputy head teacher or director of studies were requested for permission to access the teachers. The senior-most school administrator present during the study visit was approached for permission. The front page of the questionnaire consisted of an informed consent statement which introduced the study to the participants, explaining its purpose and emphasizing the principles of voluntariness and anonymity. Teachers were invited to signal their consent by proceeding with the survey therein. The informed consent was also explained orally by the researchers prior to handing out the questionnaires to the teachers.

Data Analysis

All the qualitative responses were compiled into a Microsoft Excel spreadsheet. These responses were the teachers' individual expressions of concern regarding the curriculum reform process thus far. These statements were analysed using content analysis with the aim of both describing and quantifying participant responses (Kleinheksel et al., 2020; Vaismoradi et al., 2013). Content analysis was deemed appropriate as it allows for the analysis of frequency of occurrence of themes within the data through the creation of a numerical data matrix (Kuckartz, 2014).

In this study, the frequency of occurrence of various themes from the expressed teacher concerns was equated with the degree of importance of that particular concern in the LSC implementation

process. The data were analysed following the five steps outlined by Denscombe (2014) in Cohen et al. (2018, p. 675): i) selection of a data sample, ii) extraction of codes from the text on the basis of predetermined units of analysis, iii) distillation of categories from those codes, iv) matching the units with the categories, and v) counting the frequency with which the units occur within the various categories.

Findings

The teacher responses allowed three levels of codes to be carved out: level one (in vivo), level two (categorical), and level three (conceptual) (Yin, 2016). Analysis of the in vivo codes produced 16 categories which were fitted into the six CBAM stages of concern as shown in Table 2.

Table 2: In vivo codes, categories and stages of concern emerging from the teachers' responses (Source: Field data, 2023)

Conceptual (Level 3)	Categorical (Level 2)	A SELECTION OF IN VIVO CODES (LEVEL 1)
INFORMATION	Teacher training and preparation	Insufficient teacher preparation
PERSONAL	Human resource	High learner/ teacher ratio
		Big classes limiting individual attention to learners
	Remuneration and motivation	Big workloads
MANAGEMENT	Instructional materials and resources	Few/ no teaching/learning materials, DIT materials
	Infrastructure	No technological devices, poor or no internet, small learning spaces, poorly equipped libraries
	Time allocation	Too much content vis a vis time allocated/ limited time on the timetable
	Change facilitator support	Limited administrative support
CONSEQUENCES	Impact on learners	Development of learner talents/ potential/ skills
	Learner challenges	Learners hesitant
COLLABORATION	Satisfaction with CBC	Better than old
	Personal competence	Supporting other teachers
REFOCUSING	Education sector policy	Allow learner gadgets, start CBC in primary
	Stakeholder engagement	Need for teacher involvement in CBC evaluation, little parental support
	Mode of assessment	Advocacy for 40:60 ratio of summative to formative assessment
	Learning content	Shallow/misleading/overwhelming content

A frequency count revealed that at 76% (216), the management concern was the most prevalent of the concerns, followed by the information concern at 24% (70), and the refocusing concern at 20% (57). This is shown in Figure 2.

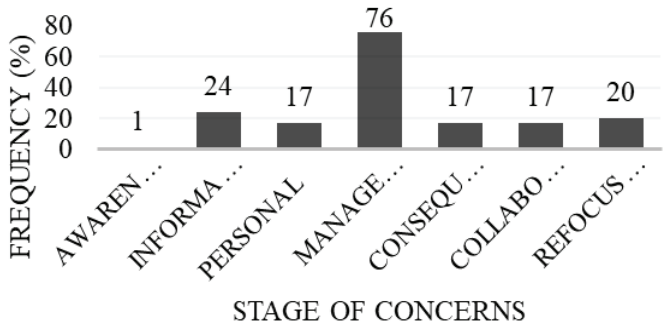

Figure 2: Percentage occurrence of stages of teacher concerns (Source: Field data, 2023)

Note: The data was collected between November 2022 and February 2023.

The data revealed that majority of the teachers perceived the competence-based LSC in a positive light. Teachers used descriptors like: good, effective, better, timely, right direction, enjoyable, and interesting to express their views of the curriculum. Such responses included:

> *"The CBC is OK and better than the old curriculum. So, the learners are going to benefit. (Respondent W317)"*
>
> *"The CBC has made me a better teacher because am able to discover the unique abilities of each learner unlike before. It is also less tiresome. The lesson is interesting. (Respondent W320)"*
>
> *"The implementation of CBC was a little tricky at first but after many sessions of training by the school administration, it has proven to be the best curriculum. It gives learners chance to explore and discover a lot on their own. (Respondent Kay116)"*
>
> *"The competent based curriculum is likely to be the best curriculum when compared to the old theory curriculum that was not encouraging creative thinking amongst the learners. (Respondent Kay205)"*
>
> *"I am so far convinced with the CBC system that we can move our country forward because the learners are able to actively participate in the activities given in the system going forward. (Respondent L108)"*

Nonetheless, numerous concerns were raised pertaining to the curriculum reform process from the onset of implementation in 2020 to date. These concerns corresponded with the CBAM stages of concern as explained in the following section:

Awareness Concerns

This stage of concern had the lowest percentage occurrence. It was manifested by respondents who seemed non-committal about their implementation of the LSC. This was an indication that the teachers were not yet fully immersed in the curriculum. One such response was:

> *"I am still studying the CBC programme. However, it is a good one. (Respondent K110)"*

Concerns on awareness could be emerging among teachers who were exclusively teaching the higher classes but anticipate having to eventually engage with the CBC. At the time of data collection, seniors three, four, five, and six were carrying on with the old curriculum. However, such teachers are in the minority as common practice in Uganda is that teachers teach across the board from O to A level.

Informational Concerns

Several teachers expressed a need for more information regarding the LSC as they felt unprepared in terms of knowledge and skills to implement the CBC. Some revealed struggles with transitioning from the old curriculum into the LSC. The majority of teachers with informational concerns desired help with the new assessment modes, specifically summative end of year assessments, projects and activities of integration (AOI) as well as report-making. They also indicated that they were ill-equipped to prepare learners for the end of cycle assessment by the Uganda National Examinations Board (UNEB).

> *"The CBC is a good one but still requires much more preparation on the side of the teachers (facilitators) since they were not adequately prepared through trainings nationally. (Respondent L112)"*

> *"I think at this moment due to my experience; the students and we (teachers) are still locked in an old curriculum therefore it is still transforming and many teachers mix the old and new curriculum. (Respondent K111)"*

> *"Guidance on the summative assessment by UNEB is hidden from the teachers up to now. So we teach but don't know how UNEB will set its assessment yet it carries the biggest percentage of 80%. (Respondent L104)"*

The informational concerns expressed by the teachers offer excellent guidance in the preparation of continuous teacher training programmes.

Personal Concerns

The personal concerns that the teachers expressed in this study spanned three specific issues: large student to teacher ratios in the classrooms, huge workloads, and need for better remuneration as expressed by this respondent:

> *"Teacher-student ratio still remains a big challenge especially with the USE programme in many secondary schools. Additionally, the disparities in salaries between Arts and Science teachers is a great hinderance to the teaching and learning process. (Respondent Kay105)"*

The issue of big classes was persistent regardless of the socioeconomic status of the school. Citing classes of over 100 learners, respondents felt this was a significant hindrance to the interaction between teachers and individual learners and hence defeating the purposes of the CBC. Issues of better remuneration and motivation were closely tied to the perceived increase in workload that accompanied the LSC as evident in the following field excerpts:

> *"CBC implementation has been very interesting. Had it not been the challenge of a high teacher-pupil ratio (1:130). How I wish it is addressed. (Respondent Mu211)"*

> *"The CBC is good enough; however, many schools still give teachers a bigger teaching load which seriously affects the teacher's concentration on the CBC curriculum. (Respondent L203)"*

These concerns indicate that teachers are attempting to reconcile their personal and professional needs with the demands of the LSC.

Management Concerns

The management concerns were the most prevalent among the respondents. Teachers revealed key challenges that they grappled with in their day-to-day implementation of the LSC. Four main issues emerged: insufficiency of instructional materials, finances, and resources; inadequacy of infrastructure including poor internet connectivity, few or no technological devices, relatively small

and few classrooms, and ill-equipped libraries; insufficient time allocation; and limited change facilitator support including the MoES, NCDC, and school administrators. Some respondents commented as follows:

> *"The CBC needs review between content and time scheduled as in many cases the available content and activities exceeds the scheduled time for the lessons and other activities. (Respondent W111)"*

> *"The school lacks a functional computer lab therefore it becomes hard to use ICT in the teaching learning process. This being a USE school it is hard to get money to facilitate projects. I improvise but can't all the time improvise. (Respondent W301)"*

> *"Can the Ministry of Education and curriculum developers (NCDC) keep timely checking on us and see where we need to adjust. The learner's guides are still few in some subjects compared to big numbers… There are many software developers coming up with inadequate information on report writing and schools choose who is cheaper hence ending up with assessment disparities. ICT gadgets are so demanding and calls for data/internet where some of our learners miss a lot specially when it comes to research work to support their delivery. (Respondent W309)"*

It was evident from the respondents' comments that large learner to teacher ratios; insufficient instructional materials; limited resources including finances and time; inadequate infrastructure including small classrooms, poorly-equipped libraries, lack of internet connectivity and few technological devices; and the perceived insufficiency of change facilitator support at both school and national levels present a significant bottleneck to the sustained success of the curriculum reform.

Consequence Concerns

Several respondents expressed concerns about the impact of the new curriculum on the learners. A section appreciated the curriculum's potential to develop learners' talents and skills, as well as confidence in communication and research. Concurrently, a few teachers were concerned that learners' competence in basic reading, writing and spoking was lacking. Others opined that many learners were simply reluctant to engage at the level required by the curriculum, a problem that was exacerbated by large classes as remarked below.

> *"According to me, CBC has done good to change format teaching. In my school, my learners have improved in writing good essays; they are confident during classroom presentation. However, there are some challenges for instance, CBC favours learners who like to study but those who do not want are left out, they don't work, no reading. So I need to look into that so as to help these learners. (Respondent W310)"*

> *"CBC is more student-centred because they carry out their own research and make notes. It has also developed confidence in the learners. (Respondent W312)"*

> *"The CBC seems to require very shallow knowledge from the students and yet the AOI require many details i.e. it gives a superficial approach. Students are not yet aware of their role as learners, they still expect to be given most of the information. (Respondent K203)"*

Such concerns reveal that teachers are assessing the curriculum for its merits as far as student achievement is concerned and its potential to deliver positive outcomes for learners. Consequence concerns showed that teachers had noted the potential of the curriculum to improve learning outcomes and were therefore inspired to support it. They also noted learner weaknesses like poor reading and writing competence that needed to be addressed.

Collaboration Concerns

A few respondents expressed concerns that fell under the need and willingness to collaborate with others in the implementation of the curriculum. Such respondents were overt in their appreciation of the curriculum while others felt they were competent enough to implement it and even support others in their implementation. This is evident in the extracts below:

> *"Now I feel like am in the system. I always form groups of teachers to explain to them. Supporting them on grading, AOI, and criterion referencing. (Respondent MGB55)"*

> *"I appreciate the fact that with my experience in new curriculum teaching, I have so far been in position to master and teach what is required in form of assessments and many others… (Respondent L311)"*

Such concerns reveal the availability of potential teacher champions for the curriculum reform. A positive sentiment and even a confession of a basic level of competence indicates that the curriculum has been positively received and is poised to take root if handled well.

Refocusing Concerns

The refocusing concern, in which respondents had ideas to improve, modify, or completely redirect the reform effort, was evident among a sizeable proportion of respondents. A section of teachers pointed out gaps in the education sector policy that facilitated the introduction of the CBC. For instance, one respondent faulted budget allocation for the LSC:

> *"The new curriculum is too costly yet the government is not effective is provision of the teaching/ learning aids. The school administration has been economically strained to spend yet it had not budgeted and the nation is too impoverished to cater for the expenses. (Respondent W402)"*

Another respondent opined that the LSC should have been introduced at the primary level rather than at the secondary school level. Several respondents felt that engagement with key stakeholders, including parents, teachers, and private schools, was inadequate. The ratio of formative to summative assessment 20:80 was faulted by several respondents as encouraging examination-orientation. Most advocated for a 40:60 ratio instead. Finally, several respondents expressed dissatisfaction with the teaching content presented in the LSC materials. While some felt that it was shallow, others thought it was too broad. Some of the content was thought to be misleading and in other instances, lacking in relevant content. For instance:

> *"The CBC is indeed supposed to be a good system to facilitate learning, it stimulates the learners to like studies, self-discovery, etc., but it was hurriedly implemented without involving the stakeholders (teachers)- not given ample time. It also requires learners to have gadgets e.g., phones, Ipads, laptops, etc. Are we going to allow smart phones in schools? What about the learners who can't access these gadgets? Why still maintain the 80% of UNEB marks when actually we want to promote skills? (Respondent K206)"*

> *"CBC should be integrated with the old curriculum in assessment and make vocational subjects like metal works, technical drawing, food and nutrition compulsory. (MGB62)"*

The refocusing concerns showed a two-pronged response to the curriculum reform: supportive and resisting. Supportive responses revealed ideas to improve the approach to the reform and make it more impactful. On the other hand, resisting responses tended to dismiss the curriculum in its entirety.

Discussion

This study sought to answer the question: What are the concerns of Ugandan secondary school teachers about the transition into the CBC? Contrary to the assertion by Olema et al. (2021) that teachers generally have negative perceptions of the competence-based LSC, data revealed that in general, the curriculum has been well received by teachers. The expression of teacher concerns was found to correlate with the expected trends as explained by Hall and Hord (2015). According to Hall and Hord, in early implementation of an educational innovation, usually the first three years, management concerns are often the most intense. However, as implementation progresses, impact concerns, which include consequence, collaboration, and refocusing, should ideally intensify as task and self-concerns (informational and personal) wane. They did caution that if self and task concerns are not well handled, they could progress beyond the third year of implementation, thereby undermining the success of the innovation.

This trend of teacher concerns was evident from the data. With the LSC in its third year of implementation at the time of the study, self and task concerns were prevalent among the teachers. This underscores the need for change facilitators to pay close attention to the needs and concerns expressed by teachers as they implement the curriculum. Goodson (2014) termed this as a crisis of positionality among professional educators wherein they were compelled to respond to externally-generated change rather than being the originators of this change. In agreement with Fullan (2015), Goodson posited that external change agents often erroneously assume the goodwill and cooperation of internal change agents (educators). Self and task concerns are therefore a manifestation of efforts by change implementers to align their personal and professional missions with the mandated change. This was evident in the concerns voiced by respondents in this study.

The prevalence of task concerns, also termed management concerns (George et al., 2006) is noteworthy. Teachers pointed out a general insufficiency of resources and infrastructure to support the implementation of the curriculum. This issue has been identified as a perennial hindrance to effective curriculum implementation and hence quality education in Africa (Akala, 2021; Cunningham, 2018; Fleisch et al., 2019; Isaboke et al., 2021; Makunja, 2016; Sajitha et al., 2018). Outlining major obstacles to success of new curricula implemented in sub-Saharan Africa from 2007 to 2016, Fleisch et al (2019) cited rampant under-resourcing of educational environments as a key pragmatic challenge. These are issues that will have to be addressed by Ugandan change facilitators if the LSC reform is to take flight.

The highest and most ideal level of concerns is the impact level since such concerns indicate that the teacher is engaging with the reform at the philosophical level of vision and rationale (Hall & Hord, 2015). Impact concerns include consequence, collaboration, and refocusing concerns. The data revealed that the impact concerns, specifically refocusing concerns were the third most prevalent category. Teachers were interrogating how the CBC was delivering better student outcomes. According to Hall and Hord (2015), refocusing concerns are expected among implementers who have gained some degree of experience with use of the innovation as they seek to modify and improve, or even replace it with a better one.

However, the refocusing concerns in this study tended to reveal resisting tendencies among the teachers. This is in agreement with Mubangizi (2020) and Olema et al. (2021) who cited resistance to the curriculum among the Ugandan teachers although, at only 20%, it was not as widespread as claimed in these two studies. This could be attributed to conservativeness among the teachers (Goodson, 2014), majority of whom had over 15 years of experience in teaching. Moreover, the teachers have not adequately engaged with the CBC given that it is only in its third year of implementation.

Conclusion

In as much as this paper presents an analysis of the concerns of teachers, it must be acknowledged that this is but a vignette of the wide range of concerns that teachers across the country may harbour. However, it does provide a sound starting point for change facilitators to address these concerns at school, district, and national levels. The findings suggested that most Ugandan secondary school teachers are committed to the LSC reform at a fundamental level. However, this commitment is in danger of being worn out by the daily toils of endeavouring to implement the curriculum within a resource-scarce context. Frustrations from limited understanding of specific aspects of the curriculum also seems to come through. Thus, change facilitators must be awake to the fact that the multiplicity of management concerns, especially when unaddressed could stall the curriculum implementation significantly.

The personal and management concerns reveal practical points of intervention for change facilitators. For instance, the occurrence of informational concerns is an indication that the cascaded model of teacher retooling may have been limited in effectiveness. Interestingly, 74% of teachers stated that their main source of information regarding the LSC reform was the NCDC trainings. This could be a signal to the NCDC to review its training programmes for effectiveness. According to the NCDC, the new curriculum aims to impart generic skills in the learners, one of which is ICT proficiency (National Curriculum Development Centre, 2018). However, the widespread insufficiency, and in many cases, absence of ICT equipment and internet connectivity means that ICT proficiency will likely elude a vast majority of Ugandan youth. Thus, the scarcity of resources and inadequate infrastructure presents a significant threat to the successful implementation of the LSC reform. Nonetheless, as pointed out by Fullan (2015) and Goodson (2014), educational change takes time to yield expected objectives. The latter is dependent upon prudent actions taken by both change implementers and change facilitators. Curriculum reform is a cyclic process therefore change facilitators must be committed to monitoring and addressing the concerns of change implementers on a continuous basis.

Limitations

This study was carried out within the geographical scope of the central sub-region of Uganda. It therefore does not capture the unique concerns of teachers in other regions of the country. However, it included schools from all socio-economic contexts as well as urban, peri-urban, and rural areas. It may therefore be considered approximately representative of teacher concerns across the country. This paper only addresses schools under the financial support of the government: universal secondary schools (USE) and non-universal secondary schools (non-USE). It is acknowledged that the concerns of teachers in private schools, which constitute 66% of the secondary schools in Uganda (Initiative for Social and Economic Rights, 2022), may differ from these expressed herein.

Recommendations

From the findings of this study, the following recommendations are made to change facilitators, change implementers, and for further scholarship:

1. The most influential change facilitators are at the school level. These are the school administrators, departmental heads, and teacher leaders. They are best placed to address teacher concerns at self, task, and even impact levels especially through the strengthening of professional learning communities. Therefore, school administrators should undertake to devise methods of monitoring, documenting, and addressing teacher concerns as they implement the curriculum.

2. The Ministry of Education and Sports equip schools to facilitate the curriculum in terms of infrastructure, internet connectivity, and increased financial support. This has been identified both in literature and through teacher concerns as a significant threat to the success of a curriculum reform at this scale.

3. The National Curriculum Development Centre step up its training programmes in order to reach every teacher, paying particular attention to learner assessment. The study results have revealed that although NCDC is a main source of information for teachers, significant information gaps persist. The NCDC should be guided by the specific areas of concern highlighted by teachers in this study.

4. National Curriculum Development Centre and Ministry of Education and Sports should work with teachers to establish robust feedback channels through which teachers countrywide can relate their concerns and have them addressed. Literature has revealed the danger of neglecting teachers as the main change implementers. School and district administrative structures should be leveraged for this purpose. Teacher organisations and social media platforms can also offer excellent milieu for meaningful engagements.

5. School administrators, in collaboration with local governments and supported by the MoES should conduct intensive stakeholder engagement targeting parents, community leaders and all proprietors of educational institutions. This will help teachers find the support system they crave both locally and nationally.

6. Change implementers, specifically teachers, should allow themselves time to learn, engage with, and master the curriculum rather than dismissing it at this early point of implementation. Educational reform scholarship has demonstrated that concerns evolve as implementation progresses. Thus, teachers should make their concerns explicit through the available channels in order to facilitate their advancement to higher stages of concern.

7. Further research should be dedicated to the concerns of teachers implementing the curriculum reform in private schools in Uganda. It is worth discovering the concerns of teachers in private schools as the nationwide success of the curriculum may be largely determined by them. A comparison of teacher concerns in private versus government-aided schools should then be carried out to provide scholars and change facilitators with a circumspect understanding of the curriculum reform process and national teacher support needs.

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The Challenges and Strategies of Adopting Competency-Based Assessment by National Assessment Bodies: The Case of Uganda National Examinations Board

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Abstract

Lower secondary education in Uganda shifted from content-based to competency-based curriculum in 2020. The adoption of competency-based education is hampered by a mode of assessment that has traditionally placed a greater emphasis on memory than on critical and creative problem-solving. This study, covering 17 districts in five of the six UNEB regions of Uganda, employed quantitative research approach and cross-sectional survey research design to examine the extent to which the implementation of the lower secondary school curriculum could inform competency-based assessment of learning by UNEB. The study involved 491 learners randomly selected from secondary schools in the selected districts. These respondents completed the survey on Competency-based Learning (Ryan & Cox, 2016). The results of the study revealed generally high levels of belief in and understanding of CBA (M = 3.82; Min. = 0.00, Max. = 5.00; SD = 0.622), student progression through demonstration of mastery (M = 3.87; Min. = 0.00, Max. = 5.00; SD = 0.577), and flexible assessment (M = 3.91; Min. = 0.00, Max. = 5.00; SD = 0.618). Personalization (M = 3.42; Min = 0.00, Max = 5.00; SD = 0.620) and skills and disposition development (M = 3.13; Min = 0.00, Max = 5.00; SD = 0.734) were at moderate levels. We argue that the implementation of the competency-based curriculum seems to take the shape of the old cognitive-based curriculum such that it does not adequately prepare the learners for a terminal competency-based assessment of the curriculum. Based on the results, we recommend that the Ministry of Education and Sports and UNEB raise public sensitization on the need for the adoption of CBA in the lower secondary schools in the country.

Keywords: *Competency-based assessment, Competency-based curriculum, Competency-based education, Examination, Lower secondary education*

Introduction

The global prevalence of Covid-19 has provided a critical test of the relevance of education in producing graduates with competitive job-related skills (Olesen, 2019). The post-Covid-19 period threatens to pose more challenges of compensating for the time lost during the lockdown, the readiness of the learners, and the quality of learning. This calls for education institutions to embrace a paradigm shift from content-based to Competency-Based Education (CBE) model which has been instituted at primary and lower secondary school levels of Uganda's education system.

The competency-based model describes the combination of specific knowledge, skills and personal attributes that enables someone to perform a task. CBE is used interchangeably with Competency-Based Curriculum (CBC) in this study to refer to education programs geared towards producing graduates who not only have knowledge but also can apply it in complex jobs and life-related situations (Klein-Collins, 2013).

Initially, CBE was majorly designed for adult learners, but has become an innovation attracting institutions to design and offer it across the board (C-BEN, 2015; Fleming, 2015; Public Agenda, 2015). Increased interest by the U.S. Federal Government to fund and support higher education opportunities for adults working in the 1970s led to the development of several CBE degree programs (Klein-Collins, 2013). Later CBE philosophy was institutionalized in some national qualification frameworks that included the United Kingdom, Republic of Ireland, Netherlands, and Germany (Mulder & Eppink, 2011). As such, CBE is not new since it has been applied by international development agencies and consultancy firms for capacity building and strategic planning in Latin-America, Asia and Africa.

Ford (2014) observes that calls for increased productivity, effectiveness and demonstrable outcomes from the education sector prompted expanded global interest in the development of competency-based education initiatives. According to Ford, the sixth generation of CBE models is characterized by online learning, study analytics, adaptive technology, and direct assessment. There are three different levels of use of competencies which include those related to training, education, and development (Mulder & Eppink, 2011). Since our study focuses on elementary secondary school education and preparing graduates for the competitive world of employment, the study will concentrate on integrated occupations associated with competencies at the education level. At this level, knowledge, skills, values and attitudes are integrated during the learning process and authentic assessment is administered to determine mastery of job-related competencies (Wesselink, 2010). In 1996, the Conference of Education Ministers of Francophone Countries summit in Yaounde recommended that member countries adopt competency-based approach reforms (Bernard et al., 2007). Education reforms according to competency-based approach were carried out in the 23 West-African countries under the assistance of the organization.

Within the East-African Community member states (Uganda, Kenya, Tanzania, Rwanda, South Sudan, and Burundi), each country took a different approach in adopting CBC, mainly focusing on inclusion of the 21st century skills in the curricula and at different levels of education. For example, Kenya started implementing CBC in the pre-primary and lower primary in 2018 (Muasya & Waweru, 2019) while Uganda reformed her education from content-based to competency-based curriculum in lower secondary in 2020 (National Curriculum Development Center [NCDC], 2020). Attempts have also been made to integrate competency-based curriculum particularly in business, vocational and technical education. For example, the Business, Technical, and Vocational Education and Training (BTVET) Department supported by the German Agency for Technical Co-operation (GTZ) set up the Uganda Vocational Qualification Framework (UVQF) secretariat in 2004 to monitor the implementation of Competency-Based Education and Training (Kyobe & Rugumayo, 2005). This was to link vocational institutions with the industrial sector by integrating job-related competencies into their curricula. It is anticipated that a shift to service rather than business models of education innovations such as CBC will provide competencies that are frequently associated with workforce needs required by employers (Kasirye et al., 2021; Kim, 2015) and also help countries to attain global development targets. However, there is a dearth of scientific evidence of competency-based curriculum (CBC) or competency-based education (CBE) and programs in higher education (Mbarushimana & Kuboja, 2016).

The adoption of CBE, facilitated with technology, is hoped to among others, foster lifelong learning. The education institutions are mandated to suit lessons for both formal and non-formal career paths, promote accountability (Brightwell & Grant, 2013) and enable learners to gain competence (knowledge, skills, and values) as the institutions strategize to enroll students throughout the year without being limited by space or geographical location of learners. By adopting the CBE model, it is further hoped that education institutions in the country will be more able to design efficient content, reduce the cost of content delivery and make education programs more affordable to the learners and parents who have been hit by the effects of the pandemic (Staskevia, 2019). In effect, poor cognitive academic performance with its attendant consequences such as dropout should get minimised.

The CBE model is underpinned by the constructivism theory that focuses on the centrality of the learner in organizing and undertaking education activities or programs. Constructivists believe in learners constructing knowledge through active engagement in authentic activities (Bartram, 2005). Geen and Gredler (2002) reveal that when learners are given clear goals for their learning and left to explore knowledge on their own, they will be able to develop skills and competencies. This will make learning more meaningful because it facilitates learners to apply content in an authentic work-related environment.

Generally, the adoption of CBE has been slow in Sub-Saharan Africa (Kiguli et al., 2011) and is expected to continue being as such in Uganda owing to the business rather than service model of provision of content-based education that has characterized the country since independence. The required shift from content-based education to the desired CBE in primary and secondary education in Uganda is further challenged by the mode of assessment that has largely rewarded recall rather than critical and creative solutions to extant problems. In this study, we aimed to garner students' perceptions of the extent of adoption of competency-based assessment in the face of the existing highly popularized content-based assessment.

Objectives of the Study

1. To examine the extent to which the implementation of the competency-based curriculum has prepared learners for competency-based assessment in lower secondary school in Uganda.
2. To determine the differences in the levels of implementation of the competency-based curriculum by regional location of the schools, gender of the learners, and ownership of schools.

Research Questions

The research questions are in line with the objectives of the study:

1. To what extent has the implementation of the competency-based curriculum prepared learners for competency-based assessment in lower secondary school in Uganda?
2. What are the differences in the levels of implementation of the competency-based curriculum by regional location of the schools, gender of the learners, and ownership of schools?

Literature Review

Mbarushimana et al. (2016) note that education institutions of many developing countries produce graduates with limited skills demanded by society and the employment market. These authors agree with Mulder and Eppink (2011) who observe that education in Uganda and Ethiopia is generally offered with limited attention to the development of work-related competencies. Further, Staskevia (2019) reveals that the current education acquired through a business-oriented content-based curriculum is important but not sufficient enough to produce graduates with competitive skills ready to serve in the employment market. The above studies indicate the need to improve the quality of education by either adopting tested education reforms elsewhere or rebranding their curricula, teaching, and assessment.

Studies (*e.g.*, Desrochers & Staisloof, 2016; Kabanga et al., 2018; Kafyuililo et al., 2012; Makulova et al., 2015; Mulder & Eppink, 2011; Simonds et al., 2017; Staskevia, 2019; Wambua & Waweru, 2019) have revealed that adoption of CBE improves the quality of education since learners can acquire demonstrable competencies in real-life situations. However, Porter (2014) questioned the criteria applied in determining the prior knowledge to include in the competency-based program, what constitutes a term in a self-paced program, and how progress is determined. These studies were either limited to developed countries, small sample size, a few programmes, or newly established programs. They also do not explicitly explain the efficacy of the assessment of the CBE. Therefore, we undertook a critical investigation of the learners' perception of the adoption of competence-based assessment with a view to enhancing its buy-in among the stakeholders.

Methodology

The study adopted quantitative approaches employing cross-sectional survey design. The study was conducted in 17 districts within five UNEB regions of Uganda (see Table 1). The five regions include Karamoja, central, western, south-western and eastern Uganda. The sample size for the quantitative arm of the study was 491 Senior 2 learners, determined using Krejcie and Morgan's (1970) table of sample selection for social sciences. Senior 2 students were chosen because they were the pioneers of the competency-based lower secondary school curriculum. Data were collected over a four-week period with the help of field staff who were trained by the team of researchers.

Table 1. Selected Regions and Districts

Region	District
Central Region	Kampala, Wakiso
Eastern Region:	Tororo, Iganga, Kapchorwa
Karamoja Region	Moroto, Kotido, Nakapiripirit, Abim
Western Region	Ibanda, Kamwenge, Masindi
South-Western	Kabale, Rukungiri, Kanungu, Ntungamo, Isingiro

A self-report Likert scale questionnaire on Competency-based Learning (Ryan & Cox, 2016) was administered to the participants to examine the extent to which the implementation of the lower secondary school curriculum prepared them for competency-based assessment. The questionnaire had six sections A—F measuring the demographic characteristics, student understanding of competency-based education, progression through demonstration of mastery, personalisation, flexible assessment, and development of specific skills and dispositions respectively. Progression through demonstration of mastery requires a student to demonstrate that he or she has learned what was expected before moving on to the next level.

Personalization refers to the provision of individualised support, flexible pacing, and opportunities for student choice in how to demonstrate mastery. Flexible assessment includes exposure to multiple modes of assessment, which allows students to demonstrate mastery in a variety of ways rather than through only one assessment (for example, a written test). Development of specific skills and dispositions such as perseverance and a capacity to self-direct one's learning may be especially important in a competency-based learning system where student agency and choice are emphasised (Lewis et al., 2014).

A number of measures were put in place to ensure good quality data through increasing the validity and reliability of the study results. Among these, we trained the data collection team (research associates) on how to handle the study procedures and study tools. The research team was actively involved in the whole process to ensure quality checks at every level. For management of the quantitative data, the questionnaires were sorted and those that were fully filled in were retained while the incomplete ones were discarded. The completed questionnaires were coded serially to avoid entering data from the same questionnaire more than once. The items were also coded and entered in SPSS. None of the items required reverse scoring.

Descriptive statistics (frequencies, percentages, means, and standard deviations) were generated to determine the extent of implementation of the competency-based lower secondary school curriculum in Uganda as a precursor of readiness for competency-based assessment of the curriculum by UNEB. The mean levels of implementation were categorized as follows: 1—2.33 (low), 2.34—3.66 (moderate), and 3.67—5.00 (high). For the second objective, Kruskal-Wallis H Test plus the post hoc test were run to generate the differences in implementation of the competency-based curriculum by regional location while Mann-Whitney U test was run to establish the differences by gender of the participants and school ownership.

The participants under 18 assented to participate in the study through the consent of their heads of schools as representatives of their parents. Prior to the data collection session (*i.e.,* questionnaire administration), each participant was requested to give a signed informed consent to participate in the study. They were also informed that all information shared in the discussions would be kept confidential and all personal identifiers such as names would be removed during analysis and report writing. Data access would be restricted only to those involved in the study.

The research team asked for a full waiver of ethical review from the External Research Committee of UNEB. Permission to carry out the research was sought from the respective local governments. The objectives, benefits, and risks of the study were explained to the prospective study participants and informed consent sought before interviewing them as described above. Full consideration was given to consent, anonymity, confidentiality, and right to withdraw at any point in time of the data collection.

Results

Student Demographics

The quantitative data were gathered from 491 Senior 2 learners studying in the new lower secondary school curriculum in Uganda. These learners were of different sexes, age groups, and school characteristics from the 17 selected districts as shown in Table 2.

Table 2: Study Demographics

Demographic	Category	Frequency	Percent
Sex of student	Male	265	54.0
	Female	226	46.0
	Total	**491**	**100.0**
Age of student	13	1	0.2
	14	42	8.6
	15	109	22.2
	16	139	28.3
	17	89	18.1
	18	61	12.4
	19	21	4.3
	20	17	3.5
	Total	479	97.6
Missing	System	12	2.4
Total		**491**	**100.0**
School location	Rural	92	18.7
	Semi-urban	258	52.5
	Urban	140	28.5
	Total	490	99.8
Missing	System	1	0.2
Total		**491**	**100.0**
School ownership	Public	427	87.0
	Private	64	13.0
	Total	**491**	**100.0**
School composition	Male	86	17.5
	Female	64	13.0
	Both male and female	341	69.5
	Total	**491**	**100.0**
Foundation body of school	Anglican	178	36.3
	Catholic	107	21.8
	Muslim	99	20.2
	Pentecostal	39	7.9
	SDA	24	4.9
	Community	39	7.9
	Others	5	1.0
	Total	**491**	**100.0**

Demographic	Category	Frequency	Percent
District of school location	Abim	20	4.1
	Ibanda	58	11.8
	Iganga	40	8.1
	Isingiro	20	4.1
	Kabale	20	4.1
	Kampala	2	.4
	Kamwenge	40	8.1
	Kanungu	19	3.9
	Kapchorwa	20	4.1
	Kotido	19	3.9
	Masindi	81	16.5
	Moroto	39	7.9
	Nakapiripirit	12	2.4
	Ntungamo	20	4.1
	Rukungiri	22	4.5
	Tororo	40	8.1
	Wakiso	19	3.9
	Total	**491**	**100.0**

Results in Table 2 indicate that there was a slightly higher participation of boys than girls in the study. The learners ranged in age from 13 to 20, with majority 15 and 16, typical of the delay in ascending to the next class due to school closures as a result of covid-19 pandemic. Participant distribution by school location decreased in the order semi-urban (52.5%), urban (28.5%), and rural (18.7%). Most of the participants (87.0%) were drawn from public schools, with majority (69.5%) studying in mixed rather than boys only (17.5%) or girls only (13.0%) schools. Participants came from schools on all the main foundation bodies. Their responses to the questionnaire items are presented in the following sections.

The Extent to Which the Implementation of the Competency-Based Curriculum Has Prepared Learners for Competency-Based Assessment in Lower Secondary School in Uganda

This study mainly aimed at examining the extent to which the competency-based curriculum was implemented and hence able to inform competency-based assessment by UNEB at lower secondary school level in Uganda. The results are presented according to the key aspects of competency-based education: student understanding of competency-based education, student progression through demonstration of mastery, personalisation of competency-based education, flexible assessment, and development of skills and dispositions.

Table 3: Student Understanding of Competency-based Learning and Assessment

Item	SD	D	U	A	SA	M	SD	Level
The subjects I study at 'O' level prepare me for what I want to do after secondary school education.	27(5.5)	45(9.2)	12(2.4)	226(46.0)	181(36.9)	4.00	1.121	High
The way we are studying gives students a lot of opportunity to show whether they have learned the important topics in subjects.	47(9.6)	74(15.1)	47(9.6)	210(42.8)	113(23.0)	3.55	1.260	Moderate
The syllabus we are following helps us to get more than one opportunity to pass a test or exam.	48(9.8)	82(16.7)	39(7.9)	179(36.5)	143(29.1)	3.58	1.323	Moderate
Homework is important to complete even if it is not graded.	42(8.6)	40(8.1)	29(5.9)	167(34.0)	213(43.4)	3.96	1.261	High
If two students in the same subject do different assignments, they still have the opportunity to earn the same grade in the subject as per the syllabus.	88(17.9)	142(28.9)	47(9.6)	134(27.3)	80(16.3)	2.95	1.390	Moderate
My current grades are a good reflection of what I have learned.	18(3.7)	20(4.1)	11(2.2)	204(41.5)	238(48.5)	4.27	.964	High
Most colleges and universities will understand and trust my grades from the examinations.	20(4.1)	16(3.3)	6(1.2)	136(27.7)	313(63.7)	4.44	.978	High
Overall						3.82	0.622	High

Results in Table 3 indicate that the learners expressed a generally moderately high level (M = 3.82, SD = 0.622) of understanding of the competency-based curriculum and its implementation. Majority (82.9%) agreed that the subjects they studied prepared them for what they wanted to do after secondary school education, meaning that the education surely inculcated competency in them. However, an appreciable proportion (34.3%) disagreed or were undecided as to whether the way they studied gave them a lot of opportunity to show whether they had learned the important topics in subjects. A number of them (34.4%) also disagreed or were undecided that the syllabus they were following helped them to get more than one opportunity to pass a test or examination. In this case, the mode of assessment during the teaching and learning may not have revealed assurance of opportunity of repeating failed tests during the terminal assessment. Whereas majority (77.4%) believed that homework was important to complete even if not graded, a certain section (22.6%) believed otherwise, which speaks to a tendency towards score oriented assessment. From these observations, it is gleaned that a number of students still have misgivings about the new curriculum and its implementation and assessment.

Table 4: Progression through Demonstration of Mastery

Item	SD	D	U	A	SA	M	SD	Level
I know what I need to do to show my teachers that I am making progress on each new topic or content I have been taught.	17(3.5)	13(2.6)	10(2.0)	221(45.0)	230(46.8)	4.29	0.907	High
I must show my teachers that I have mastered each topic/ content before I can move on to the next one.	22(4.5)	27(5.5)	20(4.1)	201(40.9)	221(45.0)	4.16	1.044	High
I am able to move on to the next topic/content when I have understood, even if other students have not yet understood.	37(7.5)	44(9.0)	24(4.9)	214(43.6)	172(35.0)	3.90	1.195	High
Students in my class work on the same topic at the same time	26(5.3)	34(6.9)	29(5.9)	218(44.4)	184(37.5)	4.02	1.091	High
I understand how the topics in my class will help me in the future.	21(4.3)	47(9.6)	35(7.1)	203(41.3)	185(37.7)	3.99	1.104	High
My teachers share examples of excellent work on each topic/content.	129(26.3)	182(37.1)	34(6.9)	82(16.7)	64(13.0)	2.53	1.376	Mod-erate
My teachers let me know how my work will be marked for each topic/content.	25(5.1)	14(2.9)	12(2.4)	185(37.7)	255(51.9)	4.29	1.018	High
My teachers give me a marking guide so that I know how I am progressing on each topic.	47(9.6)	44(9.0)	35(7.1)	197(40.1)	168(34.2)	3.80	1.264	High
Overall						3.87	0.577	High

The students' progression through demonstration of mastery (Table 4) was generally moderately high (M = 3.87, SD = 0.577). Most of them (91.8%) knew what they needed to do to show teachers that they were making progress on each new topic or content they had been taught. Some few of them (14.1%) disagreed that they needed to show their teachers that they had mastered each topic/content before they could move on to the next one. Some of the students (21.4%) were unable to move on to the next topic/content when they had understood, even if other students had not yet understood. Majority of the students, 345(70.3%), were not in agreement with the assertion that their teachers shared examples of excellent work on each topic/content with them. Still others (10.4%) disagreed that their teachers let them know how their work would be marked for each topic/content, and 25.7% disagreed that their teachers gave them marking guides so that they would know how they were progressing on each topic. This implies that national assessment of progression through demonstration of mastery will still face gaps among the learners, with some having the tendency of progressing at the pace of others.

Table 5: Personalization

Item	None	Some	Most	All	Not sure	M	SD	Level
I am able to complete some or all of the topic requirements online using internet.	28(5.7)	35(7.1)	20(4.1)	173(35.2)	235(47.9)	4.12	1.142	High
If I complete a project that wasn't assigned at school but is related to a topic I am learning, I can be awarded marks for the project in that topic.	43(8.8)	47(9.6)	25(5.1)	199(40.5)	177(36.0)	3.86	1.251	High
I can earn marks for studying subjects at another school.	190(38.7)	95(19.3)	23(4.7)	81(16.5)	102(20.8)	2.61	1.610	Moderate
I can earn marks for doing community service.	77(15.7)	100(20.4)	66(13.4)	143(29.1)	105(21.4)	3.20	1.393	Moderate
	Never	Seldom	S o m e - times	Often	Always	*M*	*SD*	*Level*
Students in my class all work on the same assignment at the same time	119(24.2)	131(26.7)	94(19.1)	97(19.8)	50(10.2)	2.65	1.312	Moderate
My teachers spend most of class time teaching the whole class theoretically	103(21.0)	129(26.3)	84(17.1)	114(23.2)	61(12.4)	2.80	1.339	Moderate
My teachers work with students in small groups or individually	29(5.9)	52(10.6)	14(2.9)	175(35.6)	221(45.0)	4.03	1.198	High
My teachers notice if I need extra help without me asking for help.	73(14.9)	122(24.8)	34(6.9)	140(28.5)	122(24.8)	3.24	1.439	Moderate
My teachers teach the material in several different ways in order to help students learn.	44(9.0)	53(10.8)	29(5.9)	185(37.7)	180(36.7)	3.82	1.279	High
	Never	1-2 times	3 - 4 times	5 or more times	Not sure	*M*	*SD*	*Level*
My teachers or a counsellor/advisor discussed how I am doing on each topic with me	61(12.4)	122(24.8)	29(5.9)	164(33.4)	115(23.4)	3.31	1.388	Moderate
My teachers gave me written feedback on my work	13(2.6)	52(10.6)	23(4.7)	210(42.8)	193(39.3)	4.05	1.049	High
I have had opportunities to choose how to show my teachers what I have learned	65(13.2)	113(23.0)	34(6.9)	172(35.0)	107(21.8)	3.29	1.379	Moderate
Overall						3.42	0.620	Moderate

According to the results in Table 5, the extent of personalisation of the curriculum was generally moderate (M = 3.42, SD = 0.620), with an appreciable proportion (53.6%) unable or not sure to complete some or all of the topic requirements online using internet, and 44.8% claiming that they could never or were unsure to be awarded marks if they completed projects that were not assigned at school but were related to a topic they were learning. Majority of the students (59.5%) disagreed that they could earn marks for studying subjects at another school, implying that the curriculum needs to provide for a national transfer of marks accessible in any school for every learner. A good proportion (37.1%) disagreed or were undecided with the possibility of earning marks for doing community service.

According to the 24.2% of the participants, students in their class never worked on the same assignment at the same time. The majority of the participants (64.4%) agreed that their teachers spent most of class time teaching the whole class theoretically, meaning that the intended extent of practical implementation of the new curriculum is not yet up to the expected level. In other words, teachers are still stuck to their traditional teacher-centred pedagogical approaches they were used to during the implementation of the cognitive-based curriculum. About half (50.9%) of the participants were either not sure or claimed that their teachers never worked with students in small groups or individually. Others (43.7%) doubted or confirmed that their teachers never noticed if they needed extra help without them asking for help. To further confirm the teacher centeredness of the pedagogical approaches, 25.7% of the participants claimed that their teachers never or rarely taught the content material in several different ways in order to help students learn.

Some students (35.8%) never experienced or were not sure of teachers or counsellors/advisors discussing how they were doing on each topic with them. Others (41.9%) indicated that their teachers never gave or were not sure of being given written feedback on their work. Only 35.0% had had opportunities five or more times to choose how to show their teachers what they had learned. In essence, the curriculum had not been properly personalized by the learners so as to foster competency building. Its implementation was rather much characterized by the traditional strategies of teaching and learning.

Table 6: Flexible Assessment

Item	Never	1-2 times	3 - 4 times	5 or more times	Not sure	M	SD	Level
I have created drawings or models to show what I have learned	68(13.8)	122(24.8)	33(6.7)	165(33.6)	103(21.0)	3.23	1.389	Moderate
I have taken tests or quizzes to show what I have learned	22(4.5)	34(6.9)	25(5.1)	215(43.8)	195(39.7)	4.07	1.061	High
I have given a performance to show what I have learned (for example, performing in a video or skit/ play, playing an instrument)	56(11.4)	70(14.3)	29(5.9)	168(34.2)	168(34.2)	3.66	1.372	Moderate
I have given a presentation to show what I have learned	29(5.9)	35(7.1)	30(6.1)	192(39.1)	205(41.8)	4.04	1.139	High
	Never	Seldom	S o m e - times	Often	Always	M	SD	Level
I have completed a project at school to show what I have learned	31(6.3)	30(6.1)	25(5.1)	191(38.9)	214(43.6)	4.07	1.139	High
I have completed a project in the community to show what I have learned	23(4.7)	10(2.0)	11(2.2)	158(32.2)	289(58.9)	4.38	0.984	High
If I do poorly on an test or exam on the first try, I can try again later.	56(11.4)	60(12.2)	35(7.1)	183(37.3)	157(32.0)	3.66	1.340	Moderate
To show that I have mastered a topic in a subject, I must demonstrate my learning in more than one way, e.g., by doing written test, oral test, play, etc.	21(4.3)	28(5.7)	17(3.5)	208(42.2)	217(44.2)	4.16	1.032	High
Overall						3.91	0.618	High

The flexibility of the mode of assessment was generally moderately high (M = 3.91, SD = 0.618). An appreciable number of the participants had never or were not sure of having created drawings or models to show what they had learned (34.8%), having taken tests or quizzes to show what they had learned (44.2%), having given a performance to show what they had learned (for example, performing in a video or skit/ play, playing an instrument; 45.6%), and having given a presentation to show what they had learned (45.0%). With regard to projects, majority of the students had often (38.9%) or always (43.6%) completed a project at school to show what they had learned.

Similarly, 32.2% had often and 58.9% had always completed a project in the community to show what they had learned. On the other hand, 30.7% reported that they never or rarely had opportunity to try again later if they did poorly on a test or examination on the first try. This implies that the mode of assessment of the learning outcomes is still far from meeting the desired expectation; the current implementation and assessment of the curriculum is mimicking that of the old cognitive-based curriculum. Majority of the students revealed that they often (42.2%) or always (42.2%) demonstrated their learning in more than one way, (e.g., by doing written test, oral test, play, etc) to show that they had mastered a topic in a subject.

Table 7: Development of Skills and Dispositions

	Never	Seldom	Sometimes	Often	Always	M	SD	Level
Teachers encourage students to respect the feelings of others.	68(13.8)	130(26.5)	64(13.0)	150(30.5)	79(16.1)	3.09	1.328	Moderate
Teachers show or explain to students how to treat each other with respect.	18(3.7)	25(5.1)	18(3.7)	176(35.8)	254(51.7)	4.27	1.009	High
When I have trouble learning something new, my teachers give me advice and strategies that help me to keep trying.	139(30.5)	174(38.2)	110(24.2)	2(0.4)	27(5.9)	2.17	1.170	Low
Overall						3.13	0.734	Moderate

The main aim of the new lower secondary school curriculum is to produce life-long learners who have the requisite skills and dispositions to thrive in the world characterized as vulnerable, uncertain, complex, and ambiguous (VUCA). This is the core of competence-building in the curriculum. Results in Table 7 indicate a generally moderately low level of personal gains in development of skills and dispositions (M = 3.13, SD = 0.734). Less than half (46.6%) of the students reported often or always having teachers to encourage students to respect the feelings of others. On a good note, majority (87.5%) often or sometimes had teachers show or explain to students how to treat each other with respect. To the contrary, majority (92.9) either never or seldom or just sometimes had teachers give them advice and strategies to help them to keep trying when they had trouble learning something new. This implies that the essence of the competency-based curriculum is not being realised effectively.

Differences in Levels of Implementation of the Lower Secondary Curriculum by Regional Location, Gender, and School Ownership

The second objective of this study was to determine whether there were statistically significant differences by regional location, gender, and school ownership in the levels of implementation of the competency-based lower secondary curriculum as a precursor of competency-based assessment. The results are presented below.

Regional Variation in CBA Readiness

One of the objectives of this study was to establish whether there was regional variation in implementation of competency-based curriculum. A Kruskal-Wallis H nonparametric test was run to achieve this. The results are presented in Table 8.

Table 8: Kruskal-Wallis H Test of Difference for Regional Variation in Implementation of Competency-based Curriculum

Aspect of CBE	Region	Ranks		X^2	p
		N	Mean Rank		
Understanding of CBE	Central	21	261.57	29.458	< .05
	Eastern	100	293.90		
	Karamoja	90	254.30		
	Western				
Student Progression through Demonstration of Mastery	South-western	179	203.70		
		101	262.91		
	Central	21	247.71	15.737	.003
	Eastern	100	294.52		
	Karamoja	90	240.93		
	Western	179	226.41		
	South-western	101	236.85		
Personalisation	Central	21	305.31	23.190	< .05
	Eastern	100	278.10		
	Karamoja	90	274.33		
	Western	179	211.82		
	South-western	101	237.22		
Flexible Assessment	Central	21	342.93	26.546	< .05
	Eastern	100	288.84		
	Karamoja	90	244.63		
	Western	179	218.55		
	South-western	101	233.29		

Development of Skills and Disposition	Central	21	277.00	5.923	.205
	Eastern	100	253.29		
	Karamoja	90	268.66		
	Western	179	231.10		
	South-western	101	238.56		

Results in Table 8 indicate that apart from development of skills and dispositions, all other aspects of competency-based education varied significantly by region. To establish the exact regions that varied significantly in each region, a post hoc test of least square differences was run, presented in Table 9.

Table 9: Post Hoc Tests for Regional Variation in Competency-based Education

Dependent Variable	(I) Region where district is located	(J) Region where district is located	Mean Difference (I-J)	Std. Error	p
Student understanding of competency-based education	Central	Eastern	-.15966	.14639	.276
		Karamoja	-.01633	.14779	.912
		Western	.19511	.14067	.166
		South-western	-.02660	.14626	.856
	Eastern	Central	.15966	.14639	.276
		Karamoja	.14333	.08861	.106
		Western	.35477*	.07614	.000
		South-western	.13306	.08603	.123
	Karamoja	Central	.01633	.14779	.912
		Eastern	-.14333	.08861	.106
		Western	.21144*	.07880	.008
		South-western	-.01028	.08840	.907
	Western	Central	-.19511	.14067	.166
		Eastern	-.35477*	.07614	.000
		Karamoja	-.21144*	.07880	.008
		South-western	-.22172*	.07589	.004
	South-western	Central	.02660	.14626	.856
		Eastern	-.13306	.08603	.123
		Karamoja	.01028	.08840	.907
		Western	.22172*	.07589	.004

Dependent Variable	(I) Region where district is located	(J) Region where district is located	Mean Difference (I-J)	Std. Error	p
Progression through Demonstration of Mastery	Central	Eastern	-.10054	.13790	.466
		Karamoja	.05933	.13922	.670
		Western	.09088	.13251	.493
		South-western	.07284	.13778	.597
	Eastern	Central	.10054	.13790	.466
		Karamoja	.15986	.08347	.056
		Western	.19142*	.07172	.008
		South-western	.17338*	.08104	.033
	Karamoja	Central	-.05933	.13922	.670
		Eastern	-.15986	.08347	.056
		Western	.03156	.07424	.671
		South-western	.01352	.08328	.871
	Western	Central	-.09088	.13251	.493
		Eastern	-.19142*	.07172	.008
		Karamoja	-.03156	.07424	.671
		South-western	-.01804	.07149	.801
	South-western	Central	-.07284	.13778	.597
		Eastern	-.17338*	.08104	.033
		Karamoja	-.01352	.08328	.871
		Western	.01804	.07149	.801

Dependent Variable	(I) Region where district is located	(J) Region where district is located	Mean Difference (I-J)	Std. Error	p
Personalisation	Central	Eastern	.14167	.14637	.334
		Karamoja	.12130	.14778	.412
		Western	.38361*	.14066	.007
		South-western	.29290*	.14625	.046
	Eastern	Central	-.14167	.14637	.334
		Karamoja	-.02037	.08860	.818
		Western	.24195*	.07613	.002
		South-western	.15124	.08602	.079
	Karamoja	Central	-.12130	.14778	.412
		Eastern	.02037	.08860	.818
		Western	.26232*	.07880	.001
		South-western	.17161	.08839	.053
	Western	Central	-.38361*	.14066	.007
		Eastern	-.24195*	.07613	.002
		Karamoja	-.26232*	.07880	.001
		South-western	-.09071	.07589	.233
	South-western	Central	-.29290*	.14625	.046
		Eastern	-.15124	.08602	.079
		Karamoja	-.17161	.08839	.053
		Western	.09071	.07589	.233

Dependent Variable	(I) Region where district is located	(J) Region where district is located	Mean Difference (I-J)	Std. Error	p
Flexible Assessment	Central	Eastern	.24792	.14614	.090
		Karamoja	.36806*	.14754	.013
		Western	.47463*	.14043	.001
		South-western	.44018*	.14601	.003
	Eastern	Central	-.24792	.14614	.090
		Karamoja	.12014	.08846	.175
		Western	.22671*	.07601	.003
		South-western	.19226*	.08589	.026
	Karamoja	Central	-.36806*	.14754	.013
		Eastern	-.12014	.08846	.175
		Western	.10657	.07867	.176
		South-western	.07213	.08825	.414
	Western	Central	-.47463*	.14043	.001
		Eastern	-.22671*	.07601	.003
		Karamoja	-.10657	.07867	.176
		South-western	-.03445	.07577	.650
	South-western	Central	-.44018*	.14601	.003
		Eastern	-.19226*	.08589	.026
		Karamoja	-.07213	.08825	.414
		Western	.03445	.07577	.650

Post hoc test results in Table 9 indicate that students' understanding varied significantly between the Eastern and Western regions, Karamoja and Western regions, and South-western and Western regions. Progression through demonstration of mastery varied significantly between the Eastern and Western regions, and Eastern and South-western regions. Personalisation of the curriculum differed significantly among students in the Central and Western regions, Central and South-western regions, Eastern and Western regions, and Karamoja and Western regions. Flexible assessment varied significantly between the Central and Karamoja regions, Central and Western regions, Central and South-western regions, Eastern and Western regions, and Eastern and South-western regions. In each of these cases, the former region exhibits a higher mean than the latter.

Differences in Competency-based Assessment Readiness by Gender of Learners

The study also sought to determine whether the implementation of competency-based lower secondary school curriculum in Uganda varied significantly among male and female students. Given that the number of male and female students was not equal, Mann-Whitney U test—the non-parametric equivalent of the t-test—was run. The results are presented in Table 10.

Table 10: Mann-Whitney U Test of Difference in Competency-based Education by Gender of Students

Aspect of CBE	Sex of student	N	Mean Rank	Sum of Ranks	Mann-Whitney U	p
Student understanding of competency-based education	Male	265	262.32	69513.50	25621.500	.006
	Female	226	226.87	51272.50		
Progression through demonstration of mastery	Male	265	245.06	64941.00	29696.000	.873
	Female	226	247.10	55845.00		
Personalisation	Male	265	265.87	70456.00	24679.000	.001
	Female	226	222.70	50330.00		
Flexible assessment	Male	265	239.09	63358.00	28113.000	.241
	Female	226	254.11	57428.00		
Development of skills and dispositions	Male	265	249.65	66158.00	28977.000	.533
	Female	226	241.72	54628.00		

Results in Table 10 indicate that there was a significant difference (U = 25621.500, p = .006) in student understanding of competency-based education between male (Mean Rank = 69513.50) and female (Mean Rank = 51272.50) students. Similarly, male students (Mean Rank = 70456.00) exhibited a significantly higher personalisation (U = 24679.000, p = .001) than female students (Mean Rank = 50330.00). The other aspects of implementation of the curriculum did not vary significantly by gender of the students. Most probably, the implementation of the curriculum tended to resemble the previous mode of teaching sciences which traditionally favoured male students rather than female students such that the female students got biased against the "new" curriculum.

Differences in Competency-based Assessment Readiness by School Ownership

In this study, we also intended to determine whether the implementation of the competency-based lower secondary school curriculum varied between private and public schools. Given unequal numbers of participants from private and public schools, Mann-Whitney U test was run and the results are presented in Table 11.

Table 11: Mann-Whitney U Test of Difference in Competency-based Education by School Ownership

Aspect of CBE	School ownership	N	Mean Rank	Sum of Ranks	Mann-Whitney U	p
Student understanding of competency-based education	Public	427	243.53	103987.50	12609.500	.318
	Private	64	262.48	16798.50		
Progression through demonstration of mastery	Public	427	249.11	106368.00	12338.000	.209
	Private	64	225.28	14418.00		
Personalisation	Public	427	244.98	104608.00	13230.000	.682
	Private	64	252.78	16178.00		
Flexible assessment	Public	427	242.18	103411.00	12033.000	.123
	Private	64	271.48	17375.00		
Development of skills and dispositions	Public	427	246.60	105296.50	13409.500	.808
	Private	64	242.02	15489.50		

It is interesting to note that the results in Table 11 do not reveal any statistically significant difference between public and private schools in mean levels of the implementation of the various aspects of competency-based curriculum as a precursor of adoption of competency-based assessment. This implies that the private schools were probably as well-resourced as the public schools to handle the new lower secondary school curriculum, or the sample of the few private schools was biased towards an equal match in capacity to the public schools in running the competency-based curriculum.

Discussion

This study had two main objectives: (a) to determine the extent to which the competency-based curriculum prepared students for competency-based assessments in lower secondary school in Uganda; and (b) to identify the differences in the levels of competency-based curriculum implementation by regional location of schools, gender of students, and ownership of schools. According to a growing corpus of research, essential components of competency-based learning include advancement through demonstration of mastery, personalization, flexible assessment, and the development of specific skills and dispositions (Patrick & Sturgis, 2011, 2013; Scheopner Torres et al., 2015; Steele et al., 2014). Prior to advancing to the next level, a student must demonstrate that they have mastered the anticipated material through demonstration of mastery. Personalization is exemplified by individualized support, flexible scheduling, and options for students to demonstrate proficiency in a variety of ways. Flexible assessment exposes students to numerous forms of evaluation, allowing them to demonstrate mastery in a variety of methods as opposed to only one. (for example, a written test). In a competency-based learning system that places a strong emphasis on student agency and choice, the development of certain skills and dispositions, such as perseverance and the capacity to self-direct one's learning, may be especially important (Lewis et al., 2014). According to Freeland (2014) and Haynes et al. (2016), interest in competency-based and other student-centred reforms at the secondary level continues to grow, but research lags behind.

The study results indicate generally high levels of belief in and understanding of the competency-based curriculum, student progression through demonstration of mastery, and flexible assessment. Personalization, and skills and disposition development were at moderate levels. According to Lassnigg (2015, p. 11),

CBE should 'eradicate the notion of failure', address students instead of teachers as 'focal point', give students 'as much time as needed to learn' and 'always opportunity to certify', bringing formative assessment to the fore; teacher should 'manage learning' instead of 'dispensing information', and schools should be transformed in to 'learning centres.'

Competency-based education is therefore based on observable activities demonstrated as opposed to seat-time, assessment by criterion-referencing as opposed to standardized testing involving national comparison of candidates, balanced curriculum based on selection of a small number of key major objectives as opposed to segmented behavioural curriculum, explicit measurement of mastery of skills as opposed to slippery measurement involving comparison of students against each other, and flexible time structure as opposed to floppy time structure.

Results in Table 8 and 9 indicate significant differences in students' understanding of competency-based education, progression through demonstration of mastery, personalization, and flexible assessment by region. Results in Table 10 indicate a significant difference between male and female students in student understanding of competency-based education. Similarly, there was a significantly higher personalisation among male students than among female students. Results in Table 11 do not reveal any statistically significant difference between public and private schools in mean levels of the implementation of the various aspects of competency-based curriculum as a precursor of adoption of competency-based assessment.

Lower secondary education in Uganda transitioned from a focus on content to competencies in 2020. Assessment strategies that prioritize memorization over analytical and inventive problem-solving hinder competency-based education. This study revealed extensive trust and familiarity with competency-based education, as well as advancement through demonstrated competence and flexible assessment. Personal development, as well as advancement in skills and personality traits, was average. We argue that students are not adequately prepared for a culminating competency-based assessment because the competency-based program frequently resembles the prior cognitive-based curriculum. On the basis of the findings, it is recommended that the Ministry of Education and Sports and UNEB inform junior high and senior high schools about the significance of CBA. As observed by Kiguli et al. (2011), the adoption of CBE has been slow in Sub-Saharan Africa and this trend is anticipated to continue in Uganda due to the business rather than service model of content-based education provision that has characterized the country since independence. Further complicating the necessary transition from content-based education to the desired CBE in secondary education in Uganda is the assessment method, which has primarily rewarded recall rather than critical and creative solutions to existing problems. It is therefore important to broaden the strategies for contextualizing and enhancing the adoption of competency-based assessment.

Conclusions and Recommendations

In Uganda, lower secondary education switched from a content-based to a competency-based system in 2020. Assessment methods that place more emphasis on memory than on analytical and creative problem solving are detrimental to competency-based education. According to this study, competency-based education is widely accepted and widely known. It also promotes development through demonstrated competence and flexible evaluation. The increase in competencies and character attributes was ordinary, as was personal growth. We contend that because the competency-based curriculum frequently resembles the previous cognitive-based curriculum, learners are not sufficiently prepared for a final competency-based assessment. The Ministry of Education and Sports and UNEB are advised to inform people about the value of CBA in junior high and high schools in light of the findings. We further recommend initiatives to garner stakeholders' perceptions of challenges and resistance that Uganda National Examinations Board (UNEB) is likely to face in adopting competence-based assessment in the face of the existing highly popularized content-based assessment. Strategies for ensuring buy-in among the stakeholders should also be populated. Generally, there is need to amplify the sensitization of the citizenry on the need to adopt the competency-based curriculum and hence assessment in education institutions in the country.

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Towards a Successful Development of School-Based Instructional Supervision Materials to Support Effective Competency-Based Curriculum Implementation in Zanzibar

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Abstract

The implementation of the Competency-Based Curriculum (CBC) among teachers in Tanzania and Zanzibar in particular remains an issue despite its functioning in schools for nearly seventeen years. In the absence of a supporting guide, school leaders feel less prepared to assist their teachers in implementing the CBC. For this reason, School-Based Instructional Materials (SB-ISMs) were developed by researchers in collaboration with potential users of the SB-ISMs (section leaders and head teachers) and experts. The goal was to provide school leaders with the means to support their teachers as they implement CBC. This article presents the main comments received from users and experts regarding the SB-ISMs developed. The practicality, effectiveness and validity of the developed content was evaluated by 33 section leaders, 15 head teachers, and 5 experts in the area of design-based research, educational management, and curriculum development through a semi-structured interview guide. The generated data were analysed using inductive thematic analysis protocol. The users' and experts' comments about the SB-ISMs covered four major themes namely; ensuring authentic content and reflective activities in the materials, having a logical sequence of SB-ISMs, using context-based facilitation skills and descriptive style of materials presentation, and using practical and hands-on activities for competence development. The involvement of a variety of experts and users contributes to the successful development of intervention materials in education. Therefore, it is recommended that the government, through Ministry of Education, Science and Technology, whenever it needs to develop any curriculum guide to be implemented in any educational institution, should involve experts and those who are going to use it in the real school milieu.

Keywords: competency-based curriculum, implementation, prototyping, school leader, supervisory guide.

Introduction

The previous two decades have served as an alarm signal for education authorities around the world to reconsider the best way in which education systems could produce young people who will cope with life in the twenty first century (Anderson, 2017; Ruth & Ramdas, 2020; Sullivan, & Burce, 2014). For that reason, several nations engaged in reforming their curricular by sifting from content-based to competency-based curriculum (CBC) which emphasizes acquisition of key competencies for society transformation (Kasirye,2020; Mulena & Kabombwe, 2019). Practically, CBC adopts a learner-centred pedagogy, formative assessment approaches, and stresses the development of competencies and application of knowledge in real life context so that learners master and manipulate their environment confidently (Sifuna & Obonyo, 2019). In essence, the CBC is rooted in USA. It began when the state departments of education began promoting competency-based teacher preparation in the middle of the 1960s as a result of concerns over insufficient teacher preparation programs and graduates' difficulties in finding jobs (Sullivan & Burce, 2014).

Later, these ideas were adopted by a number of other European nations including France, Australia, Belgium, Switzerland, and Quebec (Anderson, 2017).

In line with the changes globally, South Africa in 1998 became the first African country to adopt the CBC in an effort to alter people's mindsets and provide them with the employability skills they need to deal with difficult situations in the twenty-first century (Komba & Mwandanji, 2015). The Republic of Cameroon embraced the competency-based approach in 2012 which was then approved in 2014 (Ngala, 2016). The shift into competency-based approach was an attempt to do away with content-based curriculum inherited from their colonial masters. Specifically, the CBC was to help the people be well-versed in the two official languages (French and English), thoroughly steeped in their traditions, and open to a world dominated by information and communication technology. The goals were to help these kids acquire competencies and essential information that would either enable them to further their schooling or position them for a seamless entry into the labour market, in addition to fostering their intellectual, civic, and moral development (Akala, 2021).

East Africa was not left behind this move; countries like Rwanda embraced the CBC innovation in 2015 according to Rwanda Education Board (2017), and Kenya implemented the same in 2016 (K.I.C.D, 2016), the major goal being to prepare the graduates for the challenges of the workforce and develop their problem-solving skills. Tanzania and Zanzibar in particular, are no exception when it comes to the educational reforms aiming to improve quality education provision. The country introduced CBC in 2005 to replace the content-based curriculum that emphasized the acquisition of content knowledge rather than developing students' ability to use the acquired knowledge and skills to become problem solvers in their societies (Mwandanji & Komba, 2015). In this regard, CBC was seen as a potential measure to produce competent graduates who would be future experts in various fields hence contributing to the country's economic development. Indeed, the country's effort to move into CBC was a viable decision in the context of achieving global competence (Ruth & Ramdas, 2020). However, several scholars (see Nkya, Huang & Mwakabungu, 2021; Kangalawe, Machyo, & Nduku, 2019; Muneja, 2015; William, O-Saki, Mselle, & Gabriel, 2014) have observed that classroom teaching in Tanzania still uses the conventional teacher-centred approach predominantly characterised by lecture methods in which chalk-and-talk predominates. In the chalk-and-talk kind of teaching, students are still assumed to be passive listeners and receivers of knowledge whose learning activity is only coping notes from the board (Makunja, 2016). Research findings have established that one of the reasons for the ineffective implementation of CBC in schools to some extent, is a result of inadequate supervision of teachers by their school leaders (headteachers and section leaders) (Ali, 2015; Nyambo, 2017; Siamoo, 2013). In this context, enhancing the capacity of school leaders to supervise the implementation of CBC was felt reasonable.

Researcher is mindful of several interventions undertaken by the governments and other educational stakeholders both in Tanzania mainland and Zanzibar to facilitate effective implementation of the CBC. Some of the notable interventions include Boost for Primary Education, Secondary Education Quality Improvement Project (SEQUIP), and the latest initiative is Enhancing Quality of Secondary School Education Project (United Nations Office for Project Services [UNOPS], 2022). For instance, Enhancing Quality of Secondary School Education Project is coordinated by Good Neighbours in Zanzibar whose focus is enhancing quality of secondary school education by building science laboratories and procuring equipment and supplies for secondary schools both in Unguja and Pemba Islands. The cited project also organises capacity building workshops for teachers on curriculum issues. As it can be seen, the focus of majority of these projects has been on teachers and with less focus on school leaders and CBC aspects. This necessitated the need to conduct this study to enhance school leaders' capacity of supervising the CBC implementation through the design and development of educational materials.

From the foregoing, it is clear that the school leaders are the primary curriculum advisors for their schools in charge of helping teachers to improve the quality of teaching and learning in classrooms (Ashum & Acquah, 2021). Underscoring the role of school leaders in supervising the curriculum, an agreement among scholars (see Jonyo &Jonyo, 2019; Metulo, 2014; Mkulu &Ngole, 2020; Sabola, 2017; Islam, Usman & Yousaf, 2018; Tesema, 2014) suggest that school leaders are key to developing teachers' competence and confidence in implementing curricula, which in turn enhances students' positive learning outcomes. Related research evidence elsewhere indicate that the school leaders can influence effective implementation of curriculum by motivating, encouraging, facilitating teamwork and peer training, and advising teachers on the best practices to implement curricula more effectively (Chaudhary, 2015; Waruingi, Mbogo & Mambo, 2022). From the discourse pertaining to the role of school leaders on curriculum implementation, it is fair to argue that school leaders are responsible for monitoring and guiding curriculum implementation by ensuring that teachers prepare schemes of work and lesson plans correctly according to the requirements of CBC (Lynn & CurryCorp, 2017; van Griethuijs, Kust, van Woerkom, Wesselink, & Poell, 2019). These supervisory competences - supervising effective constructions of competency-based scheme of work and lesson plans have never been realistic among many public secondary school leaders in Zanzibar (Ali, 2015; Nyambo, 2017). The implication here is that school leaders continue to provide inadequate support to teachers regarding CBC implementation.

In addressing the CBC supervision problem, the School-Based Instructional Materials (SB-ISMs) were collaboratively developed to enhance school leaders' capacity to supervise CBC (see Appendix 1 for a summary of the desired intervention). Specifically, the SB-ISMs aimed to support school leaders to supervise competency-based instructional planning, including lesson plan and scheme of work, competency-based lesson delivery and competency-based assessment. Eventually, the developed intervention material was appraised by users and experts for its quality with particular focus on the relevance, effectiveness and usability.

The main objective of this article, therefore, is to report on the comments of the experts and potential users (school leaders of the SB-ISMs) during the development of the SB-ISMs. The lessons learned from this study will go a long way in enabling organisations and other researchers in developing guides to support school leaders in supervising the implementation of the revised curriculum, notably CBC.

Research Design

This study opted for a phenomenography design anchored on qualitative research approach to address the research objectives. The choice of this design is based on the desire of the researcher to explore users and experts' lived experiences of and perceptions on SB-ISMs (Khan, 2014; Nixon & Odoyo, 2020)where researchers must understand how an event is perceived and interpreted by the people in a community. Ethnography is therefore a qualitative research method that is used to study people and cultures for in-depth knowledge about a socio-technological realities surrounding everyday software development practice. Ethnography can help to uncover not only what practitioners do, but also why they do it in terms of human computer interaction and user interfaces design. This is due to its unique strength to involve the researcher, the research process and the research, making it a potential ideal method for undertaking research where the community and its members interact with each other. The main objective of this paper is to examine through literature review, the strengths and weaknesses of ethnography as a research design method for researchers in the information communications and technology (ICT. Based on their experiences, the desired SB-ISMs were improved

Study Area

This study was carried out in Zanzibar in West B District and Urban District both located in the Urban West Region. A total of 30 schools was selected, 15 from each District. The schools were conveniently selected based on their readiness and availability to be studied. A preliminary study conducted by the researcher in 2015 established that the two districts showed interest in taking part in the study because the training programme would update school leaders on the modern supervisory skills for CBC implementation.

Sample and Sampling Procedures

The section leaders (N=33) were purposively involved in this study because they are considered as information rich since they are instructional supervisors and hence become in charge of ensuring that teachers are effectively implementing the existing curriculum. The study also purposively involved developmental study experts (N=3), educational management expert (N=1) and department of curriculum development (N=1). The experts' ideas were highly demanded in enriching the content and for improving the relevance (usefulness) and practicability (usability) of the designed intervention materials.

Data Collection Methods

Data collection was performed using semi-structured face-to-face interviews (SSFFIs) with participating section leaders, head teachers, and experts. For each of these categories, SSFFIs lasted approximately 50 minutes and they were directed by a semi-structured interview guide. The use of SSFFIs was preferred due to the researcher's intention to have unique experiences of each participant freely which would have been impossible to get through focus group discussion. Moreover, the use of semi-structured interviews was felt appropriate based on its flexibility in allowing discovery or further elaboration of information that may not sound clear to the researcher (Elhami & Khoshnevisan, 2022). Putting this strength in mind, follow-up questions were asked to obtain clarification, examples, and more details.

Data Analysis Procedures

The data collected for this study were analysed using inductive thematic analysis following Braun and Clarke (2006) analytical procedures. The authors highlighted six phases of thematic analysis, which include: data familiarisation, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and finally, report production. Moreover, NVivo and Microsoft Word programs supported data organisation, coding, and theme identification. In reporting the emerged findings, the data were presented as summaries and narratives, and illustrated with examples and quotations, capturing the respondents' perspectives and experiences.

Ethical Aspects

Like any other scientific investigation, research ethical procedures were well observed in the course of performing this study. At the outset, approval for the conduct of this study was sought and granted by the Directorate of Research and Publications, University of Dodoma. Informed consent from participants was also gained. Confidentiality and anonymity were taken care of beforehand while participation remained voluntary. To observe anonymity, letters were used to represent the actual names of participants.

Results and Discussion

This study purposed to report the users' and experts' comments on the designed intervention materials. With this in mind, the prototype zero of the materials had to be appraised by the head teachers and section leaders who are the prospective users of the materials at the school level.

It was hoped that involving head teachers and section leaders in the development of the desired materials would result in increased ownership and acceptance of the materials thereby facilitating easy usability of the materials. The same materials were appraised by other experts with considerable experience in curriculum development, developmental studies, and educational management. Moreover, simulation training of the prototypes was made to section leaders to consolidate the materials. The emerging comments from the formative evaluations by users and experts are presented in Table 4.4. The related details are given thereafter.

Table 4.4 Users' and Experts' comments for Improving SB-ISMs

Unveiled Reflections	Descriptions of Reflections	Analytical Reflections
• Provide introductory paragraph to introduce material. • Elucidate the differences between competence and competency. • Specify competency standards to be demonstrated by heads of schools for CBC supervision. • Spell out the ways of buildings competencies. • Construct reflective activities.	Users (HTs and SLs) and experts from (developmental study, curriculum development, and educational management) demanded to have authentic and focused intervention content. Suggested to specify the techniques and content based reflective activities to improve the school based supervision skills on CBC.	Authentic content and reflective activities of the SB-ISMs.
• Infuse instructional delivery supervision to be preceded by instructional planning supervision. • Arrange workshop activities from simple to complex.	Section leaders who attended the first simulation training felt the potential to have a logical sequence of school based supervision activities.	Logical sequence of the SB-ISMs.
• Use TIPS (Think, Ink Pair and Share) approach to allow participation. • For each lesson, prepare a KWL table (i.e What I know, What I Want to learn and What I have learned). • Prepare workshop notes/ point of reflection to be used for filling gaps left by presenters. • Revise a time for formative evaluation activity. • Present materials descriptively instead of using tables.	Users and experts emphasized context-based facilitation skills to be incorporated in the intervention programme. Users and experts suggested a descriptive style of materials presented to be incorporated.	**Context-based facilitation skills and descriptive style of materials presentation.**
• More practical activities are suggested to be incorporated by reflecting upon the nature of the key participants (experiences and qualifications). • More supervisor centred activities/tasks to be incorporated into the intervention programme.	Section leaders who attended the second simulation training felt it imperative to have more practical and hands on activities.	**Practical and hands on activities for competence development.**

Authentic content and reflective activities of SB-ISMs

In an effort to enrich the quality of materials, participants suggested inclusion of authentic content and reflective activities in SB-ISMs. Specifically, they demanded an introductory paragraph to the materials to guide users on how to use them. Furthermore, participants noted that the materials needed to be divided into sub-units, with each sub-unit providing introductory remarks describing the objectives of the unit. The introductory part should inform the readers of the purpose of both the materials and the sub-unit to avoid confusion. The developmental research expert 1 is quoted below:

> *"I have gone through your materials carefully and came up with one major recommendation to improve the materials. I do not know how the lesson plans are intended to be used but I suggest to have a paragraph to introduce the materials (Interview with developmental research Expert I, 4th November, 2019)"*

This quotation suggests that an introduction for each module or unit of the intervention materials is critical in enabling the readers to have a general understanding of the respective unit (Hansen & Tengnäs, 2021). Section leaders suggested that workshop activities should be reflective, encouraging participants to elicit their previous experiences on the matter at hand before learning new experiences from the facilitator side. Developmental research expert 2 was in agreement as quoted below:

> *"I would suggest the inclusion of reflective workshop activities that provoke the participants or learners to share their experiences or practices on the subject matter at hand. In fact, reflective workshop activities go in line with CBC implementation since even the CBC itself emphasizes learners' interactivity (Interview with developmental research expert 2, on 4th November, 2019)."*

The above narrative indicates that reflective activities are important in the intervention materials due to their potential in facilitating a sharing of past experiences and knowledge regarding the subject at hand. This in the end invites new ideas and development of new knowledge and skills (National Council of Educational Research and Training, 2009).

The experts further added that the difference between competence and competency and how to build them should be made more apparent in the intervention materials. They emphasized that the materials should tell when competence is used instead of competency and vice versa to avoid ambiguity to the readers. Categorically, it was advised that specific competency standards were required to be demonstrated by school leaders (section leaders) for CBC supervision. In this respect, it was suggested that the materials should show specific skills required by the school leader to supervise the implementation of CBC. The section leaders and more so experts thought that this is nuclear of the whole proposed intervention programme. The educational management expert's remarks in this respect are illustrated by this quote:

> *"I think it is good to delineate specific competency standards to be demonstrated by school leaders in supervising CBC. Obviously, the epicentre of this programme is coming up with the key elements or standards that school leaders should possess for supervising implementation of CBC. In my view these standards are those which you found school leaders lacking during your baseline survey. These standards, therefore, need to be featured in your intervention materials (Interview with educational management expert, 4th November, 2019)"*

Also, a curriculum development expert echoed these sentiments remarking that:

> *You should always remember to include the basic supervision qualities that school leaders should have to be capable of supervising the implementation of CBC in schools. Without these supervision qualities, your intervention is likely to be illogical (Interview with curriculum development expert, 6th November, 2019).*

The above quotations suggest that it is felt significant to make conceptual clarifications of some important terms for the readers to have an in-depth grasp of the intervention materials and for enhancing usability. Bugler, Marple, Burr, Chen-Gaddini, and Finkelstein, (2017) concur that accuracy and visual appeal, alignment to standards and depth of knowledge, ease of use and support, engagement and ability to meet participants' learning needs determine the effectiveness of the desired intervention materials.

Logical sequence of the SB-ISMs

Participants felt it necessary to ensure a logical sequence of the school-based supervision skills on CBC. In organizing the content of the materials, they recommended that instructional delivery supervision is to be preceded by instructional planning supervision. They cemented this suggestion arguing that one always starts with planning how instructional activities are going to be executed in the actual classroom context before they are executed in the real context. In regard to this, section leader A narrated:

> *"In my view, your material has to be coherent and logical for easy understanding. I think the material can help school leaders to supervise CBC. For example, last week, I ordered my teachers to collect instructional documents, namely lesson plans, schemes of work and lesson notes for assessment. I used these workshop materials to assess their instructional ability. Frankly speaking, the materials are useful. These materials would be a good tool for many school leaders to supervise the instructional process in this era of the implementation of the CBC (Interview with section leader at school A, 10th November, 2019)."*

The same was echoed by head teacher A who remarked that:

> *"In my opinion, the materials have been well organised in a way that one would gain understanding easily. The content coverage is adequate and relevant. I can use these materials without any trouble. Only that some improvements need to be made on the coherence of some contents (Interview with head teacher at school A, 11th November, 2019)."*

A close interpretation of the quote above leads in a conclusion that the materials developed were helpful and accepted by the users. One of the areas where the participants condemned the materials was its use and coherence. Moreover, it was aired that workshop activities ought to be arranged from simple to complex. Such an arrangement would facilitate easy understanding of the materials for all section leaders and other school leaders who will practice the materials in their schools (Bugler, Marple, Burr, Chen-Gaddini & Finkelstein, 2017)

Context-based facilitation skills and descriptive style of materials presentations

Both section leaders and experts noted that the desired materials should contain context-based facilitation skills and a descriptive style of presentation. In this direction, it was commented that it is good for the facilitator to prepare notes for a workshop in advance (possible answers for each activity). The main reason for the suggestion was that the notes would serve as a point of reflection for the facilitator to crosscheck whether what is presented by the participants matches with the state-of-the art or intentions and expectations of the facilitator. However, they cautioned that the facilitator's notes and activities should not be presented together to avoid hampering critical thinking. Also, it was advised that formative evaluation should be allocated more time as it is a significant part of the programme. Emphatically, a curriculum development expert in his words confirmed:

> *"I would propose that your facilitation skills should be context-based and the presentation of the materials should be descriptive. It is good to see, however, that the materials have taken a good shape such that one could read and understand easily. I am of the view that the materials now present the intended objectives. I have seen that at some point, activities of the workshop have taken sufficient time but I wonder why formative evaluation takes 40 minutes. I think you need to re-evaluate this part (Interview with curriculum development expert, 15th November, 2019)."*

These observations indicate that the experts think that the timing for formative evaluation and in this case activities to be carried out through Know, Want to know and Learned (KWL) table need to be increased. This is to allow facilitators to collect prior knowledge of the participants about a subject under discussion before moving to the next lesson (Foorman, Dombek, & Smith, 2016). Moreover, while discussing the materials with the experts for improving the prototype two of the intervention materials, experts had extra feelings on the layout of the materials. In this, the experts were of the view that the materials cannot have a proper flow if presented in tables. As such, they advised for a descriptive form of presenting the intervention materials. Consistent with this comment, developmental research Expert 2 had this to say:

> *"The materials' presentation style needs revision. I have seen your layout and the programme structure being in units: introduction, activities, programme procedures and assessment. I am suggesting for the improvement of the layout and structure to create a good flow of the programme components; i.e. the introduction, assessment, task one and its related notes, task two and the related notes, task three and the related notes. I hope this will help you get away from the table you are using which to me sounds awkward (Interview with developmental research expert, 15th November, 2019)."*

From the critical observations done, the experts suggested that the materials should be presented in a descriptive structure. It seemed that they were not satisfied with the tabular presentation of materials. The experts advised on the use of descriptive or narrative style presenting the content of the intervention to enhance clarity and usability (Bugler, Marple, Burr, Chen-Gaddini & Finkelstein, 2017).

Besides, some experts added that it was a good idea to be guided by Think, Ink, Pair, Share (TIPS) approach while executing the intervention programme to the participants. This implied that for any idea to be presented to the workshop, the participants should first critically think in their groups about the presented concept before writing their thoughts on the piece of flip chat or manila sheet. Participants have to discuss these ideas in their respective groups. Finally, one of the group members will present the issues discussed before others for further discussions. When asked to justify the use of TIPS in this context, experts expressed that the approach helps to create interactivity during the execution of the intervention programme. It was also added that for each unit of the materials, KWL table (what I know, what I want to learn, and what I have learned) should be used as a basis of formative evaluation. The remarks of developmental research expert 3 in this direction are illustrated below:

> *"I think you can use the KWL table for formative evaluation. This means that you assess what your workshop participants know on the subject at hand before the workshop, what they want to learn from your workshop and what they have learned from your workshop (Interview with developmental research expert, 15th November, 2019)"*

An analysis of the arguments by these respondents would mean that supporting the supervision capacity of school leaders should be led by a tool that can enable them to share what they already know, new things they want to learn and assess what they have learned. This can be made possible with the help of the KWL (Alsalhi, 2019; Mofreh, & Aseeri, 2020).

Practical and hands-on activities for competence development

Before getting the final version of the desired intervention materials, they remarked that SB-ISMs contained adequate content and activities for the intended purpose. Besides, it was observed that the workshop resources are enough considering the nature of the programme and participants. However, section leaders advised to have practical and hands-on activities for competence development. In the views of the section leaders, the rationale for having practical works along with hands-on activities is to enable participants to convey their past experiences on the supervision of the implementation of the CBC. In this context, one of the users (section leader B) had this to say:

> *"Practical and hands on activities should always be one of the key components of your intervention materials. Without these, you may no longer build the capacity of section leaders on supervising the CBC. Interestingly, the workshop resources or materials are relevant. I think, your materials are now fit for the intervention programme. However, I remind you not to forget to have as many hands-on and practical activities as possible in your intervention materials (Interview with section leader at school B, November, 22nd 2019)."*

The quote above indicates that the section leaders who are also the prospective users of the materials were satisfied with the content of the third prototype and the materials could be implemented in the schools. Nonetheless, they advised on the addition of more hands on activities to make the materials effective to the target users (Kibga, Sentongo & Gakuba, 2021).

Conclusion and Recommendations

This study was grounded on presenting the comments of the users and experts on the designed intervention materials which were to be used by school leaders in supporting effective implementation of CBC. The users' and experts' comments focused on the need to include authentic content and reflective activities in the materials, having a logical sequence of SB-ISMs, using context-based facilitation skills and descriptive style of materials presentation, and using practical and hands-on activities for competence development. Based on the findings, the study feels safe to conclude that involving various experts and intended users of the guide contributes to the successful development of intervention materials in education. Therefore, it is recommended that the Government, through Ministry of Education, Science and Technology, whenever, it needs to develop any curriculum guide to be implemented in schools, it is reasonable to involve experts and those who are going to use it in the real school milieu

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Implementation of Competency-Based Lessons in Class: Case Study: Luweero Region in Uganda

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Abstract

This paper examines the implementation of competency-based lessons (CBL) in secondary schools in Uganda following the introduction of a competency-based curriculum in 2020. The study's objective is to assess the impact of CBL on learners' academic achievement and teachers' teaching practices, focusing on the Luweero region of Uganda. The study involved 282 secondary school teachers from 84 government-aided and private schools. Over 10,000 learners were sampled from Nakaseke, Nakasongola, and Luweero between August 2022 and March 2023. Different subject teachers participated in focus group discussions (FGDs), and lesson observations were conducted to represent each discipline. Thematic coding was used to analyse the data, revealing that many teachers must be more adequately prepared for CBL and prioritise achieving intended learning outcomes. The study recommends providing teachers with more training and professional development opportunities to enhance their understanding and implementation of CBL. The themes from the data analysis included content coverage, tracking progress over three years, and managing learner activities during delivery time. The study highlights the need for continued efforts to support the successful implementation of competency-based education in Uganda.

Keywords: Assessment, Competency-Based Lesson, Preparedness, Science and Mathematics Teachers.

Introduction

In recent years, there has been a global shift towards Competency-Based Education (CBE), which focused on the mastery of specific skills and knowledge rather than just completing a set of prescribed learning activities (Jung et al., 2018). In Uganda, the Ministry of Education and Sports (MoES) introduced a new secondary school curriculum emphasising CBE, which is being implemented nationwide. Thist called for a shift in the traditional teaching practices to align with the goals of CBE. Schools/classes were designed to provide a learning environment for exploration, self-awareness, and connecting with other children.

This study aims to examine the implementation of competency-based lessons in classes in the Luweero region of Uganda and to assess their impact on learners' academic achievement and teachers' teaching practices.

The CBC challenges traditional notions of grading, promotion, and even classroom dynamics. Support from administrators can help drive this cultural shift at an institutional level, while parents can reinforce it at home.

The findings indicate that assessing individual learner performance in CBL, especially during group activities, was challenging as some learners dominated the discussion while others remained passive.

The learning resources available ought to support a competency-based pedagogy rooted in behaviourism, mastery learning, and modular teaching (Molders, 2004). Furthermore, these resources rarely encourage learners to engage in higher-order thinking skills. Notably, the teacher's guides available provide limited guidance on facilitating mastery of these activities (Nakiguli et al.,2022).

The textbooks supplied in schools still reflect some elements of the traditional curriculum. For example, working out numbers in mathematics textbooks hinders learners' creativity and promotes rote learning among learners. Over 220 teachers (about 78%) responded that textbooks and other reference materials supplied reflected a traditional way of teaching. This hinders teachers from adopting the new teaching and learning styles.

Some learning activities in the textbook cannot relate to learners' lived experiences, making it hard for them to see the relevance or importance of the concepts they are learning. Generic skills like critical thinking, problem-solving, and communication are essential for success in many aspects of life, but textbook activities focus more on content knowledge. By integrating these skills, learners may develop them adequately.

Competency-based instruction emphasizes diverse learning modalities, such as musical, visual, and logical-mathematical thinking. However, teachers often need explicit guidance on integrating information and communication technology (ICT) into this teaching approach. According to the survey, 53 schools possess ICT tools. Their primary uses include storing learners' scores, typing and printing reports, addressing learners during assemblies, and entertainment. These tools are seldom employed to enhance classroom learning.

Methodology

This part highlights the research design, study area, population description, sampling design, methods of data collection, data processing as well as data analysis and interpretation.

Research Design

The researcher adopted a qualitative research design. Qualitative research is a type of research that aims to gather and analyse non-numerical (descriptive) data in order to gain an understanding of individuals' social reality, including understanding their attitudes, beliefs, and motivations (Elizabeth et al., 2022). The study explored ways competency-based lessons are applied in classes and various challenges associated with implementing competency-based lessons in classes in the three districts comprising the Luweero region.

Area of Study

The study was conducted in secondary schools in the Luweero region (the districts of Nakaseke, Nakasongola, and Luweero), both government-aided/community and privately-owned schools. Schools in urban, semi-urban, and rural areas were visited. The choice of the study area was due to the convenience the researcher had in accessing the schools and having many acquaintances in the schools, teaching in one of the schools in the same region, and being the Regional Trainer (SESEMAT) for Luweero region, something that eased getting of the required information.

Population of the Study

The study involved 282 secondary school teachers from 84 government-aided/community and privately-owned secondary schools and over 10,000 learners from Nakaseke, Nakasongola, and Luweero districts.

Sampling Technique

Purposive sampling was used to choose different categories of respondents. Teachers were chosen according to their subject disciplines because they are classroom implementers in CBC. The learners of S1, S2 and S3 were selected because they are the beneficiaries of the CBC.

Data Analysis

Data was analysed qualitatively. Qualitative data were analysed using thematic analysis. The researchers coded and identified categories and patterns emerging from the data collected. The categories were categorized into themes to support writing of key findings. The researcher presented findings on each theme.

Findings and Recommendation

Theme One: Classroom teaching practices used in selected secondary schools for effective implementation of competence-based curriculum

What is the current status of competency-based lessons in the Luweero region of Uganda? What challenges do teachers face in implementing competency-based lessons in the Luweero region? How do learners perceive competency-based lessons in the Luweero region of Uganda?

Findings

The research findings indicate that implementing competency-based lessons in the Luweero region of Uganda is still at an early stage. Kafumbe (2019) posed that teachers face significant challenges in implementing competency-based lessons due to a lack of understanding of the concept and, inadequate training, limited resources, including textbooks and technology, which also pose a significant challenge to the successful implementation of competency-based lessons.

During an FGD in most schools, teachers raised concerns about the challenges they face in implementing competency-based lessons.

On the other hand, students have generally positive perceptions of competency-based lessons, finding them more engaging and interactive than traditional teaching methods. According to Mwesigwa (2019), students appreciate the practical focus of the lessons and the development of competencies relevant to their future careers. During lesson observation, teachers needed to create an environment for learners to describe, explain, demonstrate, create, or design to develop content during lessons. It was also found that in most classes there are a big number of students which has led to a very high textbook learner ratio.

Findings showed that there are few teachers in the Luweero region who prepare adequately for lessons using the skills acquired from SESEMAT training. Teacher preparedness regarding knowledge, attitude, and skills to create CBL needs to be improved (Nthulanyane, 2004). Teachers' preparedness consists of content analysis from the learning outcomes to create exercises, activities, and experiences geared to learning.

Most Focus Group Discussions revealed that due to limited number of textbooks in schools, teachers avail to students textbooks by different authors which may affect the lesson's logical flow. Although the skills expected to be achieved by the student are clearly stated in the syllabus book for each subject, teachers need to be oriented on how to develop these skills during the teaching and learning process.

According to the subsequent FGDs, only a minority of the teachers in the Luweero region knew the kind of students who aspired for competence-based curriculum. Of the 282 teachers interviewed, only 34 understood this concept of competence based. In comparison, the remaining 148 teachers were still rooted in the old systems prioritising examination performance over mastery of competence, which, as a result, hinders the successful implementation of competency-based lessons in the region. It is suggested that the teachers handling competency-based lessons in their classrooms must be adequately prepared to identify key concepts of learning outcomes.

Recommendations

From the research findings, the following recommendations were made to improve the implementation of competency-based lessons in the Luweero region:

There is a need for more training and professional development opportunities for teachers on the concept and implementation of the CBC. Owuor (2022) argues that teachers should be fully prepared to implement competency-based lessons. The study recommends enhancement in teachers' capacity in ICT through continuous in-service training, seminars, and workshops, providing certification to teachers, and providing scholarships for further studies to teachers who excel in order for them to become professional teachers.

To be effective, competency-based lessons must be supported by flexible, individualised, and diverse resources. This means not just having textbooks and technology but ensuring they are tailored to the unique requirements of a competency-based system. Failure to provide these resources can hinder the approach's success thus limiting its potential benefits for learners.

There is also a need to encourage school administrators and parents to support the implementation of the CBC by doing the following:

i) School administrators should enforce curricular changes.

ii) School administrators should be transparent and accountable in controlling the budgets, staffing, and resource allocation for successful implementation.

iii) School administrators should facilitate and prioritise training to equip teachers to handle the demands of a competency-based system.

iv) The parents, as primary observers of their children's growth, should provide valuable feedback on the effectiveness of the CBC. Their insights can help schools refine and improve the implementation process.

v) Both the school administrators and parents should advocate for higher-level educational policies that support CBC.

vi) School administrators can help drive a cultural shift of grading, promotion, and classroom dynamics at the school level, while parents can reinforce it at home.

vii) Parents should ensure that the home environment is conducive to the educational approaches adopted by schools.

The findings suggest a pressing need to ensure that only approved textbooks relevant to the current CBC are available in the market. In order to optimise the learning experience for students, it is recommended that teachers only bring a single textbook to the class that portrays the required competencies of a given subject.

Teachers need to create a conducive environment to bring their students into a cohesive and supportive learning community by:

i) Determining the appropriate and manageable number of learners in each group.
ii) Ensuring the sitting arrangements encourage collaboration, communication, creativity, and innovations, among others, and impact the value of respect, love, and citizenship.
iii) During lessons, teachers should enable learners to develop content from their prior knowledge and experience, including those from home culture. Kimaryo (2011) argues that implementing a competency-based lesson in classes is still complex since teachers still focus on developing content for the learners, hoping that they will automatically develop the intended competence.

Conclusion

In conclusion, implementing competency-based lessons in the Luweero region of Uganda is still in its infancy and it's too early to make conclusions. However, there is evidence to show that teachers face several challenges in implementing this approach. Students generally, however, have positive perceptions of competency-based lessons. To improve the implementation of CBE, teachers and school administrators need more training, resources, and support. By addressing these challenges, the Luweero region of Uganda can better prepare students for the future and equip them with the necessary competencies for success.

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The Implementation of the Learning Framework for Early Childhood Development (3–6 Years) in Pre-Schools in Uganda

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Abstract

The purpose of the needs assessment study was to find out if there are any gaps in the Learning Framework (LFW) for children of 3–6 years in Uganda and determine how these can be integrated. This was done through the objectives of the study that included soliciting views and perceptions from various stakeholders on the factors affecting the implementation of the Early Childhood Education (ECD) Learning Framework 3–6 years and possible solutions; establishing the local and global emerging issues in ECD education that need to be integrated into the Learning Framework for 3–6 year-old-children; and identifying gaps and best practices relating to the design, learning outcomes, competencies, development activities, teaching methods and assessment modalities of the LFW. The study adopted the cross-sectional research design, and was also descriptive in nature. To prevent the bias inherent in each method, the study included both qualitative and quantitative components. The study employed both probability and non-probability sampling designs using random sampling, as well as convenient and purposive sampling techniques, respectively. The sample size for the survey was 378 respondents, and 58 districts were selected using the Krejcie and Morgan (1970) and Yamane (1967) approaches. Quantifiable data from the survey was sorted, coded and then entered in Statistical Package for the Social Sciences (SPSS) version 22.0. The data was presented using tables, charts and bar graphs. Data was further analysed using descriptive statistics, tables with percentages and corresponding mean values. Qualitative data from document review, observation and interviews were sorted and compiled into response categories and sub-categories. The data was thematically coded by clustering similar responses together.

It was concluded that the sampled teachers/caregivers have regularly been equipped with skills to implement the ECD LFW. However, guidance from the District Inspectors of Schools, DEOs and Coordinating Centre Tutors (CCTs) was inadequate to support the teachers/caregivers in using the LFW. The teachers/caregivers are not provided with ICT equipment (computers, smart TVs, smartphones, tablets) to use during the teaching and learning process, thus affecting the implementation of the LFW. The survey indicated that the LFW did not merge emerging issues like climate change into its content. The survey indicated that regarding the aspect of the teacher using the LFW, the design of the LFW does not provide clear guidance to the teacher. The survey indicated that there was limited focus on the competences of learners with special needs. The researchers, therefore, recommended that curriculum developers need to ensure that the needs of learners with special needs are catered for in the same proportions as those of normal learners to ensure inclusion. Using the LFW did not provide clear guidance to the teacher. This, therefore, needs to be catered for during the review, and there should be more emphasis on integrating ICT in the LFW. The researchers recommended that it is necessary to design the LFW in such a way that it is continuously responsive to emerging issues at all levels. The lack of information on emerging issues should be intentionally integrated into the LFW to enable the learners to access it. The researchers further recommended that the LFW should support teachers in understanding and implementing appropriate practices for these learners. The researchers finally recommended that there is need to create a curriculum framework as a source guide for the LFW.

Keywords: competencies, development activities, learning framework, learning outcome

Introduction

The National Curriculum Development Centre (NCDC) is responsible for developing and reviewing curricula for various levels of education in Uganda, including pre-primary, primary, secondary, and some tertiary levels. NCDC conducts research on curriculum-related matters as stipulated in the NCDC Act of 1973, Cap. 135 of the laws of Uganda. NCDC supports the government's commitment to improve the quality of education for all people in Uganda through its mandate. To guide instruction at the early childhood level, NCDC developed the early childhood development (ECD) nursery teaching syllabus in 1993, which was later reviewed and renamed the Learning Framework (LFW) for ECD (3–6 years). The LFW was launched in 2005. In an effort to identify gaps in the LFW that may warrant its review, a needs assessment study was conducted to assess societal expectations of the LFW (3–6 years). Investing in quality ECD is recognised as a key factor in human capital development and socioeconomic transformation (World Health Organisation, 2018; UNESCO, 2021). In Uganda, the government acknowledges the significance of quality ECD in developing human resources for sustainable development. The LFW for ECD 3–6 years was developed by NCDC and rolled out in 2005 to guide the foundational level of learning. Despite its strengths, the LFW has been criticised for being difficult to interpret and there are indications of increased use of alternative ECD curricula by private proprietors (Cambridge Education, 2017; Kyazze, 2018).

Evidence shows that literacy and numeracy levels at the ECD level are still wanting, indicating a gap in either the content, learning experiences, pedagogy or assessment modalities. Therefore, a needs assessment was conducted to establish gaps in the LFW, which has been in use since 2005. Changes in policy, pedagogy and technology, as well as emerging dynamics such as e-learning and online classes, community-based learning, and play pedagogies for learners at this level, have occurred since the LFW was rolled out, necessitating a needs assessment. The occurrence of global upheavals, for instance pandemics like Covid-19, has also given rise to homeschooling as a critical approach to learning, which shifted instruction, especially of 3–6-year-olds, to parents and guardians who may not necessarily have the skills to teach learners at that age.

Problem Statement

Since the start of the implementation of the LFW in 2005, Uganda has subscribed to local and international policy frameworks which advance emerging issues, including environmental issues such as climate change, risk and disaster management, gender issues, inclusion in education, and pandemics like Covid-19 (UNESCO, 2021). Furthermore, changes in local and global societal demands and pedagogical practices have occurred, with an increased emphasis on 21st-century skills and Science, Technology, Engineering and Innovation (STEI), which need to be nurtured in learners from a young age (UNESCO, 2014). Moreover, trends in education such as home learning, online learning, e-learning, community-based learning, and play-based pedagogies have been adopted by teachers and caregivers (UNESCO, 2021). Studies have indicated that the LFW is difficult to interpret and is sometimes mistaken for a curriculum. There is also increased use of alternative curricula by private proprietors (UNESCO, 2021). These issues call for curriculum developers to rethink pedagogies and development activities that are appropriate for learners at the ECD level in the current world. Therefore, there is a need to ascertain whether the LFW aligns with the emerging learning dynamics and policy direction nationally and internationally, and whether it is in alignment with the national and global trends in education in terms of content, pedagogies, materials and resources (UNESCO, 2015). Although UNESCO prescribes that a curriculum should be reviewed every five years, a needs assessment of the LFW for 3–6-year-olds is necessary to identify gaps that may necessitate a review (Donaldson & Franck, 2016). The aim of the needs assessment is to collect information that can be used to plan how to meet the identified needs.

Research Objectives and Questions

The purpose of the needs assessment study was to find out if there are any gaps in the LFW for children of 3–6years in Uganda and determine how these can be narrowed. The objectives of the needs assessment for ECD for 3–6 years, therefore, were:

1. To solicit views and perceptions from various stakeholders on the factors affecting the implementation of the ECD Learning Framework 3–6 years and possible solutions.
2. To establish the local and global emerging issues in ECD education that need to be integrated into the Learning Framework for 3–6 years.
3. To identify gaps and best practices relating to the design, learning outcomes, competencies, development activities, teaching methods and assessment modalities of the LFW 3–6 years.

Research Questions

This study was guided by the following key research questions:

1. Is the ECD Learning Framework (3–6 years) aligned to the existing policy documents of Uganda, that came into force after its implementation?
2. What factors affect the implementation of the ECD Learning Framework for 3–6 years and what are the possible solutions?
3. What local and global emerging issues in ECD education need to be integrated into the Learning Framework for 3–6 years?
4. Which gaps and best practices that are related to the design, learning outcomes, competencies, development activities, teaching methods and assessment modalities exist in the LFW 3–6 years?

Literature Review

The purpose of the study was to conduct a needs assessment of the LFW for children aged 3–6 years in Uganda and determine if there were any gaps in the framework. In order to achieve this, a literature review was conducted to gain an in-depth understanding of the needs assessment, the factors affecting curriculum implementation, emerging issues, and best practices relating to design, learning outcomes, competencies, pedagogies and assessment modalities used in the contemporary world.

Factors Affecting Implementation of the Learning Framework/Curriculum

According to Viennet and Point (2017), the process of curriculum implementation involves putting ideas and materials into practice. The successful implementation of a curriculum has both short- and long-term benefits for children and society. However, the implementation of a curriculum framework is complex and occurs over time and through many mechanisms. The lack of political will, inadequate resources, and poor training of educators have been identified as challenges in implementing the curriculum successfully (Offorma, 2015). In addition, according to Saleema (2019), the low quality of teachers due to poor training in ECD, lack of resources, and inadequate involvement of parents in their children's education have also been identified as challenges to ECD provisioning. To ensure effective ECD provisioning, qualified educators with accredited qualifications are needed. Parents also play a crucial role in the ECD provisioning, but many are not aware of their role in their children's education, which affects the quality of ECD provisioning.

Curriculum implementation is influenced by professional factors such as job satisfaction, professional growth, parent involvement and the resources and facilities available to teachers (Ndijuye & Tandika, 2020).

Adequate training of teachers is crucial in effective curriculum implementation as it influences learners' achievement. Successful curriculum implementation requires a change of habit and often involves changes in beliefs and values, which can be challenging to implement. Coherence among various departments and agencies is essential for successful curriculum implementation. Evaluation of policies is also critical, but it is often neglected owing to lack of funds, ignorance and illiteracy in some communities. Teachers play a significant role in evaluating curriculum changes and should use examination results to improve curriculum at school level (Bush, 2008). The literature by Hussein (2005) discusses various factors affecting the implementation of the curriculum in Uganda's education sector. These include the need for continuous review of staffing levels, decentralisation of recruitment, ensuring staff stability and equity, providing relief teachers, and emphasis on practical skills development. Newstrom and Davis (2002) also highlights the importance of teacher development, in-service training, and school infrastructure. The role of management in curriculum implementation is emphasised, and the literature suggests that effective implementation requires adequate facilities, staffing, and the involvement of stakeholders. The Ministry of Education and Sports is responsible for ensuring adherence to education policies and guidelines. Overall, the literature emphasises the need for continuous improvement and the involvement of all stakeholders in matters regarding education.

Local and global emerging issues to be integrated into the Learning Framework

Wilkinson (2021) discusses the global interest in providing Early Childhood Education and Care (ECEC) services and the international sharing of ideas on ECEC, facilitated by technology and funding schemes. However, there are concerns that the global discourses on ECEC could result in homogenising desirable ECEC attributes and the potential consequences of this in local contexts for theory, research and practice. Moss (2015) emphasises the importance of recognising the historical and cultural context for shaping both the structure and conceptualisations of ECEC services. The dominance of Anglo-American theories in ECEC facilitated by the use of the English language could prescribe particular understandings of ECEC services. Moreover, the relevance of such theories in different contexts needs to be considered. The literature also highlights the benefits of investing ECEC and ensuring universal access to quality services, which is one of the most effective ways to reduce inequities and one of the most efficient investments (European Commission, 2014). The paragraph discusses challenges facing the implementation of the LFW in Uganda. The first challenge, according to Salawu (2011), is inadequate funding, which has resulted in corruption and nepotism. The second challenge is the quality and quantity of teachers, where there is a shortage of qualified teachers, and some teachers lack the required qualifications (Altinyelken, 2010). Thirdly, Hannon (2013) points out that there is a lack of textbooks, teachers' guides and functional libraries to support effective teaching and learning. Zirra and Mambula (2020) discuss the poor reward system for teachers, which has led to an unhappy workforce, which can affect the implementation of the LFW. Finally, there is inadequate supervision of schools due to a lack of coordination among different quality assurance agencies, and unqualified personnel carrying out school supervisory duties.

Gaps and best practices relating to the design, learning outcomes, competencies, development activities, teaching methods and assessment modalities of the curriculum

The success of curriculum implementation depends on teachers as they are the ones who adopt and implement the ideas and aspirations of the designers (Allais, 2012). In addition, teachers' beliefs, practices and attitudes are important in understanding and improving educational processes. However, an appropriate supply of trained teachers is a challenge. Learners, resource materials and facilities, the school environment, culture and ideology, instructional supervision, and assessment are some of the factors that influence curriculum implementation (Elize Du Plessis, 2022).

Curriculum frameworks guide the regulation, implementation and evaluation of curricula, but the development of curricula and expected learning outcomes is a dynamic cyclical process requiring reassessment and adaptation over time. However, cultural differences, examinations and interest groups may hinder or facilitate curriculum implementation. Policy formulation should take into consideration the implications of various factors influencing curriculum implementation (Kingdon et al., 2014).

The literature also discusses challenges in implementing the curricula: dissemination and teacher professional development. Dissemination involves creating specific plans to inform educators of the new curricula and expected learning outcomes, as well as aligning textbooks and other materials. Teacher professional development is important to ensure that educators have the necessary knowledge, competence and confidence to implement new curricula, and to develop formative assessments that can inform classroom practices. However, there are gaps in these areas, such as the need for interactive professional development and revised pre-service teacher training systems to reflect new curriculum frameworks. Additionally, the literature highlights the importance of considering teacher perspectives in the curriculum development process and developing curricular literacy at the district, school and individual teacher level (Allais, 2012).

The current education system is based on a Western model that replaced indigenous forms of education and socialisation, and it is important to provide opportunities for minority populations to participate in creating curricula. Gender inclusivity and support for special needs learners are also important considerations in curriculum development. As societies face new challenges, such as environmental and economic changes, several countries have reviewed their curricula to equip students with the necessary skills and competencies needed for the future (Persson, 2016). Curriculum reform is influenced by global and local factors, including societal needs, and must be relevant and responsive to changes. In Uganda, Vision 2040 places emphasis on making Science, Technology, Engineering and Innovation (STEI), the main driver of economic growth and key pillar of competition, which requires a change in the approach to education. Early Childhood Care and Education (ECEC) is critical in a child's development, and curriculum development begins with a needs assessment. Benchmarking is essential in reviewing and developing curricula, and curriculum development should involve stakeholder participation (Seman, Yusoff & Embong, 2017).

Research Methodology

The study used a cross-sectional research design, combining both qualitative and quantitative components to conduct a needs assessment study for early childhood development in Uganda. The study employed probability and non-probability sampling designs, including random, convenient and purposive sampling techniques. The population of the study consisted of key stakeholders in early childhood care and education, such as teachers, caregivers, policymakers and development partners. The sample size for the study was 650 respondents, with 378 respondents being ECD teachers/caregivers, and 58 districts selected using the Yamane (1967) and Krejcie and Morgan (1970) approaches. The study used saturation levels to determine the sample size for categories from which qualitative data was collected. The aim of the study was to identify gaps in the LWF for 3–6-year-olds in Uganda.

The study was conducted in Uganda on the factors affecting the implementation of the ECD Learning Framework and used four data collection methods, including a questionnaire survey, interviews, document review, and observation. The study ensured an even distribution of respondents from both rural and urban ECD canters to obtain balanced views across different settings in the same district. Ethical considerations were observed, and the validity and reliability of the data collection instruments were ensured. Quantifiable data from the survey was presented using tables, charts and bar graphs and further analysed using descriptive statistics by a SPSS version 22.0.

Qualitative data from the documents reviewed, the observations made and the interviews conducted were thematically coded and clustered to establish similarities and differences in the collected data. The research assistants were trained on ethical and professional conduct during the data collection exercise and observed Covid-19 Standard Operating Procedures (SOPs). Respondents were assured of anonymity and confidentiality of the information they provided.

Results

This section presents and analyses the findings in line with the study objectives.

Factors Affecting the Effective Implementation of the ECD Learning Framework (3–6 Years)

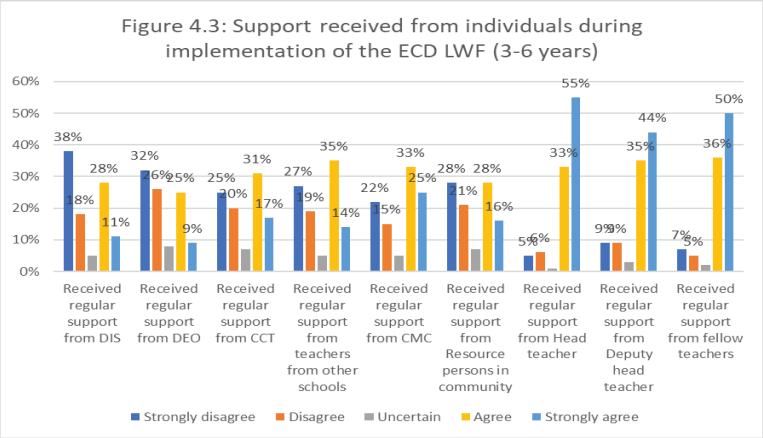


Figure 1: Support received from individuals during implementation of the ECD LFW

Source: Field data, 2022

The findings of a study on the implementation of the ECD Learning Framework in Uganda show that a majority of teachers and caregivers did not receive regular support from district officials in implementing the framework. Specifically, 56% of the respondents disagreed to receiving regular support from District Inspectors of Schools (DISs), while 59% disagreed to receiving regular support from District Education Officers (DEOs). However, a majority of respondents received regular support from Coordinating Centre Tutors (CCTs), Centre Management Committee (CMC) members, head teachers, deputy head teachers, and fellow teachers. The study also revealed that there was minimal supervision and monitoring of ECD by district officials, and a lack of a clear system for supporting ECD at the district level.

Table 1: Kind of support received while implementing the ECD Learning Framework

Code	Kind of support received while implementing of the ECD Learning Framework;	N	Mean	Std. Deviation
B(A)2i	I have regularly received training on methodologies to be used in the classroom while implementing the ECD learning framework	377	3.7	1.368
B(A)2ii	I have regularly received support on interpreting the learning framework while implementing the ECD learning framework	377	3.57	1.429

Code	Kind of support received while implementing of the ECD Learning Framework;	N	Mean	Std. Deviation
B(A)2iii	I have regularly received support on addressing implementation challenges while implementing the ECD learning framework	377	3.33	1.356
B(A)2iv	I have regularly received support on equipping me with skills to effectively implement the ECD learning framework	377	3.67	1.296

Source: Field data 2022

A general analysis of the mean scores of Section B2 items revealed an overall mean score of 3.57, indicating that teachers/caregivers generally agreed to receiving regular support during the implementation of the ECD Learning Framework. The highest mean score of 3.70 was obtained by item B2i, implying that most teachers/caregivers agreed to receiving regular training on methodologies used in the classroom. However, item B2iii had a mean score of 3.33, indicating that most respondents were unsure of having received support on addressing implementation challenges of the ECD Learning Framework. The standard deviation indicated that there was a narrow spread of results among the respondents' perceptions about the support received. The mean scores for items B2i, B2ii and B2iv were above 3.5, showing that the respondents agreed to receiving the support mentioned. This general agreement to receiving support implies that teachers/caregivers receive regular support on the training methodologies used in the classroom, interpreting the learning framework, and equipping them with skills to implement the LFW. The uncertainty around item B2iii could suggest that the respondents did not receive such support; otherwise, they would be sure.

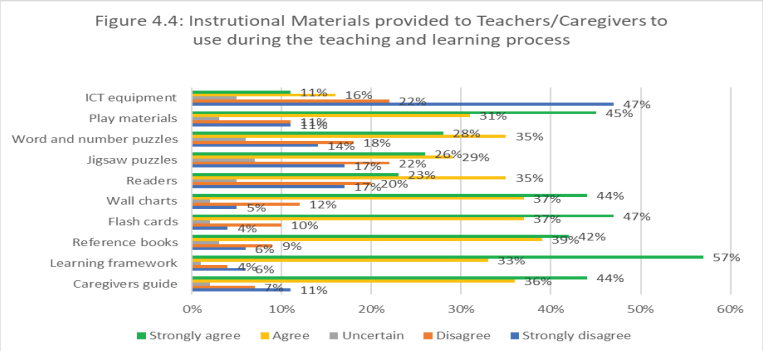


Figure 2: Instructional materials provided

Source: Field data, 2022

The study examined the availability of ICT equipment, play materials, puzzles, readers, wall charts, flash cards, the ECD Learning Framework and the Caregivers' Guide to the Learning Framework among teachers and caregivers in ECD centres in Uganda. From Figure 2, it was observed that a majority of teachers/caregivers were not provided with ICT equipment, with only 16% and 11% strongly agreeing and agreeing, respectively, that they were provided with it. The study found that a majority of teachers/caregivers were provided with play materials, puzzles, readers, wall charts, flash cards, the ECD Learning Framework, and the Caregivers' Guide to the Learning Framework. The study also highlighted the challenges some teachers/caregivers face in using ICT equipment to deliver lessons.

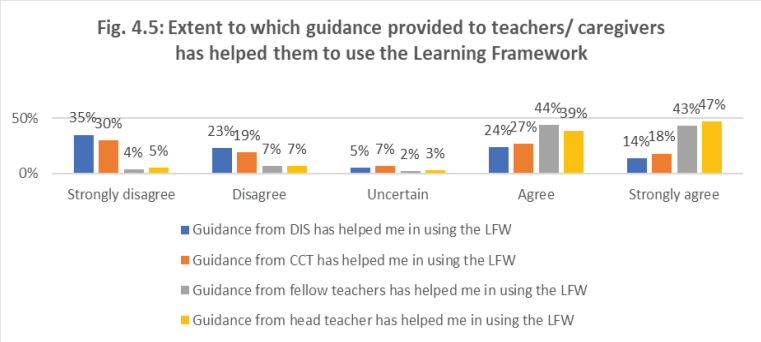


Figure 3: Guidance provided to teachers/caregivers

Source: Field data, 2022

The results of a survey with 377 respondents showed that guidance from the DISs did not help the majority of teachers/caregivers (58%) in using the LFW, while a fair number of teachers/caregivers were helped by the guidance from the CCTs (45%). However, the majority of teachers/caregivers (87%) were helped by guidance from fellow teachers and the head teacher in using the LFW.

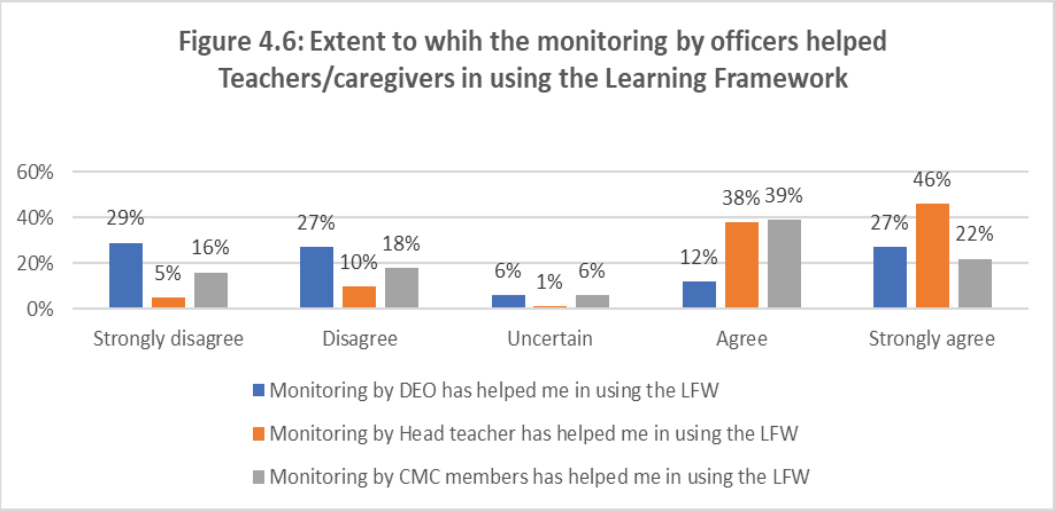


Figure 4: Monitoring by officers

Source: Field data, 2022

The results from Figure 4 indicate that out of 377 respondents, the majority of teachers/caregivers were not monitored by the District Education Officer (DEO) while using the LFW, with 29% strongly disagreeing and 27% disagreeing about whether monitoring by the DEO helped them use the LFW. Only 12% strongly agreed and 27% agreed that monitoring by the DEO helped them use the LFW, while 6% were uncertain. In contrast, the majority of teachers/caregivers were monitored by the head teacher and CMC members while using the LFW. Regarding monitoring by the head teacher, 46% strongly agreed and 38% agreed that it helped them use the LFW, with only 5% strongly disagreeing and 10% disagreeing. Only 1% were uncertain. Similarly, regarding monitoring by CMC members, 22% strongly agreed and 39% agreed that it helped them use the LFW, with 16% strongly disagreeing and 18% disagreeing.

Challenges faced during use of the LFW

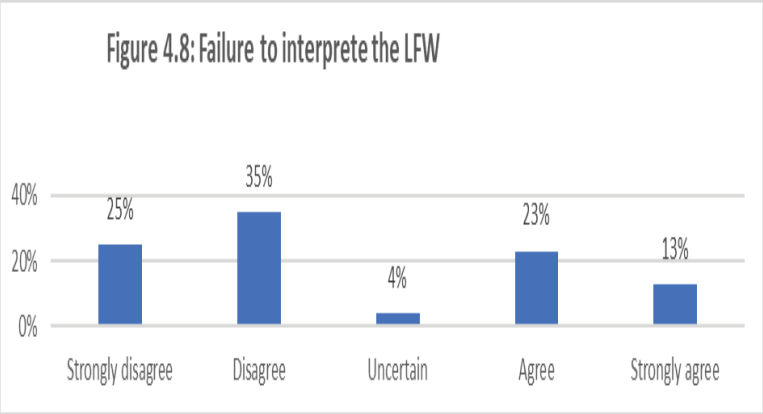


Figure 5: Failure to interpret the LFW

Source: Field data, 2022

The results from Figure 5 show that out of 377 respondents, 94 (25%) strongly disagreed and 131(35%) disagreed as to whether they had failed to interpret the LFW while 48(13%) strongly agreed and 88(23%) agreed that they had failed to interpret the LFW. This means that the majority of the teachers/caregivers do not face a challenge of failure to interpret the LFW. However, there is a gap between the survey results and the experiences of some CCTs and NGO officials. One CCT said that many caregivers had difficulty in understanding how to integrate personal/emotional/social/ behaviour aspects into the different areas of learning, while an NGO official reported that many teachers did not know what some of the suggested resources are, such as jigsaws, and did not have any knowledge of what some of the activities mean, such as rubbing.

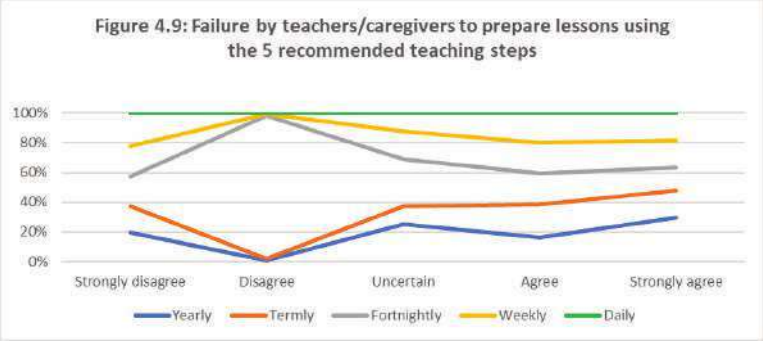


Figure 6: Failure by teachers/caregivers to prepare lessons using the 5 recommended teaching steps

Source: Field data, 2022

According to Figure 6, a majority of teachers/caregivers did not face failure in preparing lessons using the yearly plan (70% agreed or strongly agreed) and other planning periods including termly, fortnightly, weekly and daily plans (ranging from 74% to 81% agreed or strongly agreed). Only a small percentage were uncertain (2-5%) and a minority disagreed or strongly disagreed (19-34%).

Figure 7: Failure to address implementation challenges in the classroom environment

Source: Field data, 2022

Based on the results from Figure 7, out of 377 respondents, 86(23%) of the teachers/caregivers strongly disagreed and 108 (29%) disagreed as to whether they had faced failure to address implementation challenges in the classroom environment, for example, managing large classes; while 50(13%) strongly agreed and 110(29%) agreed that they had faced failure to address implementation challenges in the classroom environment. Only 23(6%) were uncertain. This means that the majority of the teachers/caregivers had faced failure to address implementation challenges in the classroom environment.

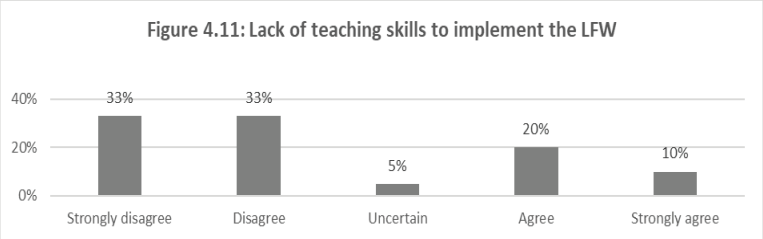


Figure 8: Lack of teaching skills to implement the LF

Source: Field data, 2022

According to the results shown in Figure 8, out of 377 respondents, 33% strongly disagreed and 33% disagreed that they lacked teaching skills to implement the ECD Learning Framework (3–6 years). However, only 10% strongly agreed and 20% agreed that they lacked teaching skills, with 5% being uncertain. This indicates that the majority of the teacher/caregivers did not lack teaching skills to implement the ECD Learning Framework (3–6 years).

Table 2: Challenges faced in using the LFW

Code	Challenges faced in using the LFW	N	Mean	Std. Deviation
B5/5i	I have failed to interpret the LFW	377	2.64	1.402
B5/5iia	I have failed to prepare lessons based on the yearly plan	377	2.59	1.454
B5/5iib	I have failed to prepare lessons based on the termly plan	377	2.56	1.413
B5/5iic	I have failed to prepare lessons based on the fortnightly plan	377	2.46	1.364

Code	Challenges faced in using the LFW	N	Mean	Std. Deviation
B5/5iid	I have failed to prepare lessons based on the weekly plan	377	2.49	1.426
B5/5iie	I have failed to prepare lessons based on the daily plan	377	2.52	1.489
B5/5iii	I have failed to address implementation challenges in the classroom environment e.g. managing large classes	377	2.81	1.411
B5/5iv	I lack teaching skills to implement the LFW	377	2.41	1.377

Source: Field Data

The results from Section B5/5 indicate that, on a 5-point Likert scale, the mean scores for all items ranged between 2.5 and 3.0, suggesting that the majority of teachers/caregivers were uncertain about the extent to which the listed challenges affected their use of the LFW. This uncertainty may be due to a lack of knowledge of the LFW, failure to prepare lessons, implementation challenges, or a lack of teaching skills. The standard deviation for the responses was low, ranging from 1.364 to 1.489, indicating little variability among the respondents. However, a gap in the data is that the specific challenges that the respondents were uncertain about are not listed.

Table 6: Failure by parents to support the teaching/learning process

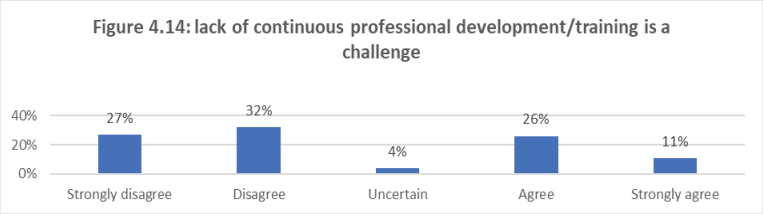
	Particular	SD	D	U	A	SA
B5/5va	I have faced failure by parents to support the teaching/learning process in the centre extracurricular activities	28% (104)	32% (119)	6% (22)	25% (94)	10% (38)
B5/5vb	I have faced failure by parents to support the teaching/learning process in acting as resource persons	21% (78)	31% (117)	7% (28)	29% (109)	12% (45)
B5/5vc	I have faced failure by parents to support the teaching/learning process in supporting learners in homework and storytelling	21% (82)	29% (111)	6% (23)	26% (96)	17% (65)
B5/5vd	I have faced failure by parents to support the teaching/learning process in provision of play materials	20% (77)	31% (116)	3% (12)	29% (111)	16% (61)
B5/5ve	I have faced failure by parents to support the teaching/learning process in feeding their children	21% (78)	29% (111)	4% (16)	29% (108)	17% (64)

	Particular	SD	D	U	A	SA
B5/5vf	I have faced failure by parents to support the teaching/learning process in paying school fees for their children	20% (77)	34% (129)	3% (13)	23% (88)	19% (70)
B5/5vg	I have faced failure by parents to support the teaching/learning process in participating in the nature walk	20% (77)	32% (122)	9% (34)	25% (93)	14% (51)
B5/5vh	I have faced failure by parents to support the teaching/learning process in providing scholastic materials	25% (95)	30% (115)	4% (15)	26% (98)	14% (54)
B5/5vi	I have faced failure by parents to support the teaching/learning process in escorting their children to school	22% (83)	34% (127)	2% (8)	23% (85)	20% (74)

Source: Field data, 2022

The study asked 377 teachers/caregivers whether they had faced failure by parents to support the teaching/learning process in various aspects of education. The majority of teachers/caregivers had not faced failure in extracurricular activities, acting as resource persons, supporting learners in homework and storytelling, providing scholastic materials, and participating in nature walks. However, about half of the teachers/caregivers had faced failure in the provision of play materials, feeding their children, and paying school fees for their children. Parents were not supportive of escorting their children to school, according to a small number of teachers/caregivers.

Figure 9: Inadequate continuous professional development/training



Source: Field data, 2022

A survey of 377 respondents in Uganda showed that 27% strongly disagreed and 32% disagreed about lacking continuous professional development or training. Only 11% strongly agreed and 26% agreed that they lacked continuous professional development or training, while 4% were uncertain. The majority of teachers/caregivers had not lacked continuous professional development or training. However, some caregivers were not trained, which posed challenges with implementation. Additionally, implementation seemed to be a challenge for some caregivers who had received training. Therefore, although the majority of teachers/caregivers were trained, there were many more who had not received continuous professional development or training in Uganda.

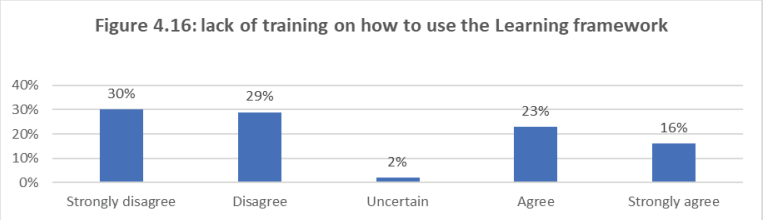


Figure 10*:* Lack of training on how to use the learning framework

Source: Field data, 2022

The results from Figure 10 indicate that out of 377 respondents, 219 (58%) of the teachers/caregivers disagreed or strongly disagreed that they lacked training on how to use the learning framework, while only 147 (39%) agreed or strongly agreed that they lacked such training. Only 11 (3%) were uncertain. This suggests that the majority of the teachers/caregivers did not lack training on how to use the learning framework.

Table 7: The LFW helps learners to develope

Code	The LFW helps learners to develop	N	Mean	Std. Deviation
C1i	literacy skills	377	4.2	0.983
C1ii	numeracy skills	377	4.24	0.981
C1iii	life skills	377	4.14	1.004
C1iv	social skills	377	4.2	0.997
C1v	ICT skills	377	2.79	1.482
C1vi	communication skills	377	4.16	1.05
C1vii	critical thinking skills	377	4.05	1.064
C1viii	creativity and innovation	377	4.11	0.995
C1ix	collaboration	377	3.96	1.117

Source: Field data, 2022

A majority of respondents agreed that the learning framework helped learners develop literacy, numeracy, life skills, social skills, communication, critical thinking, creativity and innovation, as shown by an aggregate mean of 3.98 in Section C1. However, the respondents disagreed that the LFW helped develop ICT skills, with a mean score of 2.79, indicating that it does not emphasise ICT skills. This finding confirms earlier responses in Section B4, where respondents disagreed about using ICT. As ICT is an emerging issue and one of the 21st-century skills, there is a need to integrate it into the LFW for Ugandan learners to cope with the demands of the world today.

Emerging Approaches

Table 8: Emerging approaches to learning

	Emerging approaches to learning	SD	D	U	A	SA
C2i	The LFW promotes the use of homeschooling	13% (47)	10% (36)	5% (18)	47% (177)	26% (99)
C2ii	The LFW promotes the use remote schooling	19% (71)	17% (64)	11% (42)	35% (130)	19% (70)
C2iii	The LFW promotes the use of online study	34% (128)	17% (65)	13% (47)	26% (99)	10% (38)
C2iv	The LFW promotes the use of community-based learning	10% (39)	9% (34)	9% (33)	45% (171)	27% (100)
C2v	The LFW promotes the use of self-study	18% (66)	13% (49)	6% (24)	39% (146)	24% (92)

Source: Field data, 2022

Table 8 presents the results of the respondents' views on whether the Learning Framework (LFW) for Uganda promotes different types of learning. A majority of the teachers/caregivers agreed and strongly agreed that the LFW promotes the use of homeschooling (73%), remote schooling (54%), community-based learning (69%), and self-study (73%). However, only a minority agreed that the LFW promotes the use of online study (36%). Strong disagreement was highest regarding the promotion of online study (34%) and lowest regarding the promotion of self-study (19%).

Emerging Cross-Cutting Issues

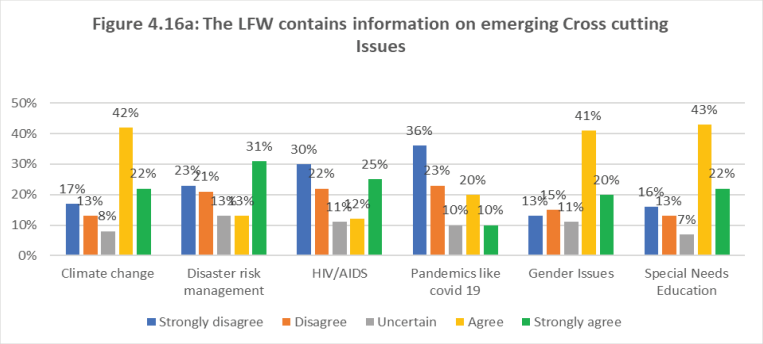


Figure 11: The LFW contains information on emerging cross-cutting issues

Source: Field data, 2022

A study surveyed 377 teachers/caregivers to determine whether the LFW contains information on climate change, disaster risk management, HIV/AIDS, pandemics like COVID-19, gender issues, and special needs education. The results showed that a majority of the respondents agreed that the LFW contains information on climate change, disaster risk management, gender issues, and special needs education, while a majority of the respondents disagreed that the LFW contains information on HIV/AIDS and pandemics like COVID-19. However, in interviews with some CCTs and a District Inspector of Schools, weaknesses in the LFW were identified, including inadequate content for special needs learners and lack of coverage on issues of special needs education.

The recommendations and tools that help teachers/caregivers to use the LFW

Table 6: Recommendations and tools helping the teachers/caregivers in using the Learning Framework

	Particular	SD	D	U	A	SA
C4i	The use of thematic approach to teaching and learning has helped me in using the LFW	9% (35)	7% (27)	5% (20)	54% (205)	24% (90)
C4ii	The language policy has helped me in using the LFW	9% (32)	7% (26)	4% (15)	53% (201)	27% (103)
C4iii	The class teacher system (one teacher per class) has helped me in using the LFW	14% (53)	22% (82)	5% (20)	42% (159)	17% (63)
C4iv	The use of no cost/low-cost instructional materials has helped me in using the LFW	6% (23)	10% (36)	6% (22)	49% (185)	29% (111)
C4v	Continuous assessment has helped me in using the LFW	7% (25)	5% (19)	3% (13)	52% (198)	32% (122)
C4vi	ICT policy has helped me in using the LFW	37% (140)	20% (75)	8% (29)	27% (100)	9% (33)

Source: Field data, 2022

The study findings showed that the majority of respondents agreed that the thematic approach to teaching and learning, language policy, class teacher system, the use of no-cost/low-cost instructional materials, and continuous assessment have helped teachers/caregivers in using the local first language. However, remarks from the interviews indicated some discrepancies. Some teachers and officials raised concerns about the implementation of the language policy, the effectiveness of the class teacher system, and the use of low-cost instructional materials. These findings imply that while certain approaches have been useful, there is still room for improvement in the implementation and effectiveness of some of these strategies.

Gaps and best practices relating to the design, learning outcomes, competences, developmental activities, teaching methods and assessment modalities of the LFW of Uganda

Table 10: Gaps and best practices in the design of the LFW

	Particulars	SD	D	U	A	SA
D1i	Use of the learning area approach to arrange the developmental activities (content) is easy to follow	7% (27)	13% (48)	3% (12)	47% (178)	30% (112)
D1ii	Leaving out guidance to the teacher in the LFW has no effect on its teaching	20% (74)	26% (99)	6% (21)	36% (134)	13% (49)
D1iii	The way the development activities (content) are presented in the learning framework facilitates teaching	6% (24)	14% (52)	4% (16)	50% (190)	25% (95)
D1iv	The structure of the LFW is clear and easy to understand	10% (37)	14% (51)	4% (14)	45% (169)	28% (106)
D1v	The developmental activities (content) are presented according to different age groups	4% (15)	7% (27)	2% (6)	53% (200)	34% (129)
D1vi	The way the developmental activities (content) are presented according to different age group makes it easy to teach the LFW	5% (19)	10% (37)	3% (11)	51% (192)	31% (118)

Source: Field data, 2022

The study reports the findings on the ease of use of the learning area approach and the Learning Framework (LFW) for teachers/caregivers in arranging developmental activities. The majority of the respondents agreed that the learning area approach to arrange developmental activities is easy to follow (47% agreed and 30% strongly agreed). Similarly, the majority of the respondents agreed that the way the developmental activities are presented in the LFW facilitates teaching (50% agreed and 25% strongly agreed) and that the structure of the LFW is clear and easy to understand (45% agreed and 28% strongly agreed). However, less than half of the respondents agreed that leaving out guidance to the teacher in the LFW has no effect on its teaching (36% agreed and 13% strongly agreed). Additionally, while the majority of the respondents agreed that the developmental activities are presented according to different age groups (53% agreed and 34% strongly agreed), fewer agreed that the way the developmental activities are presented according to different age groups makes it easy to teach the LFW (51% agreed and 31% strongly agreed).

Table 11: Competences

	Particular	SD	D	U	A	SA
D3i	All the competences in the LFW help to achieve the learning outcomes	2% (7)	4% (13)	5% (17)	53% (200)	37% (139)
D3ii	All the competences in the LFW are clear and well-stated	3% (10)	9% (34)	4% (16)	49% (186)	35% (131)

	Particular	SD	D	U	A	SA
D3iii	All the competences in the LFW are easy to interpret	3% (13)	11% (43)	6% (21)	50% (187)	30% (113)
D3iv	All the competences in the LFW promote holistic development of the learner	3% (11)	5% (17)	6% (23)	54% (205)	32% (121)
D3v	All the competences in the LFW promote learner cantered learning	2% (7)	5% (20)	4% (14)	53% (201)	36% (135)
D3vi	All the competences in the LFW cater for learners with special educational needs	13% (49)	12% (45)	9% (35)	43% (162)	23% (86)
D3vii	All the competences in the LFW promote gender equity	3% (11)	6% (23)	7% (27)	57% (214)	27% (102)
D3viii	All the competences in the LFW promote development of moral values	1% (4)	3% (12)	2% (9)	61% (231)	32% (121)
D3ix	All the competences in the LFW develop a positive attitude in learners	2% (6)	4% (15)	2% (7)	58% (225)	33% (124)

Source: Field data, 2022

The study evaluated teachers'/caregivers' perceptions of the effectiveness of the Life Skills-Based Family Education (LSBFE) programme in promoting learning outcomes and holistic development of learners. The majority of respondents agreed that all the competencies in the LSBFE programme help achieve learning outcomes, are clear and well-stated, easy to interpret, promote holistic development of the learner, promote learner-centred learning, cater for learners with special educational needs, promote gender equity, promote the development of moral values, and develop a positive attitude in learners. However, there were some gaps in the results, as a small percentage of respondents strongly disagreed or were uncertain about some of the competencies.

Teaching methods

Table 9: Teaching methods

	The learning methods in the LFW:	SD	D	U	A	SA
D5i	Are relevant in achieving the learning outcomes	3% (10)	4% (15)	5% (18)	58% (217)	31% (117)
D5ii	Allow the use other methods of teaching other than those in the framework	5% (17)	5% (20)	6% (24)	59% (222)	25% (94)
D5iii	Guide on how to structure the development activities	2% (6)	3% (13)	5% (20)	59% (225)	30% (113)

	The learning methods in the LFW:	SD	D	U	A	SA
D5iv	Are easy to use	3% (10)	7% (26)	4% (15)	53% (202)	33% (124)
D5v	Are age-appropriate	2% (6)	3% (11)	3% (11)	54% (205)	38% (144)

Source: Field data, 2022

The findings from Table 9 indicate that the majority of teachers/caregivers agree that the learning methods in the LFW are relevant to achieving learning outcomes, allow the use of other teaching methods, guide on how to structure development activities, and are age-appropriate. Specifically, 58% agreed and 31% strongly agreed that the learning methods are relevant in achieving learning outcomes, 59% agreed and 25% strongly agreed that the methods allow the use of other teaching methods, 59% agreed and 30% strongly agreed that the methods guide on how to structure development activities, and 54% agreed and 38% strongly agreed that the methods are age-appropriate.

Assessment modalities

Table 10: Modalities

	Particular	SD	D	U	A	SA
D6i	The LFW clearly explains how to assess learner	7% (26)	12% (46)	3% (12)	53% (201)	24% (92)
D6ii	The LFW promotes monitoring the learners' achievement	3% (13)	10% (37)	1% (5)	57% (213)	29% (109)
D6iii	The LFW clearly explains how I assess before I teach	6% (24)	11% (40)	1% (5)	56% (211)	26% (97)
D6iv	The LFW clearly explains how I assess during teaching learning process	6% (21)	11% (41)	3% (11)	52% (196)	29% (108)
D6v	The LFW clearly explains how I assess at the end of teaching	6% (21)	9% (35)	3% (13)	54% (205)	27% (103)
D6vi	The LFW guides me on how to use the results of assessment to improve learning	6% (24)	13% (49)	2% (8)	51% (192)	28% (104)
D6vii	The LFW guides me on how to use to record learner's achievement	6% (23)	11% (43)	3% (13)	50% (188)	29% (110)
D6viii	The LFW guides me on how to give feedback to learners, parents and administration	7% (25)	11% (42)	4% (15)	48% (182)	30% (113)
D6ix	The LFW promotes achievement of the competences	4% (16)	8% (29)	3% (12)	52% (197)	33% (123)

Source: Field data, 2022

A study was conducted to investigate the perceptions of teachers/caregivers about how the Learning for Well-being (LFW) framework explains the assessment of learners. A total of 377 respondents participated in the study, and the findings suggest that the majority of the respondents agreed that the LFW clearly explains how to assess learners, promotes monitoring of learners' achievement, guides on how to assess before, during, and at the end of teaching, guides on how to use the results of assessment to improve learning, guides on how to record learners' achievement, guides on how to give feedback to learners, parents, and administration, and promotes the achievement of competences. However, a small percentage of respondents disagreed or strongly disagreed with some of the statements, indicating the need for further exploration and clarification in those areas into simplified topics.

Discussion, Conclusions and Recommendations

This section summarises the discussion, conclusions, and recommendations based on the findings presented in the previous section. The discussions were structured around the research questions, and the conclusions were drawn from the survey data. Finally, recommendations were provided based on the findings.

Discussion

The first objective of the study was to identify the factors that affect the implementation of the Early Childhood Development (ECD) Learning Framework (LFW) for children aged 3–6 years and to suggest possible solutions. The findings showed that while teachers/caregivers had regular training on the LFW, the training was mostly theoretical and lacked practical elements. Additionally, the teachers/caregivers did not receive regular support from District Inspectors of Schools and did not have access to ICT equipment, which affected the implementation of the LFW. The teachers/caregivers had difficulty in integrating personal/emotional/social/behaviour aspects into the different areas of learning. However, parents were supportive of the teaching/learning process through participation in co-curricular activities, acting as resource persons, supporting learners in homework, providing play materials, and participating in feeding their children. The literature cited in the study highlights the need for political and financial support, administrative strategies, and parental involvement for effective implementation of ECD policies. Gaps in the study include the lack of information on the specific challenges faced by teachers/caregivers in integrating personal/emotional/social/behaviour aspects into the different areas of learning and the absence of information on the specific practical elements missing in the teachers'/caregivers' training.

The second objective of the study was to identify emerging issues in early childhood education that need to be integrated into the Learning Framework for 3–6-year-olds. The literature review revealed that early childhood education and care is gaining global interest, and there is a need to address emerging issues such as ICT skills, learners with special needs, disaster risk management, HIV/AIDS, pandemics, Science, Technology and Innovation (STI), and global citizenship education. The findings showed that the current framework promotes homeschooling, remote schooling, community-based learning and self-study, but does not adequately address the aforementioned emerging issues. The study also found that the lack of consideration for emerging issues and slow review of curriculum policies can hinder effective implementation of the framework.

The third objective aimed to identify gaps and best practices in the Learning Framework (LFW) for 3–6-year-olds in Uganda. The findings revealed that the LFW is easy to follow and promotes cognitive, psychomotor and affective development. However, the LFW needs improvement in terms of providing guidance to teachers, catering to learners with special needs, and fostering local culture. The study recommended involving teachers in the curriculum development process and providing the required resources for extensive deliberation. The LFW is still relevant to the needs of society and in line with national policies, but challenges in ECD provisioning still exist owing to inadequate resource structures and high costs.

Conclusions

The study found that regular training and support are necessary for teachers/caregivers to effectively implement the Early Childhood Development (ECD) Learning Framework. While teachers/caregivers were equipped with the framework and teaching skills, they still required regular support from District Inspectors of Schools, DEOs and CCTs in implementing the framework. Additionally, support from other teachers and parents is crucial for effective implementation. The study highlighted the importance of involving caregivers in children's learning from the age of three, which can be empowering for parents. While teachers/caregivers had the necessary materials and teaching skills, they needed further support in integrating personal/emotional/social/behavioural aspects into the different learning areas and addressing implementation challenges in the classroom environment.

The study found that the LFW promotes various learning approaches, including homeschooling, remote schooling, community-based learning and self-study. It also highlighted the need for the LFW to include information on emerging issues, such as ICT, disaster risk management, HIV/AIDS, pandemics, Science, Technology and Innovation (STI) and global citizenship education. The study further emphasised the role of ICT in teaching and learning as well as in administration. Additionally, the study identified that the language policy, continuous assessment, and thematic approach to teaching and learning had helped teachers/caregivers use the LFW. However, the study pointed out that teachers/caregivers need to be more mindful of emerging issues at the regional and global levels when implementing the LFW.

The study found that the developmental activities in the LFW were presented according to different age groups, making them easy to teach, and that the learning outcomes were relevant to the needs of society in Uganda. The study also showed that the competencies were clear and well-stated, easy to interpret, promoted holistic development, and developed a positive attitude in learners. However, the study discovered a limited focus on the competencies of learners with special needs. The development activities in the LFW were found to be flexible and to leave room for teachers' creativity and innovation. The learning methods in the LFW were relevant in achieving the learning outcomes, and the LFW clearly explained how to assess learners and promote monitoring of their achievements. The LFW also guided teachers/caregivers on how to use the results of assessment to improve learning and give feedback to learners, parents and the administration, promoting the achievement of competencies. However, there is a need to cater for the guidance to teachers in the LFW on teaching learners.

Recommendations

The study aimed to identify gaps in the Learning Framework for children aged 3–6 years in Uganda and make recommendations for its improvement. The researchers recommended instant review of the framework, as it has not been updated for 17 years. They also suggested increasing regular support and improving the skills of teachers and caregivers in implementing the framework, as well as providing them with ICT equipment and increasing guidance and monitoring from CCTs and DEOs. Additionally, there is a need to increase the frequency of professional development training for teachers and caregivers and to maintain the usage of the framework while improving the guides to its implementation. Furthermore, teachers and caregivers should be trained on how to integrate personal, emotional, social and behavioural aspects into the different areas of learning. Lastly, they should be given more opportunities to attend conferences, exchange visits, seminars and workshops on ECD that can be helpful in using the Learning Framework. These recommendations aim to provide constructive insights to the National Curriculum Development Centre as well as the Ministry of Education and Sports.

The findings suggest that curriculum developers should ensure that learners with special needs are included in the curriculum.

They also recommend the provision of digitalised materials and a competence indicators framework to support teachers and learners. Additionally, the study emphasises the importance of using local languages to engage learners and promote an interactive learner-centred approach. Starting school in a new language can lead to passiveness and inhibit creativity and expression. Additionally, the LFW should provide clear guidance to teachers, and curricula should support teachers in understanding and implementing appropriate practices for learners.

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Child to Child Pedagogy and Transition Readiness from Home Based Centres to Primary One

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Abstract

The purpose of this study was to see how Child to Child pedagogy can be efficiently used so as to support transition readiness of preschool children from Home based centers to primary one through an innovative and cost-effective play way. Child to child pedagogy is an education practice about how children build knowledge as they relate with one another. In this pedagogy, older children from the locality known as young facilitators, take preschool children through interactive learning games over a period of one year to prepare them for early grades of primary school. Objectives of the study were: To establish whether child to child pedagogy could be used to enhance transition readiness in Early Childhood Education; To identify child to child activities that could be used to enhance transition readiness in Early Childhood Education. The study used cross sectional design, In-depth interviews, participant observation, focus group discussions with parents, document analysis and participant narratives supported triangulation. The overarching research question was: How can an effective child to child pedagogy be adopted and scaled up to improve transition readiness from pre-primary to early grades of primary school. Data was collected by the use of Questionnaires interviews and Observation method. The collected data was analysed by use of descriptive methods of data analysis. Results indicated that the advocated for methodology prepares children to be able to transit smoothly. In conclusion, from the findings of the study, use of child-to-child pedagogy enables children to get ready for transition through engaging in useful play with other community members with whom they may go to the same school when they transit. The researcher thus recommends that stakeholders should embrace child to child pedagogy so as to enable children's transition readiness.

Keywords: child to child; home based centres; pedagogy; readiness; transition

Background

Children start preschool learning from home with basic skills such as self-care, communication, socialization and mobility. These extend throughout life as critical stepping stones for transition from home-based centres to early grades of primary (Ernst et.al 2021). Davis, & Elliott (2014) urge practitioners to recognize the competences of young children as "thinkers, problem-solvers, and agents of change. They need to be prepared for challenges ahead of them by equipping them with the foundational knowledge, skills, attitudes, and values to understand and respond to these challenges. Development of environmental values, attitudes, skills, and behaviours begins in childhood. Constructing understanding about environmental and sustainability content, as well as developing the skills for meeting the needs of future generations by peacefully living in the environment is another vital aspect in early childhood. This is done best when children are given opportunity to attend pre-primary and later transit to primary. Transition from pre-primary to primary school is one of the major steps that each child has to take in the education continuum.

Transition to the first year of primary school is very important for the child's future physical, emotional and intellectual development according to research. For example, OECD, (2017) asserts that managing this transition well is important for children's well-being and to help them achieve their potential at school. O'Connor (2018) agrees that a child's first transition into compulsory schooling is usually a positive experience, enabling them to settle into new routines, expectations and environments. Much as it may be simple for some children who have gone through pre-primary to transit, there are some who need longer to settle in and make the transition successful (Kinkead-Clark 2015).

Such learners need to be given extra help so as to grasp the concepts they missed out on. This can be done through enhancing child play and considering it to be key in childhood education because it strengthens learning outcomes while enhancing children's mastery of academic concepts and builds motivation to learn (UNICEF 2013).

Preschool transition into first grade has been internationally recognised as an important process not only in children's personal but also academic life (Perry, Dockett & Petriwskyj, 2014). It enhances children's discovery of knowledge hence preparing them for early grades of primary school (UNICEF, 2014). (Grieshaber, 2009; Petriwskyi, 2010; 2013) (Mascareño, 2014; Lau, 2014). For transition to be successful, there must be transition readiness.

There has been effort to define the concept 'Transition readiness'. For example, Sandilos (2017) defines it as the ability to succeed academically, while Morgan (2016) considers it to be the ability to socialise with others. In this study, children's transition readiness was conceptualised as children's acquisition of the emotion regulation skill (Goodrich et al. 2015) which enables them to not only socialise with others (Harper 2015; Morgan 2016) but also to succeed in school academically (Sandilos 2017; Shala 2013). Transition readiness must not be taken lightly due to the role it plays. For example, Mascareño (2014) believes transition readiness from preschool to first grade is a developmental milestone in children's lives while Lau (2014) contends that, transition readiness is very important for children and should be given great attention because of the drastic change of contexts, identities, roles and social interactions to be encountered at a later stage.

As contended by Mariano, Santos-Junior, Lima, Perisinotto, Brandão, Surkan, & Caetano, (2019) aspects of school readiness such as early reading and math skills, social skills, attention, internalizing and externalizing behaviour predict both future math and reading skills. Enhancing children's transition readiness skills is really crucial for recently, Thomson et al. (2019) examined a population cohort of 34,552 children and found that children exhibiting poor social emotional functioning at school entry had at least two times the odds of a subsequent mental health condition by age 14, including depression, conduct disorder, anxiety and attention-deficit/hyperactivity disorder (ADHD) integrated development of children. Transition readiness offers young children an alternative means of expressing their needs and desires as well as an additional tool for regulating their behaviour in the form of self-talk and other strategies (Woodward et al., 2016).

Different countries promote transition readiness in different ways. In Sierra Leone, it's done through the child-to-child model and findings indicate an increased access, retention and performance in primary education (UNICEF, 2014). In Yemen, children are helped to get ready to transit through the child-to-child programme and they show significantly higher rates of on time enrolment (83% vs 34%), better social and emotional development, and higher academic performance in literacy than their peers not involved in the programme (American Institutes for Research, 2013). In Malawi, they have established community-based child care centers that draw strength from child-to-child approach so that children are prepared to go to primary school (Shalwon, 2013).

In Uganda, LABE's Home Learning Centres (HLCs) and UNICEF's integrated Early Childhood Development Centre (iECD) in Mirambo use the child-to-child approaches to support literacy development (UNICEF, 2017). They support parents to; provide an oral rich language and home literate environment and appreciate their role in preparing and supporting their pre-school children (LABE, 2020). Learning is based on the preschool education curriculum with pedagogy built on traditional child-care practices facilitated by parent educators and young facilitators from the community for at least 3 hours a day, 3 days a week (LABE, 2020). Children's learning experiences need to be stimulated through play activities that can better be developed through child-to-child approach to ease transition readiness (UNICEF, 2018).

However, in many countries in Africa, pre-primary education does not adequately prepare children to transit to primary school. Children are viewed by teachers as recipients of knowledge who cannot actively participate in their own learning (Gray, 2016). In all the G20 countries, children are helped to get ready to transit through the use of child-to-child pedagogy.

Child to child pedagogy began as a movement to improve the health of children and their communities through teaching children in primary schools to pass on health messages. There has been effort to explain the meaning of "child to child pedagogy" For example, on their part, (Inalhan 2017; Feder 2019; Vaslou et al. 2021; Yamada 2019) say that it is a way of teaching which places children and their rights at the core of a design process to elevate their voice, (Inalhan 2017); psychologically and physically empower them (Vaslou et al. 2021) and uncover their unmet requirements and desires (Yamada 2019). While Hadem (2018) asserts that it is the kind of teaching where children are guided to use a variety of formal and informal activities to teach peers through the use of games. Abhiyan (2022) considers it to be the involvement of children already in primary school (Young Facilitators) in planning how to use transition activities to actively engage with pre-primary children (Young Learners) in their community in a play way. Child to child (2023) defines it as the involvement of children in activities that interest, challenge and empower them. In this study, child to child approach means guiding children on how they can use a variety of formal and informal activities to teach peers Hadem (2018) by involving the children in planning how to use these transition activities to actively engage with pre-primary children (Abhiyan 2022) so as to enable them to actively participate in their own learning (Bahay 2022).

Using this child-to-child pedagogy, enhances children's discovery of knowledge hence preparing them for early grades of primary school (UNICEF, 2014). The proposed child-to-child pedagogy has received significant results in different places where it is used. According to Jung (2021), in the child-to-child approach, young facilitators in Botswana, take through preschool children interactive learning games over a period of one year to prepare them for early grades of primary school. In Sierra Leone, the child-to-child pedagogy has been adopted and findings indicate an increased access, retention and performance in primary education (UNICEF, 2014). The use of home based learning helps to increase access and engage parents more in education of children but lacks in quality (Brookes,et al,2006; Wagner & Clayton,1999). To cover for quality, play based curriculum implemented in home learning centres is used to enhance children's school readiness (Jung, 2021). However, the child-to-child model that supports learning through play needs to be scaled to improve the quality of early childhood education.

Problem Statement

Child to child pedagogy enhances transition readiness (UNICEF, 2018) by allowing children to learn through play. Wong (2019) contends that while playing, children not only acquire knowledge, skills and the rules of polite behavior but also learn to be patient, share, respect others and create a positive self-image which prepares them for transition.

However, in Ugandan primary schools, children's time for play is limited, the curriculum is different, there are new rules which they need to obey and relationships with classmates and adults in school are different (Wong & Power, 2019). If children are not fully prepared for this, there's a likelihood they will fail to cope up and even those who can, do so with a lot of difficulty.

Children in Kalaki District where the study is to take place are taught following this academic oriented curriculum, so there is no good transition of children from Home Based Centers to primary one thus, action must be taken to help teachers use this pedagogy.

Objectives of the Study

1. To understand whether child to child pedagogy can be used to enhance transition readiness from home-based centres to lower primary.
2. To identify child to child activities that can be used to enhance transition readiness from home-based centres to lower primary

Research Questions

1. Can child to child pedagogy be used to enhance transition readiness from home-based centres to lower primary?
2. Which child to child activities can be used to enhance transition readiness from home-based centres to lower primary?

Literature Review

The child-to-child pedagogy is an education methodology about how children build knowledge as they relate with one another. Different scholars have defined it too. (Bahay 2022; Abhiyan 2022) For example, Bahay (2022) advances that it is the guiding of children to actively participate in their own learning through the use of practical activities while Abhiyan (2022) considers it to be the involvement of children already in primary school (Young Facilitators) in planning how to use transition activities to actively engage with pre-primary children (Young Learners) in their community in a play way so as to enhance a smooth transition to lower primary.

In Malawi, community-based child care centres that draw strength from child-to-child approach have been established so that children are prepared to go to primary school (Shalwon 2013). Children from different backgrounds, ethnicities, religious and those with disabilities are taught in these centres. The challenge however, is that the pedagogy is localised to specific NGO areas.

In Ethiopia, the child-to-child pedagogy is organized by the Regional Education sectors, starting with a pilot in 2008 and now implemented in all regions as of 2009 (Mundy et al., 2014). It involves older children of grade 5 to 8 as facilitators to help young children (age 4-6 years) to acquire school readiness skills, literacy and social skills (Ministry of Education, 2010. The facilitators (old children) are guided and supervised by teachers. It aims to improve children's transition readiness in educational development in communities where formal preschools are unavailable (Ministry of Education, 2010). The duration of the program is 36 weeks that is conducted in children's villages, near their home, under a tree, in the shade of home, or in a child's home (Mundy et al., 2014).

In Uganda, LABE's Home Learning Centres (HLCs) and UNICEF's integrated Early Childhood Development Centre (iECD) in Mirambo are home-based preschool centres that use the child to child approaches to support literacy development (UNICEF, 2017). They support parents to; provide an oral rich language and home literate environment and appreciate their role in preparing and supporting their pre-school children (LABE, 2020). Learning is based on the preschool education curriculum with pedagogy built on traditional child-care practices facilitated by parent educators and young facilitators from the community for at least 3 hours a day, 3 days a week (LABE, 2020). The challenge however is that the children of Primary one and two may associate with children in home-based centres better than those in upper classes which are the classes LABE uses.

From the literature, we note that although learning through play foster's children's increased readiness for primary school, its use is still limited. This demonstrates the added value of the child-to-child approach, rather than a home-based model alone. This study demonstrated evidence of the effectiveness and innovative use of the home-based play child to child model in increasing transition of young children from pre-primary to early grades of primary school.

Methods

This study adopted the cross-sectional research design under the qualitative approach. For the action research, in-depth interviews, participant observation, focus group discussions with parents, case study, document analysis and participant narratives were used to support triangulation (Patton, 1999). Quantitative methods, such as surveys, checklists, , and report cards were used to provide another perspective, and particularly when doing impact evaluation. A total of 1,400 children participated in this study. While the centres were purposively selected, 25 children were randomly selected from each of the four centres.

Results/Findings

Responses from the Children

Based on the responses provided, it seems that football is the most commonly mentioned game that can be taught. Additionally, skipping and bolingo also received multiple mentions. Other games mentioned include netball, counting games, rolling bicycle wheels and tires, and recitation and singing games. It's worth noting that some responses were unclear or not specific enough to determine which game was being referred to. Also, one response mentioned cooking using clay or plastic containers, which is not a game but an activity. Overall, it appears that football, skipping, and bolingo are the most popular games that people feel confident teaching.

Based on the responses provided, it seems that many of the strategies for teaching involve demonstration or modelling of the activity. This includes demonstrating with hands, drawing, playing with the children, singing or clapping, and rolling objects to show how to do it. Other strategies mentioned include dividing the children into groups, using counting sticks or other props to show how to count, and using the rote method (repetition and memorization). Some responses also mentioned the importance of following the children's lead and asking questions to understand their level of knowledge and skill. It's worth noting that a few responses did not provide a specific strategy for teaching, or simply stated that the person will play with the children or demonstrate first before asking them to do it. Overall, it appears that demonstration and modelling are key strategies for teaching in this context, along with engaging the children through play and song.

Based on the responses provided, there are several ways to tell whether the children have learned what has been taught. Some of these include observing their behaviour, seeing their work (such as clean plates or a clean compound), checking whether they can count, and asking them to demonstrate what they have learned (such as singing a song or playing a game). Other responses mentioned listening to the children (such as when they are singing or playing), marking their work or exercises, and watching them jump or handle each other. A few responses did not provide a specific way to tell whether the children have learned, or simply stated that the person will see them or listen to them to determine whether they have learned. Overall, it seems that observation and assessment of the children's performance are key ways to tell whether they have learned what has been taught.

The qualitative findings from the interviews with the community members indicate that there is a need for more education and support for the children in the community. The majority of the community members expressed a desire for the children to have access to educational materials, such as books, pencils, chalk, and chalkboards. They also expressed a need for play materials, particularly balls, and materials for music, such as drums and shakers. Many community members also expressed a need for support in teaching the children. Some requested assistance in developing teaching skills, while others requested specific materials or tools, such as counting sticks or skipping ropes. A few community members expressed a desire for financial support to cover school fees or to purchase materials for themselves or their children. Overall, it is clear that there is a need for more resources and support for education and play in the community.

Providing access to educational materials, play materials, and support for teaching skills could help to improve the educational opportunities and outcomes for children in the community.

Responses from parents

Children have the ability to be teachers and guides for other children in a variety of ways. For example, they can lead activities in the centre, play together, and use the knowledge and skills they have acquired to teach other children. Younger children can learn from older children who still have a childlike mentality, making it easier for them to interact well and learn from each other. Children can also teach modelling, create materials using local resources, and teach local languages. They can teach younger children about sanitation and home activities, like bathing and washing utensils. They can also look after domestic animals and teach counting and drawing to young ones.

In addition to these practical skills, children can also teach manners, direct play activities, and support physical exercises. By freely mixing with each other, they can learn from their peers and share ideas. Children can teach names of things and ask children to repeat, teaching young children about their environment.

Children can also teach new languages, draw and model play materials, and play games like skipping. By teaching each other, they can develop a sense of responsibility and leadership. It is important to recognize the unique skills and knowledge that children possess and to encourage them to share and teach these to their peers in a safe and supportive environment. Children have a lot to offer each other and can learn from each other in meaningful ways.

After analysing the responses of the participants, it was found that children can engage in a variety of activities that can be used to teach other children. These activities range from playing football, modelling, singing, washing plates together, to playing in the form of cooking and sweeping the centre. Children can also build their playing houses, practice leadership, parenting, and teach each other as they play.

In terms of teaching academic skills, children can teach their peers how to sing the alphabet, interact with others, write and speak English, and play local games. They can also teach them how to write letters and numbers, draw pictures, and learn numeracy and writing skills. In addition, children can share ideas, write stories, and play different games to enhance their skills and knowledge.

The children can also engage in role-playing activities like cooking, counting numbers, and sharing how to write. They can be taught how to read and write small words, letters, and numbers. Additionally, they can model and draw play materials, sing songs, and engage in drama, riddles, and news activities. Children can also play different games and practice physical activities such as jumping ropes, swinging, playing football, and skipping.

It was also observed that children are happy and enthusiastic when being taught by their peers, with some even referring to them as “teacher.” Overall, it is essential to recognize the value of peer-to-peer learning and encourage children to share their knowledge and skills with their peers in a supportive and safe environment. Through these activities, children can develop their leadership and teaching skills while enhancing their academic and social abilities.

The respondents provided various ways to support children in their teaching roles. One way is to encourage them to come to the learning centre whenever they are scheduled to teach, and to motivate them by thanking them for their efforts. Additionally, parents and guardians can advise children not to be harsh to other children and to make friends with the young learners.

Parents and guardians can also guide their children by advising them to do exactly what they have been asked to do and to dress in uniform.

They can also encourage children to use English so that younger learners can also learn the language. It is essential to advise children to have respect for younger children and concentrate on studying rather than playing. Providing scholastic materials, supporting youth facilitators (YF) to encourage ECD children to attend school, and providing food rations can also be helpful.

Guidance and support for YF can also be beneficial. Parents and guardians can guide and support YF in locating and collecting local resources for making resources and provide scholastic materials like textbooks to support young learners. They can also train YF in basic teaching skills, morals, and children management skills.

Another way to support children is by providing playing materials and buying them scholastic materials. Parents and guardians can also encourage and tell the child they are now a teacher, which will motivate the child. Giving ideas and a token of appreciation can also encourage children to continue teaching.

Parents and guardians can also guide their children on how to relate to others and teach new songs and alphabets. Additionally, they can advise children to handle other children with care and provide them with the necessary support to continue their teaching role, such as buying them scholastic materials or giving them money to boost their morale.

The participants were asked how they would like their children to be supported in their education. One of the common suggestions was to teach the children how to teach others, which would improve their leadership and communication skills. Some also suggested visiting and observing their children's progress in school and designing activities specifically for them. Others recommended giving simple gifts like sweets, books, and pencils to appreciate their effort in learning.

Many participants emphasised the importance of providing basic scholastic materials such as books, pens, and mathematical sets. Some suggested buying the children uniforms to make them feel proud and more confident in school. Others recommended paying school fees up to a certain level depending on the one sponsoring the child.

The idea of providing scholastic materials and paying school fees was popular among the participants. Some suggested educating the child and supporting the young learner to continue their education. The participants also recommended giving guidance and counseling to the children, which would help them to have a clear direction in their studies.

Participants also suggested offering rewards and incentives to motivate the children. Some recommended giving money or edibles to make the child feel good about their efforts. Others recommended buying a cake or soda to celebrate their achievements. Overall, the participants showed a strong desire to support their children's education in any way they could.

Response from teachers

"We haven't collaborated with any other schools yet, but we do have a good system for bringing children to our school for learning. However, we are open to exploring exchange visits and sharing learning materials with other schools in the future."

"There are various types of collaboration that we can engage in to improve the learning experience of our children. We can have joint activities such as sharing meals, attending the same liturgy, and holding events that make them get used to each other. We can also have exchange visits, introduce lower primary school teachers to the young children and take children from the centre to visit the children in the primary school. Additionally, we can continuously assess the children's progress and share learning materials such as games, music, and drama competition. It's important to involve parents and mobilize them to enrol their children for ECD to ensure a smooth transition.

Ultimately, both the teachers and children from both the nursery and primary schools need to associate and interact with each other to promote effective learning. We follow the pre-primary syllabus and pupils are encouraged to come and share with others, teach each other games and songs, and learn how to read and write."

"There are several child-to-child activities that we encourage to promote socialization, creativity, and learning among our children. For play activities, we encourage playing together, sorting games, shading pictures, and teaching each other in doing household chores. Children can engage in free modelling, free drawing, use of charts on their own, and making toys. We also have modelling and playing, sand and water play, gardening that involves watering and caring for plants, and playing games, some lessons such as health habits and knowing the environment. In terms of learning activities, children can engage in story-telling, news, constructing using play materials such as bottle tops, and activities that involve singing, reading, writing, sharing, and counting. We provide play/learning materials and encourage football for boys, rolling wheels, and playing with dolls. Additionally, we have group work in class, grouping in Art and craft according to ability, and good readers helping the time takers. We also encourage role-playing, demonstration, and drama/role playing to enhance the children's communication skills and creativity."

"Parents can provide various forms of support to enhance their children's learning experience. They can contribute playing materials and learning materials such as crayons and other writing materials. They can also talk to their children, provide scholastic materials, and feed the children. Parents can come and talk to the children during assembly to provide encouragement and motivation. In addition, parents can teach their children weaving, stories, making dolls, riddles, and singing. They can also allow their fellow elder children to associate with children in the center, escort children to and from school, and convince their children to help each other. Parents can provide firewood, porridge, and time to assist in the children's learning process. Furthermore, parents can provide readers and materials to use at school. They can teach their children rhymes, riddles, and stories and help them to scribble to enhance their writing skills. Ultimately, parental support is crucial in promoting effective learning and development of their children."

"As a teacher or educator, there are various roles that I can play to promote effective learning and development of children. I can supervise the children as they do the activity, encourage their participation, teach them how to socialize in the centre, and provide them with the necessary materials to do the activities. I can also mobilize primary school children and identify primary children to support HLCS. Additionally, I can guide and counsel the children on the benefits of education through role-playing. Furthermore, I can teach sharing, playing together, and storytelling. To promote a conducive learning environment, I can welcome other children to the centre, encourage bright learners to help slow learners, and ask children with skills such as making brooms, pots, and weaving to teach other children who do not know. I can also encourage parents to avoid absenteeism of their children. Moreover, I can give materials, provide activities, and make materials available to the children. Using a child-to-child approach, I can create an activity and involve the children, demonstrate games to them, and illustrate how to write to enhance their learning experience."

"We can work together to ensure that children receive the necessary support for their education. This includes providing enough play and learning materials at the centre, mobilising parents to enrol their children in ECD centres and primary schools, sensitizing parents on the importance of education, and ensuring that children have access to learning materials. We can also work together to encourage child-to-child learning and to monitor children's attendance and progress in school. By supporting each other, we can create a better future for our children."

Conclusion: From the findings of the study, use of child-to-child pedagogy enables children to get ready for transition through engaging in useful play with other community members with whom they may go to the same school when they transit.

Recommendations: Stakeholders should embrace child to child pedagogy so as to enable children's transition readiness.

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Sub-Theme 2 :
ICT Revolution in Education

Unpacking ICT Readiness and Students' Preparedness for National Examinations During the COVID-19 Pandemic in Uganda: A Case of Kamuli and Jinja Districts of Uganda

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Abstract

Although the advent of the novel COVID-19 pandemic led to disruptions to education in Uganda, it also widened the scope and role that information and communication technology (ICT) can play in education. There was always a negative attitude towards embracing technology in teaching and learning, for purported reasons such as financial constraints, insufficient technical skills, insufficient equipment, inadequate management support, school culture, perceived usefulness, it is time-consuming, and others. This study set out to establish the extent of readiness to use ICT in the absence of physical class interaction that was not possible owing to intermittent total lockdowns. The objectives of the study were: to examine the relationship between ICT infrastructure and student preparedness for national examinations; to investigate the relationship between technological skills and student preparedness for National examinations; and to assess the relationship between management support and student preparedness for national examinations. The study employed a cross-sectional research design, data were collected and analysed quantitatively using descriptive and inferential statistics by means of the Pearson chi square analysis of independence. The key findings revealed that the students' performance was independent of ICT infrastructure (P value=0.992>0.07), technological skills (P value=0.143>0.07) and management support (P value=0.075>0.07), which implies that the students were not prepared to use ICT as part of their preparation for national examinations. The study may be of significance to curriculum developers, the Ministry of Education and Sports (MoES) and policymakers, society and school administrators. The study thus recommends that MoES and curriculum developers should embed and embrace the uptake of ICT as part of instruction in the schools of Uganda to prepare for similar education disruptions.

Keywords: ICT infrastructure, ICT readiness, lockdown, management support, student preparedness

Introduction

Education is a continuous process that is evidenced by progression from one class to another and from one cycle/level to another. This means that the education trajectory should not be disrupted regardless of any circumstance. There should be a possible creative or innovative mechanism to ensure that education continues amidst disruptions. Jinja and Kamuli district , where this study was carried out, are among the twenty-two district found in the Eastern Region of the Republic of Uganda. They border the Buganda Region and are separated by the Nile River.

They form an urban setting but with secondary schools that possess the characteristics of both urban and rural settings. The variations in the state of secondary schools (rural-urban settings) facilitated the selection of samples from these districts without compromising the quality of the findings. The study, therefore, aimed to establish if the innovative ICT learning mode helped the students to proceed with learning during the lockdowns and to show if the students were prepared for the introduction of such a learning mode ahead of sitting for their Uganda Certificate of Education (UCE) national examinations.

Background

Globally, ICT is recognised as a tool for improving teaching and learning (Midila, 2021). ICT usage includes, but is not limited to, both new and old communication technologies such as radios, televisions, computers, fax, scanners, print media and the internet (Mukhula, Manyiraho, Atibuni & Olema, 2021). However, in the past, there has been continuous neglect and fear surrounding the use of technology-enhanced teaching and learning, especially in Uganda's education system (Kizito, 2019; Nyakito et al., 2021). Some teachers have always had insufficient ICT devices, and harboured a negative attitude towards learning and using ICT skills in teaching (Keirungi, 2021). Technology-enhanced learning was only left to the international schools and some higher education systems, but these institutions had the intention of attracting more students and ensuring convenience in learning for those who were not able to physically access the institutions.

Students' preparedness to use ICT-enhanced learning can be assessed from equipment capability, technology skills, self-directed learning skills and motivation (Widodo, Wibowo & Wagiran, 2020). The readiness of the institution and the management as a whole is also critical when introducing ICT as a learning mode. The institutional readiness must be considered before considering the adoption of e-learning and ICT usage, as this will determine its likelihood of success (Blacer-Bacolod, 2022). The lack of integration of ICT has greatly affected the elementary levels of learning as well as the secondary levels. This became glaring at the advent of the novel Covid-19 pandemic which hit the whole world and all businesses, including schools. This sent the schools and other education institutions into forced recess precipitated by unprecedented and intermittent total lockdowns, which were enforced in an effort to curb the spread of the deadly and contagious virus. It is estimated that 64.6% of the world student population was affected by the lockdowns (UNESCO, 2020) and in Uganda about 73,000 education institutions, 548,000 teachers and 15 million learners were directly affected by the school closures (MoES, 2022). There was a need to continue with learning and teaching in a remote way because it was not clear when the education institutions would re-open, given that the virus was still spreading and the education calendar would be disrupted. Some parents even feared that their children were over-growing, surpassing the age which they presumed to be appropriate for the given classes. It was evidently safer to study using ICT devices that allowed real-time interaction between the teacher and the learners.

After receiving clearance from the education ministry, it was determined that the innovative way to continue with the education processes despite the halt to education, was to use technology-enhanced learning for schools, colleges and universities because it was possible without necessarily having learners converge in schools. However, the first anticipated and relatively cheaper strategy, which was to use radios and television to deliver lessons to these affected learners, hit a dead end as some regions purportedly did not have access to a radio or television set, while others claimed that they lacked electricity and network reception for the radios and televisions in their areas, and still others feared the lack of concentration on the lessons aired on such devices. In June 2020, the Government of Uganda (GoU) through the Covid-19 Emergency Education Response Project (CERP), sought a $14.7 million grant from the Global Partnership for Education (GPE) to cushion and mitigate the impact of Covid-19 through supporting continuity of learning during lockdown in the pre-primary, primary and lower secondary levels of education (MoES, 2022).

To the National Curriculum Development Centre (NCDC), the integration of ICT in teaching and learning is one of the aspirations for the new reforms in the education curriculum, especially at the lower secondary level. This, therefore, was a blessing in disguise regarding the implementation of such reforms in view of the technophobia that has permeated in the teaching fraternity. However, in this paper we hypothesise and argue that the use of ICT to enhance teaching and learning, especially at the lower levels of learning such as secondary schools, did not favour the entire school system equally and, therefore, undermined inclusivity as a critical principle for education access across the globe. In fact, as Atwine (2021) posits, the reality was that most school children were not learning. Could this be attributed to internet accessibility and ICT issues? For example, according to the Uganda Communications Commission (UCC), Uganda has the highest priced internet in the East African region. In Uganda, for instance, buying a gigabyte of data costs approximately $2.75, as compared to Kenya ($2.48), Rwanda ($2.25) and Tanzania ($2.25). This makes the application of ICT very difficult for learning, especially in the rural schools. Some of the critical questions that one should be asking are: Were the learners ready for the uptake of ICT in learning at that time? This includes the resources, the physical ICT infrastructure, the internet connectivity and/or the general acceptance of this approach to teaching. Or was there continuity and/or sustainability of the ICT-led education drive in the schools even after the restrictions and lockdowns were lifted or eased? These questions inspired taking up such a study in the selected distrICT of Jinja and Kamuli and, alongside the research questions, informed the analysis and interpretation of the findings.

Significance of the Study

The study may be of significance to the following:

i) **Curriculum developers**

The component of ICT in teaching and learning is very critical. Therefore, the findings of this study may be of significance to the curriculum developers at NCDC in the light of the need to incorporate ICT in all the curriculum documents, especially ICT-enhanced assessments so that the learners can get to learn ICT and, therefore, be able to apply it in national examinations or even later in the world of work.

ii) **School administrations**

The findings of this study may be of significance to the various schools, especially those where the study was carried out. The findings may show how ready or unready their students were prior to sitting the national examinations. This may motivate the school administration to set up mechanisms that enhance ICT readiness on the part of students for a similar education disruption or even for the development of ICT skills among their students and teachers.

iii) **MoES and other policymakers**

Introducing ICT for learning is fundamental for quality education, especially at secondary level, but students' readiness to use the ICT is another factor. The findings of this study may inform the MoES and policymakers on the best ICT infrastructure that works for all regions and schools in Uganda, taking into consideration the power and internet accessibility requirements, as well as the skills that the teachers and students may need to implement ICT use in teaching and learning transactions.

iv) **Society**

The members of the community/society may not be aware of the role and the type of ICT that may be used for teaching and learning. For instance, society may undermine some ICT equipment such as radios, televisions and mobile phones as potential learning equipment. The findings may, therefore, educate the society on utilising the unknown ICT tools in education and training.

Objectives of the study

The main objective of the study was to establish the extent of students' readiness to use ICT in the absence of physical class interaction in Kamuli and Jinja districts of Uganda.

The study was guided by the following specific objectives:

a) To examine the relationship between ICT infrastructure and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

b) To investigate the relationship between technological skills and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

c) To assess the relationship between management support and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

The study sought to test the following null hypotheses:

$H_0 1$ There is no relationship between ICT infrastructure and students' preparedness for National examinations in Kamuli and Jinja districts of Uganda.

$H_0 2$ There is no relationship between technological skills and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

$H_0 3$ There is no relationship between management support and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

Statement of the problem

In the entire world, the outbreak of the deadly Covid-19 viral disease caused disruptions to education, which was facilitated by the total lockdowns, very strict health protocols and tight restrictions (Blacer-Bacolod, 2022), all geared towards curbing the spread of the disease as a result of congregation. The government thought of ensuring continuity of learning by developing and distributing home-learning materials to the 15 million affected learners. However, only 20% of the self-study materials for learners in P1–P7 and S1–S4 were printed and distributed (Atwine, 2021). In order to promote real-time learning, virtual learning using ICT was the alternative to widen the catchment area of teaching and learning. The sudden shift from conventional classroom learning to online learning did not provide ample time for teachers and/or learners to prepare themselves for this transition to a new learning transaction. This was marked by inadequacies associated with high costs of the internet, limited bandwidth, shortage of skilled personnel, technological illiteracy among the population and inadequate infrastructure (Tumwesige, 2020), for which the learners, teachers and government were not prepared for. Although, accessibility to ICT remains a serious global concern, the problem of phobia of new technologies is another challenge (Midila, 2021). The National IT Survey of 2017/2018 found that 65.3% of the households owned a radio, 21.8% owned a television, while only 5.9 % had access to a computer at home (NITA, 2018). This brought about a digital divide between the urban and rural learners who couldn't access the internet and electricity. For instance, Uganda's internet penetration is 29.4% compared to Tanzania's 38% and Kenya's 53% (Why internet is so expensive in Uganda, 2022). This clearly demonstrates the unpreparedness for the ICT-enhanced learning as an intervention to continue with learning. The problem at stake, therefore, is to understand the ICT preparedness of students as well as the lessons learnt, from which to draw conclusions and recommendations for future preparedness, and help redirect the policy of education reforms in Uganda. Otherwise, the reforms may not be possible without a robust ICT practice and culture in the schools of Uganda.

Literature Review

COVID-19 became synonymous with technology and the gaps associated with learning during the total lockdowns, which were attributed to the digital divide between rural and urban areas (Fanelli, Cajuste, Cetta & Amanya, n.d.) as well as the size of the schools in terms of enrolment. During the Covid-19 total lockdowns in the entire world and specifically in Uganda, strategies were put in place to ensure continuity in learning, of which some turned out to be feasible while others did not bear any fruit. This was allegedly and mainly attributed to insufficient students' readiness for e-learning.

In this paper, we conceptualised ICT readiness as the perception and experiences that the learners got after exposure to this kind of learning transaction, which the majority were going through for the very first time. For instance, Bhaumik and Priyadarshini (2020) carried out a study using quantitative descriptive survey on 100 students in Delhi to establish their e-readiness for online learning during the Covid-19 lockdown. Their findings found that access to online learning was high, but the teachers' online delivery skills and the learners' digital skills were lacking.

Even before the advent of Covid-19 and the subsequent disruptions to education that led to the total lockdown and closure of education institutions, ICT was significantly associated with the students' academic performance. In a study by Osagie et al. (2019) on the role of ICT in the academic performance of postgraduate students at the university of Benin, the findings revealed that there was a significant difference between the users and non-users of ICT facilities in academic activities. The study established that there is a positive impact of ICT on students' academic performance. Whereas their study poses both a contextual and knowledge gap (having conducted their study on postgraduate students and in another country), these findings can be in concordance with the role that ICT adoption can play in the academic performance of secondary school students in Uganda.

In a conceptual paper by Midila (2021) to establish the role of ICT-enhanced instruction during the Covid-19 lockdown in Nigeria, the findings revealed that as a result of the use of technology-enhanced accessibility and the quality of education, courses were taken online at a lower and cheaper cost than in the traditional physical learning environment. However, whereas the author states the barriers to ICT-enhanced learning, there is no finding to reflect the ICT readiness of the students as proposed by the current study.

Mukhula et al. (2021) carried out a study to determine the level of ICT readiness and ICT policy implementation in secondary schools in Mayuge district, using the cross-sectional survey design and a sample of 232 secondary school teachers. The study revealed that there was a moderate level of ICT adoption readiness and a moderate level of ICT policy implementation, and a significant moderate positive relationship. However, in the study, the sample was comprised of teachers, who are the implementers of the ICT-enhanced learning, wit the students and their experiences as recipients of the ICT services not being considered at all in the study. The current study intended to collect data on the students' readiness for ICT during the Covid-19 lockdown. This study chose students as a single unit of analysis because it is the students who may have faced difficulties with the transition to ICT technology in learning during the lockdown.

The slow rate of ICT adoption prior to the Covid-19 lockdown was facilitated by the high cost of the internet and ICT gadgets. For instance, in a study by Eton and Chance (2022) on university students to illustrate how e-learning is used in Uganda, the findings revealed that e-learning approaches at universities favourably correlated with financial implications, and some academic staff lacked e-learning training. However, the students reported that e-learning eased communication between them and their lecturers, although they reported that the internet and ICT gadgets were expensive.

A study carried out by Kagoya (2020) in Uganda and Tanzania on the use of digital transformation to address the education challenges brought by Covid-19 revealed that there was an increase in digital transformation in home and personal learning among students who had earlier on faced challenges of technophobia. It is pertinent to establish the extent to which students were ready for ICT integration during the Covid-19 lockdowns. For instance, in an effort to establish whether ICT was being integrated in the teaching and learning process in secondary schools in the Kigezi Region, Mbabazi and Nafizi (2022) carried out a study to establish the integration of ICT in teaching and learning. The study employed a quantitative approach and was guided by the MICTIVO model of ICT integration. The results revealed that ICT was not being used in the teaching and learning process and that most of the ICT infrastructure was not available in the schools and most of the respondents lacked ICT skills. On the other hand, Baluku and Kasujja (2020) carried out a mixed-methods study to establish ICT usage and its influence on students' academic performance in UCE in Kasese district. Using a sample of 291 respondents, a cross-sectional research design and a chi square test for analysis, their study established that accessibility to ICT resources in teaching influences the academic performance of students. Their study also revealed that the utilisation of ICT infrastructure influences students' academic performance in UCE secondary schools in Kasese district.

This, therefore, accounts for the perceived low readiness in some schools at the advent of the total lockdowns which were facilitated by the Covid-19 disease outbreak. The study by Mbabazi and Nafizi was in concordance with the one by Keirungi (2021) which posits that inadequate devices, fear to use ICT and lack of interest to learn ICT skills hindered the ICT integration and, therefore, uptake of ICT as a mechanism for teaching in preparation for national examinations during the Covid-19 total lockdown.

Methodology

Research Design

The study employed a cross-sectional research design to establish the associative relationships between the variables of the study, utilising the quantitative approach of inquiry. According to Creswell (2009), a research design is a plan and procedure for research that span the decisions from broader assumptions to detailed methods of data collection and analysis. Creswell stresses that the orientation, type and nature of a particular study determine the choice of a particular research design. In this case, we aimed at establishing the relationship between the different variables conceptualised in this study to come up with conclusions on future students' ICT readiness and preparedness for unprecedented situations that may lead to education disruption.

Research Approach

The study took a quantitative approach to data collection and analysis. The approach was chosen because it aided the researchers to collect plentiful data in real time, and to establish a statistical relationship between the study variables which helps in the generalisation of the research findings to the entire population under study.

Data Collection Instruments

A five-point Likert scale self-administered questionnaire was administered to the students in the selected schools and the respondents filled them in and they were collected immediately.

Sampling and Sampling Procedure

The study utilised the simple random sampling technique of schools and respondents in order to minimise the possibility of bias during data collection.

Target Population

The study targeted 'A' level students in Senior Six from schools that were randomly selected in Kamuli and Jinja districts of Eastern Uganda. These were targeted because they were the ones affected directly by the lockdown and subjected to the virtual technology mode of learning prior to sitting their UCE examinations. This is justified by a study by Mukhula et al. (2021), which concluded that secondary schools in Mayuge (one of the Eastern Region districts) were in the early stages of domestication of ICT and ICT policy implementation.

Sample Size

The size of the population of the students was unknown at the time of carrying out the study. Therefore, the study utilised the Cochran formula (1977) for determining the sample size of an unknown population. If the population size is unknown, the population proportion is also unknown (Uakarn, Chaokromthong, & Sintao (2021).

Where: *n* = sample size

z = 1.81 (z score at 93% confidence level)

e = 0.07 (desired level of precision)

= **167 students**

Data Processing

The data collected was cleaned for inconsistencies, coded and entered into the computer for analysis.

Data Analysis

Descriptive statistics were used to analyse the demographic data, while inferential statistics of a chi-square test of dependence and multiple regression analysis were used to analyse and establish the associative relationships with the aid of STATA version 15.0 statistical computer software. Because the data was categorical in nature, this justified a chi-square test of independence and later multiple regression analysis to establish the level of dependence between the variables in the study.

Response Rate

Out of the sample of 167 students supplied with questionnaires, 153 returned the questionnaires, representing a response rate of 92%. The high response rate was attributed to guided supervision when filling in the questionnaires. According to Nulty (2008), a response rate of 60% or higher is appropriate. Creswell (2012) also concurs that survey researchers seek high response rates from participants so that they can have confidence in generalising the results to the population they are studying.

Descriptive Analysis

The respondents were asked the grade that they scored at their UCE level to establish if the lockdown and the subsequent introduction of ICT as a teaching and learning strategy had affected their performance. The following were the findings based on the items measured during the study:

Performance at UCE Level Examinations

The respondents were asked to respond to the grade that they scored during their UCE examinations. The purpose of this was to establish if the lockdown had affected their performance in the examinations. This was also intended to establish if the innovation of ICT as a mode of learning in preparation for their examinations had any influence on how they performed.

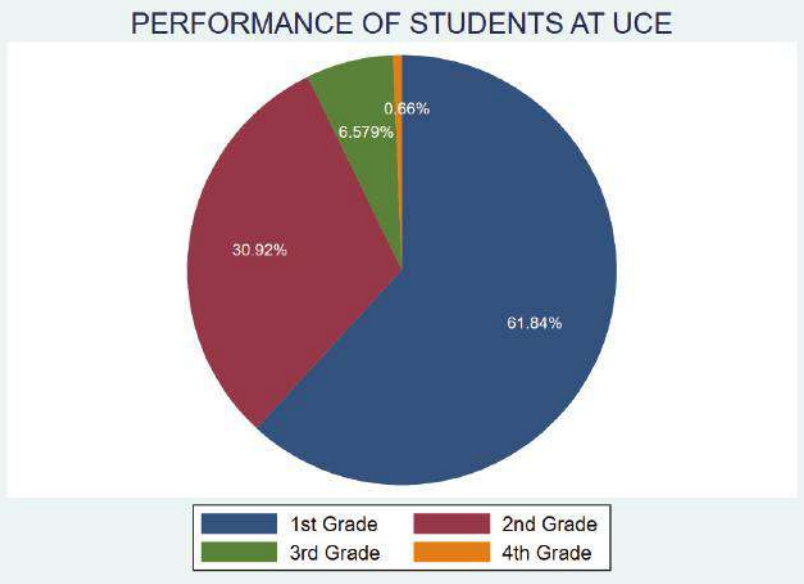

Figure 1: Pie chart showing the performance of the students at UCE level

From a total of 153 respondents, the results reveal that 61.84% reported to have attained a 1st grade at their UCE examinations sat in 2021. This was followed by 30.92% of the students who reported to have scored a 2nd grade, 6.579% scored a 3rd grade, while only 0.66% of the students reported to have scored a 4th grade in the examinations.

This led to further investigation of what ICT resources they had used during the lockdown for purposes of learning ahead of their preparations for the UCE examinations.

Usage of ICT resources

Table 1: The responses on the ICT resources that the students used during the lockdown

ICT Resources	Frequency	Percentage
Radio	54	16.36
Television	86	26.06
Phone	89	26.97
PC / Laptop	28	8.48
Internet	57	17.27
None	16	4.85
TOTAL	**330**	**100.00**

Source: Field data, 2023

The respondents were asked about the ICT resources they used during the lockdown for purposes of learning in preparation for the national examinations. The responses were based on a multiple-response question. The findings revealed that television and the phone were the most widely used

ICT resources by the students, at 26.06% and 26.97%, respectively. There was also a negligible difference between access to the internet and access to radio as ICT resources, which were reported at 17.27% and 16.36%, respectively. A few of the respondents had used personal computers or laptops for learning purposes, at 8.48%, while 4.85% of the respondents reported not having had access to any ICT resources during the lockdown for learning purposes.

Chi square test of independence

A chi square test of independence was run between the two categorical variables performance of students at UCE and access to ICT – resources to test for the presence of a relationship between the two. The results are presented in Table 2.

Table 2: The chi square test of independence between access to ICT resources and students' performance at UCE

Performance of Students At UCE	Access to ICT Resources for Learning Purposes During the Lockdown		
	NO	YES	Total
1st Grade	6	88	94
2nd Grade	7	40	47
3rd Grade	2	8	10
4th Grade	1	0	1
Total	**16**	**136**	**152**

Source: Field data, 2023

Pearson chi2(3) = 12.1181 Pr = 0.007

According to Table 2 above, the results of the test revealed a P value of 0.007, which is less than 0.07 (P value =0.007<0.07) at 93% level of significance. This indicates that there is a statistically significant relationship between performance and access to ICT resources. This was in line with the study by Osagie et al. (2019) that there is a positive impact of ICT on student performance. This calls for MoES and the school administrations to endeavour to integrate ICT in all learning activities if the students are to be ready for its use and preparation for national examinations. This was also similar to the findings by Baluku and Kasujja (2020) that accessibility to ICT resources in teaching influences the academic performance of students.

Binary logistic regression

Binary logistic regression was run at the multivariable level. It is a model that shows whether performance of the students in UCE national examinations was dependent on all or any of the three variables in the study, that is ICT infrastructure, technological skills and management support. However, the findings after further analysis revealed that performance of the students was independent of ICT infrastructure, technological skills and management support.

Table 3: Logistic regression between student preparation and ICT readiness for national examinations

Logistic regression	Number of obs	=	153
	LR chi2(3)	=	5.35
	Prob > chi2	=	0.148
Log likelihood = -48.584433	Pseudo R2	=	0.052

Access to ICT resources for purposes of learning in preparation for UCE examinations	Coef.	Std. Err.	Z	P>z	[93% Conf. Interval]	
ICT INFRASTRUCTURE						
Yes	0.0077	0.8129	0.01	0.992	-1.5856	1.6010
TECHOLOGY SKILLS						
Yes	1.5815	1.0810	1.46	0.143	-0.5371	3.7002
MANAGEMENT SUPPORT						
Yes	-2.1408	1.2005	-1.78	0.075	-4.4937	0.2121
_cons	2.6706	1.0464	2.55	0.011	0.6198	4.7215

The model revealed that ICT readiness explains only 5% of the variations in the performance of the learners during the UCE examinations of 2021. This implies that ICT had a very minimal impact on the students' performance at UCE examinations. However, the study by Mukhula et al. (2021) to determine the level of ICT readiness and ICT policy implementation in secondary schools in Mayuge District revealed that there was a moderate level of ICT adoption readiness and a moderate level of ICT policy implementation. Therefore, the hypothesis was tested as follows:

$H_0$1 There is no relationship between ICT infrastructure and students' preparedness for national examinations in Kamuli and Jinja districts of Uganda.

The study revealed that the P value was 0.992, which is greater than 0.07 (P value 0.992>0.07) at 93% confidence level. Thus, we accept the null hypothesis that there is no relationship between ICT infrastructure and students' preparedness for national examinations in Kamuli and Jinja districts of Uganda. This implies that there is no statistically significant relationship between ICT infrastructure and students' preparedness for national examinations. However, this was inconsistent with the finding by Baluku and Kasujja (2020) in a study to establish the influence of ICT infrastructure on academic performance in Kasese district that revealed that the utilisation of ICT infrastructure influences students' academic performance at UCE in secondary schools.

$H_0$2 There is no relationship between technological skills and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

The study revealed that the P value was 0.143, which is greater than 0.07 (P value 0.143>0.07) at 93% confidence level. Thus, we accept the null hypothesis that there is no relationship between technological skills and students' preparedness for national examinations in Kamuli and Jinja districts of Uganda. This, therefore, implies that there is no statistically significant relationship between technological skills and students' preparedness for National examinations in Kamuli and Jinja districts of Uganda. This implies that there is no statistically significant relationship between management support and students' preparedness for national examinations.

$H_0$3 There is no relationship between management support and student preparedness for national examinations in Kamuli and Jinja districts of Uganda.

The study revealed that the P value is 0.075, which is greater than 0.07 (P value =0.075>0.07) at 93% confidence level. Thus, we accept the null hypothesis that there is no relationship between management support and students' preparedness for national examinations in Kamuli and Jinja districts of Uganda. This implies that there is no statistically significant relationship between management support and students' preparedness for national examinations.

This is further indicated by the independence of performance on ICT infrastructure, technology skills and management support, whose P values were all greater that 0.07 at 93% confidence level i.e., P value = 0.992, P value = 0.143 and P value = 0.075 respectively. This is an indication that the students were ill prepared to use ICT for learning purposes during the lockdown in preparation for UCE examinations. The detailed analysis of the models is presented in the following tables;

Table 4: Logistic regression between ICT infrastructure and access to ICT resources for learning purposes during the lockdown

Logistic regression	Number of obs = 140
	LR chi2(4) = 11.69
	Prob > chi2 = 0.0198
Log likelihood = -39.667596	Pseudo R2 = 0.1284

Access to ICT resources for learning purposes during the lockdown	Coef.	Std. Err.	Z	P>z	[93% Conf. Interval]	
The integration of ICT in teaching and learning impacted my performance in UCE examinations.						
Yes	0.2861	0.6851	0.4200	0.6760	-0.8408	1.4129
Access to ICT resources improved my critical thinking skills and problem-solving abilities in preparation for UCE examinations						
Yes	-2.2379	0.7219	-3.1000	0.0020	-3.4253	-1.0505
Access to ICT resources positively affected my motivation to learn and preparation for UCE examinations						
Yes	0.7281	0.7037	1.0300	0.3010	-0.4294	1.8857
Students in schools with ICT infrastructure were better prepared for UCE exams than those without						
Yes	-0.1944	0.6212	-0.3100	0.7540	-1.2162	0.8274
_cons	3.0081	0.6204	4.8500	0.0000	1.9876	4.0286

Table 3 above indicates that ICT infrastructure accounts for only 12.84% of the variation in students' performance. There is a statistically significant relationship between access to ICT resources for purposes of learning and an improvement in their critical thinking skills and problem-solving abilities in preparation for UCE examinations since its P value was less than 0.07. (P value= 0.002<0.07) at 93% confidence level. An increase in access to ICT resources for purposes of learning would lead to a 2.2379 reduction in the critical thinking skills and problem-solving abilities of the learners. Owing to the presence of opportunities to access ICT resources, the students may not create room to think and enhance their problem-solving skills.

Table 5: Logistic regression between technological skills and access to ICT resources for learning purposes during the lockdown

Logistic regression	Number of obs = 136
	LR chi2(4) = 10.77
	Prob > chi2 = 0.0956
Log likelihood = -32.818017	Pseudo R2 = 0.1410

Access to ICT resources for learning purposes during the lockdown	Coef.	Std. Err.	Z	P>z	[93% Conf. Interval]	
I was confident using technology for studying and preparing for UCE exams						
Yes	1.0654	0.7811	1.3600	0.1730	-0.2195	2.3502
I used technology for educational purposes even before covid-19						
Yes	-0.5626	0.7068	-0.8000	0.4260	-1.7252	0.6001
I received formal training on the use of ICT in preparation for learning during covid-19 lockdown						
Yes	-0.1601	0.7051	-0.2300	0.8200	-1.3198	0.9996
Knowing how to use ICT helped me to study and prepare for UCE exams						
Yes	-1.1637	0.7298	-1.5900	0.1110	-2.3641	0.0366
Students who were able to use ICT had an advantage in preparation for UCE exams						
Yes	-1.4301	0.8433	-1.7000	0.0900	-2.8171	-0.0430
Technology will impact education and exam preparation in the future						
Yes	-0.4492	0.8676	-0.5200	0.6050	-1.8763	0.9779
_cons	4.4258	1.1483	3.8500	0.0000	2.5370	6.3146

Table 4 above indicates that technological skills account for only 14.10% of the variations in students' performance. It further revealed that the students' performance is independent of the presence of technological skills among the learners. This was based on the fact that there is no statistically significant relationship between technological skills and students' performance at 93% confidence level. That is, all the P values were greater than 0.07. Regardless of the students having not had technological skills, they still performed well in the UCE examinations, considering that the majority passed in 1st and 2nd grades, i.e. 61.84% and 30.92%, respectively.

Table 6: Logistic regression between Management support and access to ICT resources for purposes of learning during the lockdown

Logistic regression	Number of obs = 150
	LR chi2(4) = 7.78
	Prob > chi2 = 0.1685
Log likelihood = -47.031223	Pseudo R2 = 0.0764

Access to ICT resources for learning purposes during the lockdown	Coef.	Std. Err.	Z	P>z	[93% Conf. Interval]	
The school management offered ICT support towards preparation for UCE exams						
Yes	-0.1718	0.6700	-0.2600	0.7980	-1.2739	0.9302
Special assistance or ICT resources were provided by the school management to aid in learning for exam preparation						
Yes	-0.4934	0.6793	-0.73	0.468	-1.6109	0.624
The school management frequently communicated updates and information related to ICT in preparation for UCE exams						
Yes	-0.7923	0.6694	-1.1800	0.2370	-1.8934	0.3088
I noticed improvement in my learning abilities in preparation for national exams since the school management was supportive in terms of ICT						
Yes	0.2188	0.7008	0.3100	0.7550	-0.9339	1.3715
Students who received more support from their school management performed better in National exams						
Yes	-0.9771	0.7049	-1.39	0.166	-2.1366	0.1824
_cons	3.3818	0.6604	5.12	0	2.2955	4.4681

Table 5 above indicates that management support accounts for only 7.64% of the variations in students' performance. It further revealed that the students' performance is independent of the management support in ICT to the learners.

This was based on the fact that there is no statistically significant relationship between management support and students' performance at 93% confidence level. This is because all the P values were greater than 0.07. Therefore, regardless of the students having not been supported by their school management, they still performed well in the UCE examinations, considering that the majority passed in 1st and 2nd grades, i.e. 61.84% and 30.92%, respectively.

For all the three models, the R-squared was not a good fit and thus there are various factors that could have accounted for the variations in the performance of the learners other than ICT readiness. The positive impact of ICT on students' performance is something which can be realised with time through further investment in the integration of ICT in learning to better prepare learners for unprecedented disruptions to learning/education.

Conclusion

From the findings in the study, we established that the students were ill prepared for the use of ICT for learning, probably owing to the fact that they were not using ICT-based learning. The advent of the Covid-19 disease and the associated total lockdowns forced the MoES and the schools to continue with learning in a remote way. ICT-based learning was the prevailing alternative and there was a variety of ICT resources that the students had to choose from to continue with learning amidst the lockdown and tough restrictions and health protocols.

Recommendation(s)

We recommend that MoES should ensure that ICT-integrated learning is part of the pedagogies in all schools at all levels, not only to develop the learners' technological skills, but also to keep both the learners and teachers ready and prepared for any unprecedented disruptions to education which could affect the learners' performance if they were not ready for ICT use.

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Information Communications Technology (ICT) Revolution and the Implementation of Communicative Language Teaching (CLT) in Primary Schools in Warren Park Mabelreign District

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Abstract

The need to improve learners' proficiency in Zimbabwe has resulted in primary school teachers using ICT to implement the Communicative Language Teaching (CLT) approach in English Language teaching. The current Zimbabwean education policy encourages the use of ICT across the curriculum but teachers are not skilled to use digital tools. The purpose of the study is to explore teachers' voices on the ICT revolution in the implementation of CLT. The study used a qualitative approach which is interpretive in nature. An exploratory case study design with five purposively selected participants was utilised. Data collection was done using semi-structured interviews with open-ended questions and non-participant observations. The study found that the digital ICT platform mostly used by the teachers are social media handles, namely YouTube and WhatsApp. Teachers also highlighted that they used the Microsoft Word applications, for example PowerPoint. The ICT revolution has led to the use of these digital connection platforms and applications to implement CLT to teach English Language to primary school learners. Teachers highlighted that if ICT is well utilised in implementing CLT, it may improve learners' proficiency in English Language. The study recommends that all teachers should be trained in ICT pedagogical skills so that they may use them to teach effectively and creatively when implementing CLT. In addition, the implication of the study is that the Ministry of Primary and Secondary Education (MoPSE) needs to make adequate ICT resources available in schools as well as carry out staff development programmes on ICT pedagogical skills to make the implementation of CLT in the teaching of English much easier.

Keywords: communicative language teaching approach, digital tools, information and communication technology, proficiency, teaching

Introduction

Information and communication technology (ICT) has revolutionised the education sector, although the teaching and learning activities in some schools remain traditional and may not have embraced it. Education in the 21st Century now requires teachers to use multiple sources for effective teaching and learning (Bhattacharjee & Deb, 2016). For the aforementioned reason, the use of ICT is invaluable and it is important for today's teacher to adopt it. Consequently, the study was conducted to explore how the ICT revolution has enhanced the Communicative Language Teaching (CLT) at primary schools in Warren Park, Mabelreign District in the teaching of English Language. As alluded to before, ICT is now viewed as one of the answers to improved education in all modern societies. Also in Zimbabwe, CLT is the recommended teaching approach in the syllabuses for all grades at primary school (Ministry of Education, Sport, Arts and Culture, 1986; Nyamayedenga & de Jager, 2022). The CLT approach is a child-participatory method that allows learners to interact among themselves while the teacher is the facilitator (Ounis & Ounis, 2017; Muliani, 2022). The main aim of the Ministry of Education in Zimbabwe is to ensure that CLT enhances learners' communicative competence in the learning of English (Littlewood, 2013:1).

Activities that may be used to implement CLT are role-play, discussions, dialogues, as well as pair and group work, among others (Asl, 2015; Parvin, 2016; Richards, 2006; Ounis & Ounis, 2017). These activities are interactional and they may be facilitated by the use of ICT, hence the great emphasis by the new curriculum for teachers on using ICT tools to teach effectively and interactively.

ICTs have been evolving swiftly in current years. Since the 1960s the most common technology used as teaching tools were televisions, tape recorders and video (Salehi & Salehi, 2012). According to the International Institute for Communication Development (2007), four periods of ICT revolution are highlighted. Firstly, ICT was adopted in the 1970s and 1980s for important educational purposes. During the aforementioned era ICT was meant to assist learners develop their cognitive skills (Yermekkyzy, 2022). The second phase saw the coming of multi-purpose computers in the 1980s and early 1990s. This phase assisted learners to improve their reading and writing skills. The third phase that saw the picking of the ICT revolution in education was in the early 1990s with the growth of the World Wide Web. The growth of internet introduced e-learning in primary schools which mixed computer-based and web-based learning tools. Thus, teachers who had access took advantage of ICT tools to implement CLT as these assisted teachers and learners to interact effectively.

We are now in the fourth phase of the ICT revolution that is witnessing the use of electrical gadgets that may have internet connections being used to handle and communicate information for learning purposes (Twinning, 2014; Priyadarshni, 2018; Rachamalla 2021). These gadgets may include laptops, smartphones, tablets, desktop computers or software such as Microsoft Word, PowerPoint (Wang & Woo, 2007; Muslem, Yusuf & Juliana, 2018). The significance of the ICT tools as a global development programme was emphasised by the United Nations, through its Millennium Development Goals in 2000. In this programme, Goal 8 underscored the importance of making available and accessible new technological innovations to the whole world (World Summit on Information Society, 2003). The Zimbabwean Ministry of Primary and Secondary Education is required to ensure information is distributed and produced for teaching and learning purposes. The distribution and production of information will ensure that teachers and learners are part of the revolution as they will fit in today's modern demand of technology

Despite the recommendation by the new curriculum to use ICTs in the implementation of CLT, English Language teaching remains traditional. Before COVID-19 hit Zimbabwe, the majority of primary schools had failed to embrace the ICT revolution. Categorically, the advent of the pandemic forced most institutions of learning in Zimbabwe to utilise ICT to avoid losing the academic year. School head teachers had to choose ICT platforms that were affordable and convenient for their teachers, learners and parents. One such platform was the YouTube social media platform, WhatsApp social media platform, customised Teams platforms like Moodle, Google Teams, and many others. Now that the COVID-19 pandemic is over, most schools could have come to realise that ICT may provide effective, efficient and innovative ways of implementing CLT in the learning of English Language to learners even when they are in school. The study seeks to explore how the primary school teachers have embraced the ICT revolution to implement CLT in language learning.

Research Questions

The overarching research question is: How do primary school teachers embrace the ICT revolution in implementing CLT?

The main research question is supported by the following sub-research questions:

i) What is the role of ICT while implementing CLT in Zimbabwean primary schools?

ii) What challenges are encountered by primary school teachers in embracing the ICT revolution when implementing CLT?

Literature Review

The Role of the ICT Revolution in Learning English

Technology has created opportunities and challenges for the teachers and learners of English Language in the education sector. The current rise in the use of ICT has a great role in influencing how English Language and other subjects are taught and learnt (Warschauer& Ware, 2008; White, 2003). In actual fact, the role played by the ICT revolution has given learners unparalleled benefits that allow them to include themselves and use the English language in environments they are familiar with (Kramsch & Thorne, 2002). For example, students may interact on Skype (Dalton-Puffer, 2011) or zoom, Google Meet, or Teams. They may choose to interact on social network sites such as Facebook or Twitter, Instagram and WhatsApp for writing practice (Bai, Zhu & Cheng, 2012). The teachers may choose to use YouTube or any other platforms that need an internet connection.

Utilisation of ICT social media platforms, digital communication platforms or YouTube plays a role in the implementation of CLT. Using ICT is important in that learners' attention is captured and they are able to express themselves as they seek information (Mubarak, 2016; Shava Chinyamurindi, 2017). ICT may be viewed as an enabling tool which provides teachers and learners with access to opportunities and choices for grammar exercises and activities (Rachamallia, 2021). Moreover, ICT can boost the learners' language skills by inspiring them to read and write (Muslem & Abbas, 2017; Adonis, 2006). The role played by ICT also resonates well with the implementation of CLT and Vygotsky's socio-cultural theory because of its ability to make learners interact as well as scaffolding them to improve their reading literacy skills (Saputri, Fajri, & Qonaatun, 2020). The role of ICT in implementing CLT assists learners in browsing the internet to get content, copy it and find additional learning material. Learning may become autonomous and it may assist learners in becoming independent and motivated critical thinkers, which is an expectation of CLT. Interaction and collaboration which are tenets of CLT may be achieved using ICT (Saputri, Fajri, & Qonaatun, 2020).

Hennessy (2005) also found that another role of ICT is to act as a catalyst in stimulating teachers and pupils to work in new ways. ICT provides the communicative language tenets that are needed in lessons. These are teacher-learner and learner-learner discussions, exploration, analysis and reflections, probing, assistance and feedback. Hennessy notes that as learners become more autonomous, teachers feel that they should encourage and support them in acting and thinking independently.

Warschauer (2000) identified two distinct approaches to integrating technology into the classroom. The cognitive approach allows learners to maximize their exposure to language in a meaningful context, helping them construct their own knowledge. Technologies in this approach include text-reconstruction software and multimedia simulation software, which allow learners to immerse themselves in computerized micro-worlds, where they are exposed to language and culture in an engaging audio-visual context. The best programs provide learners with significant control and interactivity, enabling them to better manipulate linguistic input. In contrast, the social approach emphasizes the social aspect of language acquisition, viewing it as a process of socialization. From this perspective, learners need opportunities for authentic social interactions to practice real-life skills, which can be achieved through student collaboration on authentic tasks and projects.

Numerous studies have examined the role of ICT in teaching English, both in Zimbabwe and other countries. For example, Rodrigues (2002) found that ICT facilitates effective learning by engaging learners in interactive activities. Another study in Bangladesh by Charpentier Jiménez (2014) highlighted the importance of ICT in developing the four macro skills in English—listening, writing, reading, and speaking. However, in Zimbabwe, there is limited information on the impact of the ICT revolution on the implementation of CLT at the primary school level.

Challenges of ICT

The integration of ICT in implementing Communicative Language Teaching (CLT) has posed significant challenges for primary school teachers. Despite the apparent progress brought about by the ICT revolution, various obstacles persist for teachers, learners, and the Ministry of Primary and Secondary Education in Zimbabwe. Habibu, Abdulla, and Chekun (2012) identify one of these obstacles as material conditions, which include the availability of resources such as computers, software, and network connectivity (Pelgrum, 2001). While some schools are eager to adopt CLT using ICT tools, success is not always guaranteed. Granger (2012) found that simply having connectivity and access to technology does not ensure the effective or productive use of ICT. Similarly, Al-Alwani (2005) reported that issues such as lack of network connectivity during school hours and insufficient hardware were major barriers to technology integration in Saudi schools.

Teacher experience and age also contribute to the challenges of using ICT in CLT implementation (Yermekkyzy, 2022; Bingimlas, 2009). Some teachers may lack confidence, practical knowledge, and technology-supported pedagogical skills (Brush, 2008). Moreover, teachers who are not proficient with computers may hesitate to expose their inadequacies in front of students. Another challenge is the overwhelming amount of content accessible through ICT. Without the ability to effectively process this information, both teachers and students may experience confusion in the classroom (Yunus, Lubis, Lin, & Wekke, 2009). It is crucial that teachers develop the skills to access, process, and utilize online content effectively.

Research conducted in other regions highlights similar obstacles to ICT adoption in education. Smerdon, Cronen, Lanahan, Anderson, Iannotti, and Angeles (2000) identified inadequate time and outdated resources as significant barriers for teachers. In the United Kingdom, Pelgrum (2001) found that insufficient resources hindered ICT use in schools. A study in Iran revealed that teachers struggled to find enough time to teach using ICT. In Zimbabwe, Nyamayaro (2016) found that poor electricity supply and lack of computer literacy were major barriers to the ICT revolution in rural education.

In examining how primary school teachers in Zimbabwe have embraced the ICT revolution, it is essential to consider the barriers to ICT in teaching. There is limited literature in Zimbabwe specifically addressing the intersection of the ICT revolution and CLT implementation in primary schools. This study, therefore, seeks to explore how teachers understand and navigate the roles and challenges of ICT in education.

Methods

This research was a qualitative, descriptive case study. The researcher used the qualitative research approach to understand the attitudes, opinions and behaviour of the teachers regarding the ICT revolution and the implementation of CLT as well as to comprehend the phenomenon under study in its normal setting. The researcher interacted with the participants to get an in-depth understanding of the ICT revolution and the implementation of CLT (Cohen, Manion & Morrison, 2011; Silverman, 2016). The research design used in this study is a single case study. The single case study assisted the researcher to choose gather, analyse and present data from the participants in a specific way (Yin, 2016). The research process comprised of choosing participants and research sites, collecting and processing data as well as analysing it.

In a quest to explore how teachers have embraced the ICT revolution to implement CLT, the researcher used purposive sampling to choose participants. The selection was influenced by the following criteria: chosen schools are in the middle density suburb and the assumption was that most parents earn a middle income. The other condition was that there was network connection in the schools and teachers were aware that the new curriculum expected them to use technology in teaching and learning of English.

The selected participants were Grade 7 teachers who have taught for not less than five years and have a Diploma in primary school education.

In connection with ethical consideration, the researcher selected teachers who were willing to participate voluntarily. Consent forms were completed by the participants (Behrman & Field 2004). Although learners were not the primary participants, the researcher had to seek their consent as they would inadvertently be included in the analysis of the digital platform that they participated in. The researcher also explained the purpose of the study to the participants before they signed the informed letters of consent. Furthermore, participants were informed that they were free to withdraw from the study at any time. Anonymity and confidentiality in this study were maintained by using pseudonyms for the participants and their schools. Data was collected through semi-structured interviews and document analysis. Teachers were interviewed in their offices. For document analysis the researcher looked at the discussions made on digital platform for each class that indicated learner's participation and interaction which are tenants of CLT.

Theoretical Framework

The study was hinged on the socio-cultural theory (SCT) by Vygotsky (1978). The SCT purports that language learning takes place through knowledge construction during interaction in different settings. Learners build knowledge through mental activity involving the combination of old knowledge and new knowledge to come up with a variety form of knowledge which they can use to solve related problems. Furthermore, Vygotsky (1978) claims that there is a link between language, understanding and the learners' environment, hence the need to create concepts relevant to classroom contexts during lessons. SCT assists in exploring tools that teachers use when implementing CLT, activities that they use, and the extent to which they provide mediation allowing learners to learn. Abbas, Lei-Mei and Haruil (2013) hold the view that the constructivist perspective may support the use of ICT to implement CLT in a language learning class.

Results and Discussion

The main research question required an understanding of how primary school teachers embrace the ICT revolution in implementing CLT. The analysed data and findings attempt to answer the main research question using two sub-research questions. In view of the setting and emphasis of the study, the themes that the researcher used came from the research questions, which are role of ICT and the barriers to ICT. Under the role of ICT, the study came up with two sub-themes, which are ICT facilitates interaction between learners and teachers in a CLT class and ICT helps learners to improve in the four macro-skills of language in a CLT classroom. Under the barriers to ICT, the researcher came up with two sub-themes. The two themes will bring out the importance of the ICT revolution. The two themes and their sub-themes are briefly discussed in an attempt to provide insights into how the teachers have embraced the ICT revolution in the implementation of CLT.

The Role of the ICT Revolution in Implementing CLT

The findings show that the ICT revolution comes with many benefits in the implementation of CLT.

ICT as a resource in the implementation of CLT

Another outstanding role played by ICT when implementing CLT is its speed in assisting the teacher in delivering a lesson using learning aids. When compared to the traditional method of teaching, ICT makes learning fast and easier. One of the participants gave the following view:

Teacher 5: It is unfortunate that I cannot fully utilise the ICT but each time I use the PowerPoint I deliver my lesson fast and my learners seem to understand better as compared to chalk-and-talk, which is traditional

From the finding, the researcher can confidently claim that the use of ICTs PowerPoint is effective in that it promotes open learning which is fast. Although the use of PowerPoint presentations is fast and speeds up the presentation of learning aids, teachers may need to cater for the slow learners and match their speed. This finding is supported by Ghavifekr and Rosdy (2015:176), who states that the use of PowerPoint is fast and "---can be used to present the topic in a fast innovative and creative way that will lead into discussion and exchanging ideas and thoughts". At the same time, participants also pointed out that the innovative use of ICT assisted them in getting resources for teaching. Participants had this to say:

Teacher 1: Sometimes we do not have enough textbooks for learners to use. When there is a network and there is a free lab, I go on YouTube to get a comprehension passage for my learners.

Teacher 3: There is plenty of learning content on the internet. This helps us as we experience a lack of resources ICT has become handy for those who are privy with technology

The findings show that the use of ICT assists in covering the gap when there are no adequate textbooks. Learning and teaching was made easy as teachers would get learning content from the internet, which would enable learners to interact and discuss. This finding is supported by Chouthaiwale and Alkamel (2018), Isaacs (2007), Akinbode (2007) and Musarurwa (2011), who found that the use of ICT has the potential of changing the traditional method of teaching to contemporary methods which allows learners to interact, thus aiding the implementation of the communicative language teaching approach which is required by the Ministry of Primary and Secondary Education in Zimbabwe. Besides making interactive learning content available, teachers also pointed out that ICTs assisted them with learning aids that helped learners learn in their natural environments. Chouthaiwale and Alkamel (2018), Akinbode (2007) supports this finding and states that technology has become a learning aid in learners research works.

ICT making learners independent and collaborative in CLT classroom

The findings also indicated that the ICT revolution assisted teachers in implementing CLT as it made learners become independent as they interacted among themselves. Independent learning increases the learner's self-worth and confidence (Akintunde & Danlami, 2015). The ICT revolution saw learners being interested in their studies and taking charge while the teacher facilitated their learning. One of the participants gave the following sentiments:

Teacher 4: My learners get excited and motivated each time I go to teach them in the lab. They become so independent and I am only there to guide them.

From the above view it may seem participants are of the view that ICT assist learners in becoming motivated. The learners get excited and they engage themselves in doing their work. Teachers pointed out that their learners got excited because of the new learning aid and the interactive content that they were given. Participants also pointed out that the excitement that learners had made it much easier for them to implement CLT because of the interaction that took place among the learners. The following statements from the teachers supported the aforementioned views:

Teacher 1: I use ICT to teach quiz and usually my learners interact a lot and I am only there to assist when they have problems.

Teacher 3: On the application I am familiar with, learners share knowledge with their peers using ICTs on given exercises. During lessons learners also ask each other questions and I guide them while they participate fully.

In view of the participants' comments, the researcher observed that the use of ICT makes learners participate fully. This idea is supported by Mubarak (2016), who opines that the use of ICTs makes learners interact to share ideas, solve problems, explore opportunities and understand the content they are learning in a better way. Mubarak (2016) goes on to support the use of ICT to implement CLT as it offers more adaptable language learning practices through constructivism.

ICT making learners proficient

The findings also indicate that one of the roles played by the ICT revolution was that of making learners proficient in English language. Teachers indicated that it was so difficult to implement CLT when learners are not proficient in English because there is need for them to communicate and interact with one another either in pairs or in groups. Teachers had this to say:

Teacher 2: I take my learners to ICT lab during my reading lessons. I always encourage them to surf and read stories that interest them on the internet.

Teacher 4: We do not have software but I noticed that my learners can go on YouTube to watch educational cartoons like 'Everything Rosie'. After the lesson they are able to summarise what the cartoon is about while it sharpens their speaking and listening skills.

The above finding is supported by Saputri, Fajri and Qonaatun (2020), who state that the use of stories from the internet assists learners in improving their reading and communication skills. Amir and Anggitasari (2021) sum up the role played by ICT in the implementation of CLT by stating that it can assist the teacher in teaching vocabulary development, communication among teachers and learners, use of language in the context of communication in general, use of argumentation abilities, non-verbal skills, and group networking skills.

ICT barriers to ICT revolution to implement CLT

Findings from the collected data show that there are barriers that hinder the ICT revolution to implement CLT. Some of these challenges require the Ministry of Primary and Secondary Education to intervene and make the ICT revolution complete.

Teacher incapacitation to teach ICT

The study found that teachers are incapacitated to teach using ICT. Teachers indicated that they were not yet ready to teach using ICT. They suggested that the ministry should employ teachers who are specialised in using ICT. The teachers had this to say:

Teacher 1: We were trained with basic computer skills at college. Although it is so difficult for us to teach using ICTs as it needs additional intensive training.

From the findings, teachers are ill prepared to use ICT. Scholars contend that the success of teaching using ICT is a challenge if the teacher has a dearth of knowledge about technology (Dondofema & Shumba, 2018; Ihmeideh, 2009 & Bordbar, 2010). Participants also argued that the little ICT knowledge that they acquired at college affected how they apply it in their classes. They hinted that they needed to have technical knowledge to use some of the computer software packages that assist learners in interacting during a lesson. One participant had the following to say:

Teacher 2: We also lack creativity when using ICT to implement CLT. Teaching learners in a communicative way needs a lot of creativity on our part as teachers.

This finding resonates with Henriksen and Fitriah (2018) and Mishra and Fisser (2016), who found that the ICT revolution may be facilitated by the teachers' creativity; and the teachesr, in turn, can provide learners with new contexts and tools for creative output.

The aforementioned scholars call upon teachers who are creative and have excellent design capabilities to adapt as well as create learning materials that suit the needs of the learners. From the observations made, it was clear that teachers lack this capability. Concerning this issue of lack of creativity, the following remark was made:

Teacher 1: In our cluster of schools, we attended a workshop to develop all the teachers in their ICT skills. We look forward to having another one that can equip us with ICT teaching skills because that is what we are lacking.

Salehi and Salehi (2012) say another barrier to the ICT revolution is because schools do not have spare time to professionally develop their teachers in connection with new technologies and explore technologies such as the internet and social networks. This shows the importance of professional development in the learning-and-teaching environment. Teachers also pointed out that they only use certain ICT applications that they are familiar with to implement CLT in teaching language. Participants echoed the following sentiments:

Teacher 1: I only use the application I am familiar with like quizzes

Teacher 2: When I go to the lab, I only use PowerPoint because that is what I am familiar with. I do not know other applications.

Teacher 3: My learners know a lot of games that they can use to improve their language, for example British Council Games. This game allows me to implement CLT as it helps my learners to interact during play.

Teacher 4: It is the Ministry's policy that we use ICT to implement CLT during English Language teaching. As a result, I am expected to take my learners to the lab and I make sure I have evidence of using ICT. I created a WhatsApp group where I send my learners homework and I also communicate with their parents/guardians.

From the findings, it is evident that the teacher plays a key role in the ICT revolution. For ICT to be fully assimilated into the education curriculum, teachers should be technically capable, competent and encouraged to develop the use of ICT for the teaching and learning of English in a communicative way (Tsai & Chai, 2012).

Inadequate resources and faulty infrastructure

Another challenge that was highlighted by the teachers was that of shortage of resources and faulty infrastructure. The teachers had this to say:

Teacher 3: We have a shortage of resources in terms of labs and computers. Our school has only three computer labs which should cater for all the learners and I am given only one 30-minutes lesson to use the lab.

Another teacher also pointed out that there were outdated computers in the labs. The teachers also admitted that their schools had computers that were donated by the government but needed upgrading to stay relevant.

Teacher 4: I can implement CLT and teach my learners communicatively using ICT but the problem is sometimes when I have the turn to use the computer lab there will not be electricity. As a result, I resort to my usual methods of teaching, which is the traditional method of teaching.

From the findings, the researcher is of the opinion that inadequate resources and infrastructure in ICTs slow down the ICT revolution. It is becoming difficult for schools to fulfil the government's initiative to embrace ICT learning. This finding is similar to the claims made by Smerdon, Cronen,

Lanahan, Anderson, Iannotti and Angeles (2000) that inadequate resources are a barrier to the implementation of CLT using ICT. One of the participants had this to say about the infrastructure:

Teacher 5: I always try to overcome the challenge of a shortage of the lab by teaching my learners after hours. I encounter problems with the lab technician who wants to close the lab and go home soon after working hours. Sometimes the lab technician may want to stay but electricity becomes a challenge as the school cannot afford to run a generator for us to get power.

The findings show that shortage of electricity in the country is also a big hindrance to the ICT revolution. While teachers may be willing to work after hours to use the few available ICT resources, sometimes the electricity goes off. The teachers suggested substitutes to complement electric power cuts such as the use of generators and solar power. The problem was that the alternatives to power are expensive to install and maintain, considering the economic situation. Weak internet is also another barrier to the ICT revolution that the teachers indicated. They highlighted that sometimes electricity may be available but the bandwidth that schools can afford gives them a weak connection which is unstable and slow. The WiFi ends up eating their time. The teacher highlighted that they will end up teaching without the use of ICTs so that they are not found wanting with their head teachers as they are required to produce a certain amount of work per day.

Conclusion

The assimilation of ICT for implementing CLT has revolutionised the education system at a global level, including the teaching of English Language, though it has its problems. Major highlights show that the major focus of the ICT revolution was to make the learning and teaching of English easy using the CLT approach. The findings of the study indicate that teachers know and understand the role played by ICT in implementing CLT, like offering resources which make teaching contemporary, encourage learners to collaborate, interact, initiate, be creative, self-directed and motivated.

Suffice to say that the challenges that teachers face with ICT to implement CLT cannot be underestimated. Findings show that teachers are incapacitated to reap the full benefits of the ICT revolution to implement CLT. Teachers pointed out that they lacked pedagogical skills and they ended up using the applications that they are familiar with. Lack of creativity made it difficult for them to implement CLT and they ended up reverting to the use of the traditional methods of teaching, which are not learner centred. The other barriers were the lack of resources, outdated computers, faulty infrastructure and erratic power supply in the country.

Recommendations

In brief, the meaningful ICT integration in the education system in Zimbabwe is an important step towards the realisation of Millennium Development Goals set by the UN in 2005. Basing on the findings, the study recommends the government to be fully committed to giving credible support to all schools in the country. This can be done by expanding ICT facilities by providing the necessary hardware like computers, adequate network, software and connectivity such as Wi-Fi in all schools.

Furthermore, the government needs to capacitate schools with technicians who will work under the civil service to diagnose technical problems instead of schools hiring technicians to assist with the repair of computers and networks.

The staff development programmes should train teachers to have pedagogical skills that will help them to teach using ICT. Once the teachers have adequate skills, they will be able to use different applications and foster their creativity.

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Sub-Theme 3:
Stakeholders' Involvement in Education Change

Readiness for the New Lower Secondary School Curriculum among Teacher Educators in Uganda

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Abstract

The government of Uganda has rolled out the New Lower Secondary School Curriculum that emphasizes competence-based teaching as opposed to the previous one that was knowledge-oriented. The roll-out has come at a time when the country has been grappling with an examination-driven curriculum characterized by summative and continual assessment (also known as assessment of learning) as opposed to formative assessment (also known as assessment for learning). Whereas the implementation of the new curriculum is being spearheaded by the National Curriculum Development Centre, teacher training institutions (universities, national teacher training colleges) that are supposed to ensure the continuity of the training have not been deeply involved in the process. This implies that the training offered in these institutions is likely to yield deficiency in the competency of the graduates to handle the New Lower Secondary Curriculum. However, given that the curriculum is already in force, it is likely that the teacher training institutions have adopted some degree of readiness to train their teachers for the new curriculum. This study purposed to assess the degree of change readiness for the new curriculum among the teacher educators. Employing concurrent mixed methods design, quantitative data were collected from a cross-section of faculty selected using a simple random sampling technique while qualitative data were gathered from the institutions' administrators. The quantitative data were analysed to determine the levels of change readiness (acceptance and resistance) among the teacher educators. Qualitative data were analysed using an interpretative phenomenological approach to give meaning to the level of readiness for the change in curriculum. The findings would lend useful information for policy formulation regarding the relevance of teacher training institutions in curriculum reform and implementation for societal transformation.

Keywords: Acceptance, Change readiness, Curriculum reform, Curriculum review, Lower secondary, Resistance, Teacher training,

Introduction

Globally, the availability of secondary education, its scope, duration, and age participation vary greatly (OECD, 2018). Despite the fact that many people have an idea of what secondary education is or should be, national perspectives on secondary education vary (Jacob & Lehner, 2012).

Secondary education in Uganda spans six years, from Senior One to Senior Six, with pupils averaging 14 to 19 years old (National Curriculum Development Centre, 2018). It is one of the available options for advanced education within the Ugandan educational system (Uganda National Commission for UNESCO, 2010) including four years of ordinary secondary level (Lower Secondary) and two for Advanced Secondary level (higher secondary) (JICA & IDCJ, 2012).

On successful completion of the ordinary level of secondary education, students are awarded the Uganda Certificate of Education i.e. UCE by UNEB (Nuffic, 2016). Successful senior four leavers have four possible paths through which they can attain further education: (i) they can either proceed to an advanced level of education; (ii) join two-year crafts courses in technical institutes; (iii) join a two-year grade III primary teaching programme (which government has now phased out based on the new MOES requirements of all teachers to have degrees despite the level of the class to be taught); (iv) or join any of the government's departmental programmes such as agriculture, health, veterinary, and cooperatives (Uganda Investment Authority, 2010). Students who successfully complete secondary school are conferred the Uganda Advanced Certificate of Education (UACE). Successful high school graduates attend college or enrol in two-year programs leading to an ordinary diploma in teacher education, technical education, or business studies, or they enrol in departmental programs.

According to Chapman et al. (2010), expanding access to high-quality secondary education is essential for achieving the objectives of human development, political stability, and economic competitiveness. This is only possible with ample resources for productive sector activities. Secondary education, which is a bridge between primary and postsecondary education, prepares students for the workforce and equips them with the social skills, competencies, and values they'll need to lead productive and satisfying lives as adults. Therefore, secondary education resources must be deployed so that institutions can meet the educational requirements of these young people. Accordingly, it has been suggested that secondary education with sound planning and funding has the potential to equip students with the knowledge and skills necessary for greater economic and social participation in a stable, democratic society. In addition, secondary education helps develop the skills necessary to avoid hazardous behaviour so that individuals can live healthier, longer lives (Venketsamy & Kinnear, 2020).

Uganda abruptly shifted from a secondary system for a limited academic class to a system for students of all ages promoting learner-centred approaches in teaching and learning. In sub-Saharan Africa, only South Africa has completed this transition; Botswana and Namibia are in the process. Uganda is therefore a pioneer. In the last two to three decades, several countries with middle-income and high-income levels have adopted this change process. This is beneficial because the outcomes and critiques of their change initiatives are accessible online. To enhance secondary education in Africa, it is imperative to first consider what students and institutions need to know to confront the challenges of the twenty-first century and promote economic growth. This necessitates a new curriculum framework, aspirational learning standards, cutting-edge evaluation tools, and assurance that assessments measure what they're intended to measure.

Uganda is one of the first African nations to contemplate overhauling its secondary education system to meet the demands of the labour market and the continent's economic development. To make fundamental adjustments to the structure of the secondary education curriculum, there must be consensus among key stakeholders, substantial support for educators and institutions, and a sustained commitment from legislators. Clausen-May and Baale (2014) proposed a "dominant pattern of expository, whole-class teaching" as a strategy to deliver the secondary school mathematics curriculum in Uganda, which was designed during colonial times to service a small, select group of academically gifted students. Since the implementation of the Universal Primary and Secondary Education Policies in 1997 and 2007, the curriculum has become increasingly ineffective and inaccessible for the majority of students.

The curriculum for Lower Primary levels P1 to P3 was aligned with that of the Early Childhood Development (ECD) program to ensure that the learners' acquisition of knowledge was based on recognizable themes and language. At this stage, the emphasis was on assisting students in acquiring the necessary literacy, math, and social skills.

The Upper Primary Curriculum was subsequently reviewed with the intent of converting it to a Competency-Based approach. This was implemented grade by grade, commencing in 2007 with P1 and concluding in 2013 with P7. It places a significant emphasis on both language and content competency acquisition. After evaluating the upper primary curriculum, it was crucial to align the Lower Secondary Curriculum with the primary curriculum. In 2007, the Ministry of Education and Sports (MoES) conducted research and compiled a report on the Lower Secondary Curriculum, Assessment, and Examination, which identified the following deficiencies in the current curriculum:

i) There are too many topics, the majority of which are expensive to implement.

ii) It does not conform to international standards in important subject areas.

iii) "Book learning" is prioritized over aptitude and talent competence.

iv) When selecting learners for the subsequent cycle, academic achievement is given the utmost priority. This disqualifies many students.

v) The test system determines what is taught and how it is taught, rather than the reverse. The majority of examination questions are comprehension-based and require study. Tests and evaluation methods cannot accommodate a wide diversity of skills.

vi) Existing texts are dense with information and written for readers with higher literacy levels than the average individual.

The Ministry of Education and Sports (MoES) began reviewing the lower secondary curriculum in 2008. The 1992 Government White Paper on Education, Vision 2040, National Development Plans I and II, Education Sector Strategic Plans (ESSPs) of 2004/05 - 2019/20, NRM Manifesto 2016-2021, East African Secondary School Harmonized Curriculum Framework, Sustainable Development Goal 4 and subsequent studies conducted by the MoES served as the primary sources of guidance for the review. In addition, according to UNESCO's department of curriculum, for nations to achieve Sustainable Development Goal No. 4 "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all," then reforms in the curricula are inevitable.

Rationale for Lower Secondary School Curriculum Reform in Uganda

According to the Ministry of Education (1989), both the government and the general public voiced concern about the education system's lack of relevance and inability to satisfy societal requirements. Among other things, education was failing to transmit the kind of science and technical knowledge, cultural values, literacy, and sense of social responsibility that society liked to see. It also failed to promote a sense of national unity, self-reliance, social fairness, and equality. In response to the rapidly transforming demands of their labour markets, the majority of middle-income and high-income countries have adopted a continuous curriculum revision process. Uganda therefore needed to make a more fundamental adjustment to the post-primary system in order to: (a) enable universal secondary education (USE) to develop in line with 21st century economic development demands; (b) address the rising number of primary graduates; and (c) reduce the unaffordable high cost of the current system.

The transformation of Uganda's educational system from one that was exclusive to the elite to one that is open to all and supports each person's endeavour to advance as far as they can in their education is a significant one that will affect every step of the curriculum-creation process.

Long-term political choices must be made, and expert employees at all levels must undergo a significant re-orientation process. It has frequently been noted that those nations that have handled this shift the best and with the support of the majority of the population are those that have also experienced other social upheavals, such as the process of recovering from a war or the kind of social changes connected with obtaining political freedom. Both of these circumstances do not exist in Uganda, and the challenges posed by change management cannot be overstated.

The "CURASSE Roadmap" report examined the reasons behind the need for the curriculum shift in depth. The primary reason was the need to switch from an exclusive curriculum with high entrance requirements and high failure rates to an inclusive curriculum that is open to everyone and honours success. Currently, secondary education costs roughly seven times as much as elementary education, whereas, in other nations, this ratio is closer to two times. The causes of the high cost include the high cost of many topics currently taught and the ineffective management of the program; the secondary PTR is reportedly around 20, which is extremely low when compared to what is possible globally. The fact that the present curriculum does not provide the kind of skills that the labour market needs to satisfy the country's emerging requirements is a third crucial factor.

The current curriculum does not use instructional strategies that support efficient learning and skill development. The teaching and textbooks focus on getting the best mark on the test because the current programme is mainly made up of examination syllabi. For demonstrating an understanding of how to implement information on the exams, very few points are given. Except for a few comparatively unimportant assessments, such as practical scientific exams, skills are still largely not evaluated—a big mismatch if we are to promote employability. As a result, skills are rarely taught even when mastery of them is a declared curricular goal. It has been established that thoughtful curricular design, in conjunction with efficient testing and learning resources, plays a key role in improving teaching. The active learning strategies that distinguish successful contemporary teaching place value on the learner's previous knowledge and promote its incorporation with new information. Despite being a key component of building the kinds of competencies needed by the shifting societal and workplace responsibilities of the 21st century, it is claimed that very little of this is presently taking place in secondary classrooms in Uganda.

The bulk of students who are now attending secondary school do not have their requirements met by the current curriculum. The current program is exclusive; it serves as a filter to keep out everyone but the intellectual elite. The redesign of the curriculum should be inclusive, meet the needs of all children, and set the groundwork for better teaching (and evaluation processes) that will help learners more fully achieve their potential, no matter how restricted it may be. In other words, rather than simply setting norms, it should be a powerful tool for raising them.

The existing school curriculum does not adequately address the economic and social needs of the nation. Uganda, like the rest of Africa, is experiencing a period of steady economic growth. This will require a workforce at all levels that is adaptable and digitally proficient. Numerous pieces of evidence indicate that the current curriculum falls short of these requirements. In full first (GDP) growth is driven by the considerably larger groups of competent middle-level specialists, not the academic elite. The current structure does not support these social classes adequately. When developing the expanded secondary program, both their needs and those of the academically privileged should be considered.

The existing curriculum is not adaptable enough to cover new areas of knowledge. It was developed in the 1970s. Many of its ideas and the methods it supports are outdated. Periodic updating has brought more contemporary material but little has been removed to make space for it; this is a significant factor adding to the present overload. This process has now hit its breaking point and is unable to adapt to the ever-increasing changes required of it to properly handle new areas of knowledge, especially those related to technology.

In addition to allowing for a fresh start to ensure that these areas are covered, a new curriculum was thought to be necessary to enable a much more adaptable design so that future changes can be more easily met. According to Muhangi (2019), the existing education system is largely ineffective with a low-quality teaching force that lacks the required skills for effective teaching leading to poor learning outcomes. The present teacher policies are also ineffective at luring top talent, supporting capable head teachers, and helping teachers in their efforts to enhance teaching (World Bank, 2018). Additionally, there is a dearth of topic expertise, and these factors all affect how well students learn. Even though 90% of secondary school teachers in Uganda possess the necessary formal credentials, a study by UNESCO (2014) has shown that secondary teachers lack the necessary pedagogical skills and subject-matter expertise to effectively instruct. For instance, only 66%, 70%, and 17% of instructors, respectively, are experts in biology, arithmetic, and English (Ministry of Education & Sports, 2013).

To realize its promise, Uganda requires a competency-based curriculum. A competency-based programme founded on cross-curricula or subject-bound core competencies should stress complicated outputs like knowledge, skills, and dispositions to be implemented by learners rather than conventional topic material. The New Lower Secondary Curriculum meets the needs of the competence-based curriculum because it is learner-centred and flexible enough to change with the needs of the students, instructors, and society. A program like this chooses learning activities and environments to assist students in applying their information, abilities, and dispositions to real-world situations.

Justification for a Change Readiness Study on the New Curriculum among Teacher Educators

Executing the CURASSE Roadmap will inevitably necessitate reflection on the roles and duties of the various "education management actors." The MOES and its decentralized units, as well as the institutional framework need to ensure the quality and efficiency of the services provided and its outputs (i.e., quality of graduates, teaching, and managers and teachers). The suggested Roadmap would work to improve the efficiency of secondary educational and vocational services at lower unit costs, allowing for more inclusion to be attained over time) and quality (to better support Uganda's economic development objectives).

Numerous institutions engaged in curriculum development, assessment, teacher education, professional development, and quality control need to work together to create, execute, and monitor the new curriculum. The ability of these institutions to offer the required assistance should be evaluated, and any gaps should be filled. These institutions need new policies, guidelines, and practices, which should be created with the aid of study tours, professional support, and other resources. The different organizations involved—teacher education institutions, the standards agency, the examinations council, etc.—should be completely prepared to perform their respective roles. On the basis of foreign experience, it can also be deduced that many parts of the Ugandan educational system will be impacted by and subject to change as a result of the Curriculum, Assessment and Examination (CURASSE) implementation. Additionally, since curriculum changes are ongoing, Uganda's secondary education and training subsystem needs to continue to adjust in order to keep up with the nation's economic development after this more basic change. The most able-serving aspects of the current system will not be compromised by such a change, in fact, it should be improved. The review process should not, under any circumstances, 'throw the baby out with the bathwater.'

The Teacher Education curricula at Teacher Training Institutes (TTIs) and Universities need to be reviewed in light of the shift in the new curriculum. Teaching staff need to be informed on the revised lower secondary school curriculum, its revised material, and its revised methods through brief training sessions. These contributions ought to be coordinated with efforts to change teacher education programmes.

In addition, staff development is necessary for experienced and motivated instructors as well as a large portion of the teaching staff at teacher education institutions to plan and carry out in-service training programs. The TTIs and Universities need to coordinate similar professional training initiatives. Such a structure does not currently exist but is essential for the training of teachers implementing the new curriculum. This should be done with the teacher education institutions in a central role. In particular, the TTIs and universities are well-placed to take up this role. The proposed staff development activities at TTIs and universities need to take into account the creation and implementation of programs to retrain serving teachers. It is upon these arguments that the researchers set out to investigate the readiness of the teacher educators to adapt to the demands of training teachers to be relevant and competent in handling the new lower secondary curriculum. In line with Nyenje and James's (2016) postulates, we further argue that the success of the reformed lower secondary school curriculum in Uganda will depend on the extent to which the teachers understand the reasoning that lies behind the changes in curriculum and teaching.

Methodology

The study employed a quantitative cross-sectional survey design. This design was used to quantify the participants' levels of resistance to the New Lower Secondary Curriculum in Uganda. The study participants included teacher educators in national teachers' colleges and universities (both public and private) in Uganda. Contacts of the participants were retrieved from the social media platforms (mainly WhatsApp fora) of teacher educators. We used a structured questionnaire that was translated into an online google form to gather quantitative data from the consenting participants. Those whose contacts were not in the archives were followed by snowballing. In total, we obtained quantitative data for this study online from 99 participants.

The online instrument consisted of three sections. Section A gathered information on the participants' institutional backgrounds including type of institution, regional location of the institution, ownership of the institution, and position within the institution. Section B was an adapted version of the Change Readiness Questionnaire containing 17 close-ended questions to provide data on participants' evaluation of their resistance to adopting the New Lower Secondary Curriculum in their teacher education practices. The evaluation was based on five core aspects/ subscales of the change readiness: (i) affective, (ii) cognitive, (iii) functioning, (iv) work effectiveness, and (v) work relationships. The close-ended items were scored on a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). The Cronbach α of each subscale was above 0.70. Hence the instrument was highly reliable for evaluating teacher educators' resistance to change in adopting the New Lower Secondary Curriculum. Section C had open-ended questions that sought participants' responses on suggestions for effective adoption and implementation of the New Lower Secondary competency-based education (CBE) curriculum.

The data collection procedure involved seeking consent of the participant first; whoever clicked "no" to the consent question of whether they were willing to participate or not could not proceed to the next items. Only those who consented "yes" participated in the study. In total, 99 responses were obtained, which speaks to a low response rate of online data collection. The filled-in forms were retrieved as Excel data files which were then imported into SPSS Version 20, further coded for analysis.

The participants' ratings of their resistance to adopting the new lower secondary school curriculum into teacher education practices were interpreted in frequencies, percentages, means, and standard deviations. Generally, the mean scores were interpreted as follows: 1.00—2.33 (low), 2.34—3.73 (moderate), and 3.74—5.00 (high).

As already alluded to, the planning, collection, and processing of data was undertaken with full ethical considerations. Participants consented to take part in the study.

Those who did not could not access the subsequent items. Those who consented and felt like withdrawing along the way were free to ignore hitting the "submit" button. Generally, the participants were assured of voluntary participation, freedom to withdraw from the study at any time, privacy, confidentiality, and anonymity. Documents such as journal articles, reports, books, and book chapters used as sources of information in the study were all duly credited by citing in text and referencing.

Results

Demographic Characteristics of the Participants

The background information of the participants was sought and presented in Table 1.

Table 1: Demographic Characteristics of the Participants

Background information	Category	Frequency	Percent
Institution type	TTI	21	21.2
	University	78	78.8
	Total	**99**	**100.0**
Region where the institution is geographically located	North	12	12.1
	Central	9	9.1
	East	51	51.5
	West	27	27.3
	Total	**99**	**100.0**
Ownership of the institution	Private	15	15.2
	Public	84	84.8
	Total	99	100.0
Position in the institution	Lecturer	63	63.6
	Head of Department	9	9.1
	Deputy Dean/Deputy Director/Deputy Principal	9	9.1
	Dean/Director/Principal	18	18.2
	Total	**99**	**100.0**

Majority of the participants, 78 (78.8%) were teacher educators at universities while the rest were in TTIs. Majority (84.8%) were serving in public institutions. The distribution of the participants by positions of responsibility was as follows: lecturer, 63 (63.6%); head of department, 9 (9.1%); deputy dean/deputy director/deputy principal, 9 (9.1%); and dean/director/principal, 18 (18.2%).

Resistance to the New Lower Secondary Curriculum

The level of resistance to the New Lower Secondary Curriculum in Uganda was measured in four dimensions: affective, cognitive, functioning, and work relationship. The participants' levels of agreement/disagreement with items relating to resistance to the curriculum in these dimensions are presented in Table 2.

Table 2: Resistance to the new lower secondary curriculum

Affective response to the new curriculum	SD	D	N	A	SA	M	SD
I'm worried about what things will be like after the introduction of the new curriculum in the college and university programmes.	21 (21.2)	18 (18.2)	15 (15.2)	27 (27.3)	18 (18.2)	3.03	1.432
I feel the new curriculum will be overwhelming when introduced in the teacher training programmes.	18 (18.2)	30 (30.3)	6 (6.1)	27 (27.3)	18 (18.2)	2.97	1.432
I try not to think about the move to adopt the new curriculum because when I do I get too stressed out.	42 (42.4)	21 (21.2)	6 (6.1)	12 (12.1)	18 (18.2)	2.42	1.566
It would be much better to include the new curriculum in the training of teachers at the university/college.	3 (3.0)	0 (0.0)	3 (3.0)	15 (15.2)	78 (78.8)	4.67	0.808
This whole new lower secondary school curriculum thing makes me kind of angry.	60 (60.6)	15 (15.2)	6 (6.1)	18 (18.2)	0 (0.0)	1.82	1.173
I'm really sad that the original education of this country is being diluted by the introduction of a new lower secondary curriculum.	48 (48.5)	18 (18.2)	6 (6.1)	18 (18.2)	9 (9.1)	2.21	1.438
Overall						2.85	1.308
Cognitive evaluation of the new lower secondary school curriculum	**SD**	**D**	**N**	**A**	**SA**	**M**	**SD**
I don't really think the change of O-level curriculum was necessary.	57 (57.6)	18 (18.2)	6 (6.1)	18 (18.2)	0 (0.0)	1.85	1.164
Our teacher trainees will be better off after adopting the new O-level curriculum in teacher education colleges and universities, in comparison with the situation before.	0 (0.0)	3 (3.0)	6 (6.1)	30 (30.3)	60 (60.6)	4.48	0.747
I think it is good to adopt this new lower secondary curriculum in colleges and universities.	0 (0.0)	3 (3.0)	9 (9.1)	18 (18.2)	69 (69.7)	4.55	0.786

The adoption of the new curriculum in the teacher education colleges and universities will do us all good.	0 (0.0)	3 (3.0)	12 (12.1)	18 (18.2)	66 (66.7)	4.48	0.825
Overall						3.84	0.880
Functioning: Avoiding adoption of the new curriculum in teaching	**SD**	**D**	**N**	**A**	**SA**	**M**	**SD**
Generally, I avoid incorporating the demands of the new curriculum in my teaching as much as I can.	39 (39.4)	24 (24.2)	18 (18.2)	15 (15.2)	3 (3.0)	2.18	1.198
I find myself trying to minimize planning and preparation of teaching in line with the demands of the new curriculum.	42 (42.4)	18 (18.2)	15 (15.2)	15 (15.2)	9 (9.1)	2.30	1.388
Overall						2.24	1.293
Work effectiveness	**SD**	**D**	**N**	**A**	**SA**	**M**	**SD**
Due to the change in O-level curriculum, I tend to be very distracted in my content delivery these days.	33 (33.3)	24 (24.2)	18 (18.2)	9 (9.1)	15 (15.2)	2.48	1.424
I find that I'm not as efficient or productive when using the new curriculum approach as I used to before.	39 (39.4)	18 (18.2)	15 (15.2)	21 (21.2)	6 (6.1)	2.36	1.351
These days I find it particularly difficult to motivate myself to do the things I know I should in teaching because of the demands of the new O-level curriculum.	30 (30.3)	18 (18.2)	24 (24.2)	24 (24.2)	3 (3.0)	2.52	1.240
Overall						2.45	1.340
Work relationships	**SD**	**D**	**N**	**A**	**SA**	**M**	**SD**
During the implementation of the new O-level curriculum I find that I am less tolerant to others.	39 (39.4)	21 (21.2)	18 (18.2)	21 (21.2)	0 (0.0)	2.21	1.180
My relationships with my co-workers are negatively influenced by this change in O-level curriculum.	15 (15.2)	8 (8.1)	4 (4.0)	5 (5.1)	1 (1.0)	2.06	1.223
Overall						2.135	1.202

The results in Table 1 indicate moderate overall affective resistance to the new lower secondary curriculum. An appreciable proportion (45.5%) of the participants were worried about what things will be like after the introduction of the new curriculum in the college and university programmes. Some (45.0%) felt the new curriculum will be overwhelming when introduced in the teacher training programmes. Still others (30.0%) showed resistance by trying not to think about the move to adopt the new curriculum because the mere thought stressed them out. To the contrary, only 3.0% of the participants disagreed with the idea of having to include the new curriculum in the training of teachers at the university/college. A few (18.2%) expressed anger about the new lower secondary school curriculum and others (27.0%) felt very sad that the original education of the country is being diluted by the introduction of a new lower secondary curriculum. These findings indicate an appreciable degree of affective resistance to adoption of the new lower secondary curriculum in the programmes of teacher education institutions in Uganda.

There was a generally high level of cognitive acceptance (M = 3.84, SD = 0.88) and hence low level of cognitive resistance of the new lower secondary curriculum. Very few, 18(18.2%), of the participants felt that the change of O-level curriculum was not necessary. Instead, majority, 90(0.9%), believed that their teacher trainees would be better off after adopting the new O-level curriculum in teacher education colleges and universities, in comparison with the situation before. Also, majority, 87(87.9%), thought that it is good to adopt the new lower secondary curriculum in colleges and universities. A greater proportion of the participants, 84(84.9), similarly believed that the adoption of the new curriculum in the teacher education colleges and universities will do everyone good.

The participants' level of resistance to functioning, that is, avoiding adoption of the new curriculum in teaching was generally low (M = 2.24, SD = 1.293). Only 18(18.2%) generally avoided incorporating the demands of the new curriculum in their teaching as much as they could. However, another 18(18.2%) remained neutral with regard to avoiding to incorporate the demands of the new curriculum in their teaching. Similarly, 24(24.3%) tried to minimize planning and preparation of teaching in line with the demands of the new curriculum.

There was moderately low level of resistance that negatively impacted the participants' work effectiveness (M = 2.45, SD = 1.340). The participants who tended to be very distracted in their content delivery due to the change in O-level curriculum numbered 24 (24.3%). Some (27.3%) noted that they were not as efficient or productive when using the new curriculum approach as they used to before, with 15(15.2%) remaining undecided. A similar number, 27(27.3%) agreed that they found it particularly difficult to motivate themselves to do the things they knew they should do in teaching because of the demands of the new O-level curriculum, with 24(24.2%) choosing to be undecided in this regard.

The introduction of the new lower secondary school curriculum caused low level of friction in work relationships (M = 2.135, SD = 1.202). A relatively small proportion (21.2%) of the participants agreed that during the implementation of the new O-level curriculum, they found that they were less tolerant to others. A far smaller number, 6(6.0%), expressed agreement that their relationships with their co-workers were negatively influenced by the change in O-level curriculum. These findings speak to the fact that there was still a need for buy-in among a section of teacher educators to impart the requisite competencies to the teacher trainees as they join the field.

Discussion

This study aimed to assess the readiness for change among teacher educators in Uganda regarding the new lower secondary school curriculum. The findings reveal a generally moderate level of resistance, and correspondingly, a moderately high level of acceptance of the new curriculum.

This suggests gaps in buy-in among the teacher educators. As highlighted by Mubangizi (2020), a key challenge in implementing the new lower secondary curriculum is the ineffective policy implementation, which results in suboptimal outcomes and the wastage of significant resources, time, and effort. Notably, the formulation phase involved inadequate consultation, leading to insufficient buy-in from all stakeholders, including teacher education institutions. Consequently, it is not surprising that the new curriculum has encountered resistance from key stakeholders, including teacher educators. This situation underscores the need for a concerted effort by institutions to foster change and ensure comprehensive buy-in among all stakeholders. As Wheeler (1980) suggested, the education sector should not be viewed merely as another public sector; it is an investment sector, one that is crucial to developing human capital. To achieve the desired benefits, both individually and nationally, it is essential to make appropriate investments in the quality of human capital.

Chemonges (2022) emphasises that teachers must teach practical topics "practically" for the new curriculum to equip students with the necessary skills. This necessitates that teachers themselves receive extensive training in handling the curriculum, ideally during both preservice and in-service education. Unfortunately, as Tumushabe and Arinaitwe (2013) point out, the teaching profession in Uganda has been significantly undervalued. Addressing this issue requires a comprehensive approach to improve the teacher education system by continuously enhancing the pedagogical skills and knowledge of teacher educators. Moulton (2002) suggests reducing wastage in teacher education, improving classroom performance, and enhancing the capacity of universities and Teacher Training Institutions (TTIs) to continually refine the teacher-training curriculum.

Mubangizi (2020) argues that while the quantity of teachers may not be a significant concern, their quality remains a topic of debate and criticism, particularly in the context of the new lower secondary curriculum. As Senteza-Kajubi (1992) famously stated, "No country can have a better quality of education than the quality of its teachers, as teachers are molders of tomorrow's generation, who should be prepared to live in a complex global world." The profound impact that teachers can have on their students is often difficult to measure, yet they play a crucial role in shaping the future generation to create a better and safer world. Factors such as inadequate pedagogical preparation for student teachers entering teacher education programs, low motivation, and limited opportunities for professional growth contribute to poor teacher quality. This, in turn, leads to poor planning, ineffective use of class time, authoritarian teaching styles, the use of inappropriate teaching methods, and a lack of focus on practical work and active learning.

Conclusion

While teacher educators in Ugandan universities and TTIs are somewhat prepared, there is an urgent need to fully engage these institutions. Delaying their involvement could lead to higher costs and missed opportunities to provide Uganda's youthful population with the high-quality education promised by the lower secondary education reforms. The quality of education in the country is directly tied to the quality of its teachers, which in turn depends on the quality of teacher educators. Therefore, it is essential to gain the support of teacher educators in universities and TTIs for the new curriculum. Additionally, these educators require professional development in technological, pedagogical, and content knowledge to effectively teach the updated curriculum. This will enable them to equip teacher trainees with the necessary skills to provide market-relevant education in secondary schools. The MoES could benefit from adopting international best practices, particularly from countries such as South Korea, Singapore, Vietnam, and European nations like Scotland, England, and the Netherlands.

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Pharmacological Literacy as Curriculum Input for Functional Health Education Programme: Perception of Health Educators in Nigeria

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Abstract

Health Education (HE) was established as a distinct programme from Physical Education less than three decades ago in Nigeria to address the country's growing preventive healthcare needs, as recommended by the World Health Organization (WHO) at the Alma Ata Conference in 1978. Despite multiple curriculum reviews aimed at aligning with national health philosophies, significant gaps remain in addressing both communicable and non-communicable diseases. The inclusion of pharmacology in health education is increasingly recognized as essential for enhancing healthcare outcomes. This study investigated the perceptions of health education students regarding the inclusion of pharmacological literacy in the Functional Health Education program in Nigeria. Utilizing a descriptive survey research design, the study addressed three research questions and sampled 1,892 participants. The instrument used was the Inclusion of Pharmacological Literacy Questionnaire (IPLQ). The findings revealed a positive perception among health education students towards incorporating pharmacological literacy into the curriculum. Consequently, it is recommended that the National University Commission (NUC) incorporates Pharmacological Health Education into Nigeria's academic programme in Health Education.

Keywords: Curriculum input, Health education, Pharmacological literacy

Introduction

Health Education as a programme of study in universities is growing so fast in Nigeria that most public and private colleges of health technology, colleges of education, and universities are running the course with good student patronage and increased enrolment. This phenomenon is a result of the long overdue need for the course to stand alone as a course of study because of its importance as one of the tools to meet the preventive health needs of the populace. This has been the focal point of health care strategies using Primary Health Care (PHC) as a working index identified by the World Health Organization (WHO) at the Alma Ata Conference since 1978. Nigeria as a country is making efforts to work in consonance with this WHO strategy since inception, by finding the various ways and means to achieve health for all and to meet the national health philosophy and needs, identified the teaching of health education as a stand-alone course to be studied in schools and universities as proposed at the Alma-Ata conference as a driving force for preventive medicine. For health education to achieve the goals enumerated, it has to continually undergo curricular review and update which implies that various other related disciplines must form bulk of the content areas to be looked at.

The study of anatomy and physiology, medical psychology, drug education, epidemiology, vital statistics, nutrition, medical anthropology, and in fact, the introduction of pharmacology is becoming inevitable to make health education more functional in achieving its predetermined set goals of diseases prevention and building positive health behaviour for health promotion.

Many health education professionals are working to facilitate the modification of health behaviours which has led to the relentless search for an appropriate definition of health education. Downie, Fyfe and Tannahill (1990) defined it as a communication activity aimed at enhancing positive health and preventing or diminishing ill health in individuals and groups by influencing their beliefs, attitudes, and behaviour. The World Health Organisation (1998) defined health education as comprising consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge and developing life skills which are conducive for individual and community health. Gold and Miner (2002) defined health education as any combination of planned learning experiences based on sound theories that provide individuals, group, and communities the opportunity to acquire information and skills needed to make quality health decisions. Green and Kreuten (2005) defined health education as any planned combination of learning experiences designed to predispose, enable and reinforce voluntary behaviour conducive to health in individuals, groups or communities. Health education is any combination of planned learning experiences using evidenced based practices and/or sound theories that provide the opportunity to acquire knowledge, attitudes and skills needed to adopt and maintain healthy behaviour (Joint Committee on health, 2012).

Critically looking at the various definitions proposed, some fundamental indices are very clear. In the first instance, health education is systematic, planned application which qualifies it as a science (Sharma, 2017). Secondly, the delivery of health education involves a set of techniques and not just one. Before now, health education encompassed a wider range of activities including community mobilization, networking and advocacy which are today embodied in the term health promotion. It is obvious to note that health education is a dynamic program of study that should continually evolve to meet the changing world through periodic review of the curriculum.

Pharmacology is the scientific study of the effects of drugs and chemicals on living organisms, and the study of pharmacology is interdisciplinary. Its study explores many aspects of drug discovery, development, and preclinical drug safety which integrate knowledge from multiple scientific disciplines including chemistry, biochemistry, biology, and physiology providing a significant positive impact on human health (Hobbing, 2023). The knowledge of the five branches of pharmacology: pharmacokinetics which involves the understanding of what the body does with the drug when taken; pharmacodynamics which is the biochemical and physical effects of drugs and how drug works in the body system; pharmacotherapeutics which is the use of drugs for both prophylactic and therapeutic purposes; pharmacognosy which is the study of natural resources of drugs which include plants animals; toxicology which involves the study of the toxic effects of drug on the body system. The afore-listed branches of pharmacology are related to effective training in health education at least at the introductory level for an improved understanding of health education principles for positive change in health behaviour also the knowledge of drugs for improved patient adherence to a therapeutic regimen is important (Beusekom, Grootens, Bos, Guchelaar & Broek, 2016).

Pharmacological literacy can be defined as acquiring the knowledge and skills needed to successfully navigate the world in which we live - a world full of drug-related pressures, promises, and panaceas. Introductory knowledge of pharmacology will improve career opportunities for health education graduates both for self-employment and paid employment at pharmaceutical outfits. Students need to develop the competencies to survive and thrive in this dynamic world (University of Victoria, 2015; Okueso & Okanlawon, 2016; Verveloet, Dijk, Rademakers, Bouvy, DeSmet., Philbert, & Koster, 2018; Silva, Nogueira, Cavalcante, Felipe, Morais, Moreira & Oliveira, 2022).

Objectives of the Study

To find out:

1. The opinion of the students of health education on the need to include pharmacological literacy into health education curriculum.

2. If the students will perceive the introduction of pharmacology as a course that will make health education more functional.

3. If the learning of pharmacology will improve career opportunities of graduate health educators for further study and increase hiring opportunities.

Statement of Problem

Health education as an emerging course of study requires continuous review to meet the ever-dynamic world. As practitioners in health promotion and health education, students frequently ask questions relating to career opportunities and advancement in further studies especially in the areas of public health. Graduate students from the Faculty of Education are also complaining of discrimination during job interviews and at work when placed side-by-side with graduates of health education from teaching hospitals and colleges of basic medical sciences because of factors ranging from curricula deficit, course content taught at schools and exposure to practical aspects of public to community health lacking some core courses that should be in health education. Hence the study was carried out to investigate the opinion of practitioners on the inclusion of pharmacological literacy to make health education more functional so that process can be initiated to include Introduction to Pharmacology as a course of study in health education in the Faculty of Education in Nigeria.

Research Questions

1. Which of the following content areas of pharmacology is preferred by undergraduate health educators to be included in the curriculum?
2. What is the perception of students of health education on the role of Pharmacology as a needed course in making health education more functional?
3. What is the perceived knowledge of students of health education on pharmacology as an attribute to the course to improve their career opportunities?

Methodology

Descriptive survey research design was adopted for the study while multi stage sampling procedure was used to select the sample used for the study. In the first instance, a simple random sampling technique was used to select five universities offering health education as a course of study in the southern part of Nigeria. A purposive sampling technique was adopted to select students of health education from the Department of Human Kinetics and Health Education from the Faculty of Education. Internet survey administered a questionnaire titled *Inclusion of Pharmaceutical Literacy Questionnaire (IPLQ)* online for the participants to respond to the question items based on their opinion on the subject. The instrument was validated with a reliability of r=0.823 which was trial tested among selected student health educators from Northern Nigeria. To answer the three research questions asked based on the objectives of the study, descriptive statistics of frequency count and percentages were used for the study to specifically describe the phenomenon of the participant's perception on the application of pharmacological literacy for making health education more functional.

Findings and Interpretation

Table 1: Distribution of Respondents based on Demographic Information

Demographic Information	Frequency	%
Gender		
Male	448	23.7
Female	1444	76.3
Age Group		
Less than 20 years	404	21.4
20-25 years	1356	71.7
26-30 years	124	6.6
Above 30 years	8	0.4
Level		
100	228	12.1
200	736	38.9
300	480	25.4
400	448	23.7

Table 1 above presents the demographic characteristics of health educators in public universities in Ogun State. Findings indicated that female gender dominated the sample population as indicated by 76.3% while male represent only 23.7%. Similarly, in terms of age group, majority were between 20-25 years of age as indicated by 71.7%, followed by 20 years of age or less as indicated by 21.4% then by 26-30 years as indicated by 6.6%. Findings further revealed that 38.9% were 200 level students and 25.4% were 300 level students while 23.7% were 400 level students.

Research Question One: Which of the following areas of pharmacology content will undergraduate health educators want to be included in the curriculum if introduced?

Table 2: Descriptive statistics showing areas of pharmacology content needed to be included in the curriculum if introduced

S/N	Content Areas	Yes		No	
		Freq	%	Freq	%
1	Vaccines use and application	1820	96.2	72	3.8
2	Cardiovascular drugs' use and application	1500	79.3	392	20.7
3	Musculoskeletal drugs' use and application	1500	70.3	392	20.7
4	Obstetric and Gynaecological drugs' use and application	1468	77.6	424	22.4
5	Gastrointestinal drugs' use and application	1536	81.2	356	18.8
6	Antibiotics use and application	1812	95.8	80	4.2
7	Analgesic drugs' use and application	1560	82.5	332	17.5
8	Haematinic drugs' use and application	1380	72.9	512	27.1

S/N	Content Areas	Yes		No	
		Freq	%	Freq	%
9	Antipyretic drugs' use and application	1396	73.8	496	26.2
10	Addictive drug drugs' use and application	1348	71.2	544	28.8

Table 2 above presents the descriptive statistics showing the areas of pharmacology content that undergraduate health educators will want to be included in the curriculum if introduced. The findings above indicated that all the ten (10) listed content areas were perceived by the undergraduate health educators as a must to be included in the curriculum if introduced. This includes: Vaccine use and application, Cardiovascular drug use, and application, Musculoskeletal drugs use and application, Obstetric and Gynaecological drug use and application, Gastrointestinal drugs use and application, Antibiotics use and application, Analgesic drugs use and application, Haematinic drugs' use and application, Antipyretic drugs' use and application and Addictive drug drugs' use and application.

Research Question Two: 2. What is the perception of health education students on the role of Pharmacology as a needed course in making health education more functional?

Table 3: Descriptive statistics showing whether students of Health Education will perceive Pharmacology as a needed course in making health education more functional

S/N	Perceptions	SA		A		D		SD	
		Freq	%	Freq	%	Freq	%	Freq	%
1	Introduction of pharmacology will improve general knowledge of drug classification	1052	55.6	836	44.2	4	0.2	-	-
2	Knowledge of pharmacology will boost public health knowledge of students of health education	1020	53.9	848	44.8	24	1.3	-	-
3	Pharmacology as a course is a long-expected course of study in health education	672	35.5	1096	57.9	124	6.6	-	-
4	Pharmacology as a course of study is only needed by doctor and nurses	404	21.4	328	17.3	116	61.3	-	-
5	Pharmacology has nothing to do with health education as a programme of study	548	29.0	172	9.1	1172	61.9	-	-
6	Introduction of Pharmacology as a course of study will amount to share duplication of courses in health education	436	23.0	404	21.4	1052	55.6	-	-

The descriptive statistics presented in Table 3 above explore the perceptions of students in Health Education regarding the necessity of incorporating Pharmacology into their curriculum to enhance the functionality of health education. A significant majority of students, 1052 (55.6%), strongly agree that the introduction of Pharmacology will enhance their general knowledge of drug classification. Additionally, 836 students (44.2%) agree with this statement, while only 4 students (0.2%) disagree. This overwhelming support suggests that students recognize the value of Pharmacology in expanding their understanding of drugs. Similarly, 1020 students (53.9%) strongly believe that Pharmacology will boost their public health knowledge, with another 848 students (44.8%) in agreement. Only a small fraction, 24 students (1.3%), disagree. This consensus further underscores the perceived benefits of Pharmacology in enriching public health education. When asked if Pharmacology has long been expected as a course of study in health education, 672 students (35.5%) strongly agree, and a more significant number, 1096 students (57.9%), agree. However, 124 students (6.6%) disagree, indicating some level of contention but overall strong support.

The perception that Pharmacology is only necessary for doctors and nurses is not widely held among the students. Only 404 students (21.4%) strongly agree and 328 students (17.3%) agree with this notion, whereas a substantial majority, 116 students (61.3%), disagree, suggesting that students see the relevance of Pharmacology beyond traditional medical professions. The belief that Pharmacology has no connection to health education is also not prevalent. A majority of students, 1172 (61.9%), disagree with this statement, while 548 students (29.0%) strongly agree and 172 students (9.1%) agree, reflecting that most students see a significant relationship between Pharmacology and their field of study. Concerning whether the introduction of Pharmacology would lead to unnecessary duplication of courses, 436 students (23.0%) strongly agree and 404 students (21.4%) agree. However, a majority of 1052 students (55.6%) disagree, indicating that most students do not view Pharmacology as redundant within their curriculum.

In summary, the findings suggest that students of Health Education overwhelmingly perceive Pharmacology as a valuable addition to their curriculum, enhancing their knowledge of drug classification and public health. While there is some concern about the necessity and potential redundancy of the course, the predominant sentiment is in favour of its inclusion.

Research Question Three: What is the perceived knowledge of students of health education of pharmacology as an attribute to the course to improve their career opportunity?

Table 4: Descriptive statistics showing students of health education perceived knowledge of pharmacology as a course to improve their career opportunity

S/N	Perceptions	SA		A		D		SD	
		Freq	%	Freq	%	Freq	%	Freq	%
1	Pharmacological knowledge will broaden job opportunities for health educators.	892	47.1	896	47.4	104	5.5	-	-
2	Pharmaceutical companies will hire graduate heath educators with background knowledge of pharmacology.	636	33.6	1112	58.6	144	7.6	-	-
3	Knowledge of pharmacology will serve as an opportunity for a graduate health educator to be given direct admission to study pharmacology in any university.	568	30.0	1132	59.8	192	10.1	-	-
4	Knowledge of pharmacology will not in any way improve career opportunities for graduate health educators.	656	34.7	260	13.7	976	51.6	-	-
5	Pharmacological knowledge will broaden job opportunities for health educators.	756	40.0	1032	54.5	104	55.5	-	-

Table 4 above revealed that the overwhelming majority of students believe that knowledge of pharmacology will broaden their job opportunities. With 47.1% strongly agreeing and 47.4% agreeing, a total of 94.5% of respondents see a positive correlation between pharmacological knowledge and enhanced career prospects. A significant majority of students (92.2%) agree that having a background in pharmacology would increase their chances of being hired by pharmaceutical companies. This reflects a strong belief in the value of pharmacological knowledge in the health education field. Interestingly, this item shows that 51.6% of students disagree with the statement that pharmacological knowledge will not improve their career opportunities, indicating a predominant belief in its positive impact in promoting career opportunities in health education. This repetition emphasizes the previous finding with slight variations, reaffirming the positive perception students have towards pharmacological knowledge in enhancing their job prospects.

Conclusively, the descriptive statistics strongly suggest that students of health education perceive pharmacology as a significant asset to their career development. The high percentages of agreement across multiple statements underline a consensus that pharmacological knowledge not only broadens job opportunities but also enhances employability in pharmaceutical companies as medical sales representative and academic advancement in pharmacology which can broaden their integration into working in the hospital setting as professional. The data highlights the importance of integrating pharmacology into health education curricula to meet students' career aspirations and industry expectations.

Discussion

The findings in the study revealed that all the items of pharmacological content presented to the participants to be included in the curriculum were favoured to be included in the curriculum but four of the items: Vaccines (96.2%), Gastrointestinal drugs (81.2%), Antibiotics (96.8%) and Analgesics (82.5%) were the most favoured to be included in the curriculum as the positive responses were above 80% in favour of their inclusion in the pharmacological literacy curriculum content for Functional Health Education. It is therefore important to note that when describing the content of Introduction to Pharmacology as core curriculum input, all the content should be considered as areas of interest to the students. The finding of the study that has antibiotics as the drugs that should be added to the list of the content in pharmacological literacy is in agreement with the findings of previous study that agrees that literacy about antibiotics is important because of increased rate of misuse (Aslam, Gajdacs, Zin, Abrahmam, Ahmed, Zafer et al, 2020)

The findings revealed that the participants perceived the introduction of pharmacological literacy to the health education programme would make it more functional hence the inclusion of the course, Introduction to Pharmacology in the curriculum for health education in the Faculty of Education in the Universities of Nigeria. The need to include pharmacology in health education curriculum is becoming inevitable as students are yearning for improved knowledge of pharmacological components to enhance awareness about, prophylactic diagnostic, therapeutic drugs. The finding in the study also agrees with the position of Centre for Disease Control and Prevention (2019) that reported the continuous need for health communication for effective health literacy which the findings of the study agrees that pharmacological literacy will boost knowledge for better society.

Findings of the study showed that the participants perceived the introduction of pharmacological literacy to health education will improve career opportunities for graduate health educators and promote admission opportunities for further studies in related public health studies. The inclusion of Pharmacology will broaden knowledge of health educators and improve their opportunities in employment especially in pharmaceutical and other allied companies. The work of Xu, Wang, Li, Li, Wang, Wu, Hao, and Wang, (2022) affirms the result of the finding that pharmaceutical literacy is imminent for the young ones for improved knowledge and better public health practices.

Conclusion and Recommendations

The descriptive statistical analysis was conducted to determine whether students of health education perceive pharmacology as an essential course for enhancing the functionality of health education. The findings indicate significant support for the integration of pharmacology into the health education curriculum. The study revealed that there is need for continuous curricula review in order to meet the ever-dynamic world and health education as an emerging course of study. The curricula require an upgrade to meet the societal needs and to be aligned with the global best practices. The inclusion of Pharmacology in health education programme has been perceived to improve health education programme and make it more functional since it will improve career opportunities and broaden chances of getting admitted into several other health-related courses at universities for further studies and also employed by pharmaceutical outlets for employment. It is therefore recommended that curriculum development and planners be informed of the need to include pharmacology as a course of study in health education to make it more functional.

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Parental Involvement in Early Childhood Care and Education and its Impact on Children's Social-Emotional Development in Uganda. A Case of Wakiso District

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Abstract

This paper investigated the impact of parent involvement in Early Childhood Care and Education (ECCE) on children's social-emotional development in Wakiso district, Uganda. It examined the relationship between parental involvement and the development of children's social-emotional skills, including the emotion regulation, emotional well-being, relationships with teachers, and relationships with peers. Despite its importance, parental involvement in ECCE is limited and understudied. The paper reviewed current literature on the topic and examines the challenges faced by parents in Uganda in engaging with ECCE. It also explored how parents, as key stakeholders, can be engaged to ensure that their children benefit from quality ECCE. The study used a cross-sectional research design underpinned by a positivist paradigm. Descriptive research methods were employed to analyse the data from 97 parents, selected using Krejcie and Morgan's (1970) method. Quantitative data were analysed using descriptive statistics and linear regression methods. The paper considered existing research on the impact of parent involvement on social-emotional development and its potential to improve the achievement of competencies. Finally, it presented recommendations on improving parental involvement in ECCE in Uganda, such as providing information and support and increasing access to resources. This paper contributes to the growing body of literature in ECCE and will be valuable to stakeholders involved in ECCE in Uganda.

Keywords: Early childhood care and education, parent involvement, social-emotional

Introduction

Early Childhood Care and Education (ECCE) has been recognized as a critical stage in a child's life worldwide. The importance of this stage lies in the fact that children's experiences during their early years can have long-lasting effects on their future learning and development (Taimur & Sattar, 2020). Over the years, there has been growing interest in ECCE across the globe. In Africa, the importance of ECCE has been highlighted by the African Union (AU), which adopted the "Africa Early Childhood Care and Education Initiative" in 2007, aiming to increase access to quality ECCE for all children on the continent (McCoy, Zuilkowski, Yoshikawa & Fink, 2017). In Uganda, according to Ejuu (2018), efforts have also been made to improve the access and quality of ECCE. The Ugandan government recognized the importance of ECCE and implemented policies to support its development. For instance, the "National Policy for Early Childhood Development and Education" was launched in 2007 to promote access to quality ECCE services, including parental involvement. However, despite these efforts, the level of parental involvement in ECCE in Uganda, remains limited. This lack of parental involvement in ECCE has a significant impact on children's social-emotional development (Noreen, 2022). Research by Cosso, von Suchodoletz and Yoshikawa (2022) has shown that parental involvement in ECCE can support children's learning and development, particularly in the development of social-emotional skills. Therefore, this study investigated the impact of parent involvement in early childhood care and education (ECCE) on children's social-emotional development in Uganda. The study seeks to identify the factors that hinder parental involvement in ECCE and explore strategies to enhance parental involvement as key stakeholders in ensuring that their children benefit from quality ECCE. By doing so, the study also contributed to the existing body of knowledge on the importance of parental involvement in ECCE, particularly in developing countries like Uganda, and provided insights into how to improve access and quality of ECCE services for children.

Problem Statement

Roy and Giraldo-García (2018) pointed out that parental involvement plays a vital role in promoting the social-emotional development of young children, especially in their early years. Recognising this importance, Uganda implemented policies aimed at improving parental involvement in ECCE, such as the National Strategy for Early Childhood Development, which recognise the crucial role of parents as the primary caregivers and educators of their children. Despite these efforts, parental involvement in ECCE in Uganda remains limited, and the adverse effects on children's social-emotional development persist (Noirine, 2022). This lack of parent involvement is evident in areas such as emotion regulation, emotional well-being, relationships with teachers and peers, and self-esteem. In addition, research on parental involvement in ECCE in Uganda is limited, and there is a gap in knowledge regarding effective strategies to enhance parental involvement (Malhotra, Ayele, Zheng, & Amor, 2021). This study also provided valuable insights that can inform policies and practices in the field of ECCE in Uganda to fill this gap.

This study therefore investigated the impact of parent involvement in Early Childhood Care and Education (ECCE) on children's social-emotional development in Uganda. The study recognises that parents are key stakeholders in their children's education and therefore, it seeks to examine ways to involve them in promoting quality ECCE for their children.

Research Objectives

1. To determine the level of parental involvement as key stakeholders in ECCE in Uganda.
2. To examine the relationship between parental involvement and the development of children's social-emotional skills.
3. To identify the challenges faced by parents in engaging in their children's ECCE and how to overcome these challenges.
4. To make recommendations for improving parent involvement in ECCE in Uganda.

Research Questions

1. What is the level of parental involvement as key stakeholders in ECCE in Uganda?
2. Is there a statistical relationship between parental involvement and the development of children's social-emotional skills?
3. What are the challenges faced by parents in engaging in their children's ECCE, and how can these challenges be addressed?
4. What recommendations can be made for improving parent involvement in ECCE in Uganda?

Research Hypothesis

1. Parental involvement has a statistical relationship on the development of children's social-emotional skills.

Study Significance

This study is significant in several ways:

1. Policy and programme development: It sheds light on the obstacles parents face when engaging in their children's early childhood education in Uganda, as well as the strategies that can be used to improve their participation. This information is useful for policymakers, educational institutions, and stakeholders in the ECCE sector to develop and implement effective programmes and policies that will enhance parental involvement and promote positive child development outcomes.

2. Parental guidance: The study is beneficial to parents as it provides them with important information on the benefits of their involvement in their children's education and how they can support their children's learning.
3. Educational support: The study is beneficial to teachers by highlighting the importance of parental involvement and the role they can play in promoting it.
4. Academic contribution: The study contributes to the literature on parental involvement in ECCE, particularly in Uganda, by exploring the challenges faced by parents and the impact of parental involvement on children's social-emotional development.

Literature Review

The purpose of this literature review is to provide a comprehensive overview of existing research on parent involvement in Early Childhood Care and Education (ECCE) and its impact on children's social-emotional development. This review followed the research objectives/questions of the study as indicated below: 1). To determine the level of parental involvement as key stakeholders in ECCE in Uganda, 2). To examine the relationship between parental involvement and the development of children's social-emotional skills, 3). To identify the challenges faced by parents in engaging in their children's ECCE and how to overcome these challenges and 4). To make recommendations for improving parent involvement in ECCE in Uganda.

Level of Parental involvement as a key stakeholder in ECCE

Extensive research has examined the role of parental involvement in shaping children's social-emotional development. Parental involvement, defined as the active participation and engagement of parents in their children's early childhood care and education (ECCE), has been consistently identified as a critical factor. Empirical studies have shown that parental involvement in education has a positive correlation with academic performance, improved self-esteem, better school attendance and retention rates (Danişman, 2017; Đurišić & Bunijevac, 2017, and Kocayörük, 2016). Additionally, parent involvement has been found to be associated with favourable school attachment and positive school environments for children (Wong et al., 2018). Furthermore, research has demonstrated that parental involvement programmes have positive effects on the children, their families and the school community (Magwa & Mugari, 2017).

Cosso, Suchodoletz and Yoshikawa, (2018) posit that the type and extent of parental involvement can have differential effects on children's social-emotional development. For instance, Lewallen and Neece, (2015) found that parental involvement, specifically parental sensitivity and responsiveness, had a significant positive impact on children's self-regulation and social competence. However, parental intrusiveness or over-involvement can negatively affect children's autonomy and emotional regulation (Miller, 2022). Kurtulmus, (2016) has also highlighted the importance of different types of parental involvement, such as home-based activities, school-based activities, and parent-teacher communication, in promoting children's social-emotional development. For example, home-based activities like reading to children and engaging in play have been associated with higher levels of emotional regulation and fewer behavioural problems in children (Lin et al., 2019). Similarly, school-based activities, such as volunteering in the classroom or attending parent-teacher meetings, have been linked to improved academic and behavioural outcomes in children (Park & Holloway, 2017).

Research has shown that parents who are actively engaged in their children's learning can promote positive outcomes in their children's academic, social, and emotional development. These positive outcomes include better cognitive development, stronger social skills, higher academic achievement, and improved school attendance (Greenberg, Domitrovich, Weissberg and Durlak, 2017).

Studies by Varghese and Wachen (2016) also showed that when parents engage in home-based activities, such as reading to their children, participating in play, and engaging in learning activities, they can promote their children's cognitive and language development. Additionally, parents who are actively involved in their children's education tend to have higher expectations for their children, leading to increased motivation and achievement in school (Đurišić and Bunijevac, 2017).

Despite the importance of parental involvement in ECCE, research has shown that many parents struggle to engage in their children's education due to various factors. These include limited access to information about their children's education, language barriers, work commitments, and lack of support from schools. In some cases, parents lack the necessary skills to engage in their children's education effectively (Yulianti, Denessen & Droop, 2019).

A literature gap in this area is a lack of research on the specific factors that hinder parental involvement in ECCE in Uganda. There is also limited research on effective strategies to promote parental involvement in ECCE in low-income countries such as Uganda. Understanding the specific challenges faced by parents in Uganda can help educators and policymakers to design effective interventions that promote parental involvement and improve children's outcomes (Boydell et al., 2017). Furthermore, while research has established the importance of parental involvement in children's academic success, less is known about the relationship between parental involvement and children's social-emotional development (Roy & Giraldo-García, R. 2018). This literature gap suggests a need for research to investigate the impact of parental involvement in ECCE on children's social-emotional development in Uganda. Such research would provide valuable insights for policymakers and educators seeking to promote positive social-emotional outcomes in young children.

The relationship between parental involvement in children's social-emotional development

Parental involvement in children's ECCE has been found to be a significant predictor of children's social-emotional development. Children whose parents are involved in their education are more likely to have higher levels of emotional well-being, self-esteem, and positive relationships with teachers and peers (Diale and Sewagegn, 2021). Additionally, parental involvement has been linked to lower levels of behavioural problems, such as aggression, in children (Haine-Schlagel, and Walsh, 2015). Parental involvement has been a topic of interest in the field of early childhood education for several decades. Research suggests that parental involvement in children's education can have a significant impact on their social-emotional development. In particular, children whose parents are involved in their education tend to have higher levels of emotional well-being, self-esteem, and positive relationships with teachers and peers (Liu, Sulaimani & Henning, 2020).

Kang, Horn & Palmer, (2017) found that parental involvement in early childhood education was a significant predictor of children's social-emotional development. They discovered that children whose parents were involved in their education exhibited higher levels of emotional well-being, measured by the child's positive affect and the absence of negative affect. Additionally, these children had higher self-esteem, reflected in their feelings of competence and worthiness. Moreover, (the study indicated that parental involvement fostered more positive relationships between children and their teachers and peers.

Similarly, a study by Shumow and Lomax, (2002) linked parental involvement to lower levels of behavioural problems, such as aggression in children. Their findings suggest that children with more involved parents had fewer behavioural issues and were less likely to exhibit aggressive behaviour. The study posited that parental involvement might help to create a more positive and supportive home environment, which can have a protective effect on children's social-emotional development.

Despite the many benefits of parental involvement, gaps remain in understanding the most effective ways to involve parents in their children's early education. Some research suggests that different types of parental involvement may have different effects on children's social-emotional development (Smith et al., 2023). Furthermore, it is unclear whether parental involvement is equally effective for all children or if some children benefit more than others (Muller, 2018). Liu, Sulaimani and Henning (2020) argue that further research is needed to better understand the complex relationship between parental involvement and children's social-emotional development, and identify the most effective ways for involving parents in early education.

Children's social-emotional development is a critical aspect of their overall growth. It encompasses a range of skills that enable children to understand and regulate their emotions, form and maintain positive relationships, and interact effectively with the world around them. The importance of social-emotional development in children cannot be overstated, as it is critical to their success in many areas of life (Campbell et al., 2016).

A key component of social-emotional development is emotional regulation, which refers to a child's ability to manage and control their emotions in response to different situations. Children who struggle with emotional regulation may be prone to outbursts, anxiety, and other negative emotions that can hinder their development (McLaughlin, Aspden, & Clarke, 2017). Another essential aspect of social-emotional development is the ability to form and maintain positive relationships, which includes developing empathy, sharing, and cooperation skills. Children with strong social-emotional skills are more likely to make friends easily, develop positive relationships with teachers and other adults, and better academic outcomes (Alzahrani, Alharbi, & Alodwani, 2019). Additionally, social-emotional development involves the ability to take on challenges and adapt to change. Children who possess a growth mindset and are resilient in the face of adversity are better equipped to handle the challenges of growing up (Osher, Guarino, Jones & Schanfield, 2021).

While substantial research exists on children's social-emotional development, there are still gaps in our understanding. More research is needed to understand how different cultures and communities' impact social-emotional development. Additionally, while there is some understandings of how social-emotional skills are developed, more research is needed to determine the most effective strategies for supporting these skills in children (Thapa, Nganga & Madrid, 2022). The relationship between social-emotional development and academic achievement also warrants more investigation. Understanding how these skills are related and how educators can help to foster social-emotional development to support academic success is crucial. Lastly, there is also a need for more research on the impact of technology on social-emotional development, particularly in light of the increasing use of technology in schools and at home (Panayiotou, Humphrey & Wigelsworth, 2019).

Challenges faced by parents in engaging in their children's ECCE

Parental involvement in early childhood education (ECCE) is essential for promoting children's academic and social-emotional development, but several challenges hinder this engagement. Poverty is a significant barrier, as it limits parents' access to resources and educational materials and makes it challenging to pay school fees. Other factors include transportation, work, and limited knowledge of the importance of ECCE. Language barriers and limited access to information are also significant obstacles to parental involvement in ECCE. Many parents are unaware of the importance of their involvement and how they can support their children's learning at home, while language barriers make it difficult to communicate with teachers and understand the curriculum. To improve parental involvement in ECCE, it is essential to address these challenges and provide resources, information, and support to parents in need (Kamusiime, 2018; Strachan et al., 2020; Mahuro & Hungi, 2016; Hansen, Grosso, Kakkar, & Okeyo).

Cultural beliefs also play a significant role in parental involvement in ECCE in Uganda. Some cultural beliefs in Uganda prioritize work or household chores over education, leading to a lack of emphasis on the importance of education. In some cases, gender roles may also prevent mothers from being actively involved in their children's education (Wodon, Nguyen and Tsimpo, 2016).

Inadequate parental involvement policies and lack of support from educational institutions also contribute to low levels of parental involvement in ECCE in Uganda. Policies that encourage parental involvement, such as providing information on the benefits of parental engagement, may be lacking. Educational institutions may not provide adequate support to parents, which can result in limited involvement in their children's education (Wassaaka, 2019). Literature gaps include the need for more research to understand how cultural beliefs affect parental involvement in ECCE in Uganda. More studies are also required to understand the role of language barriers in parental involvement and identify strategies to overcome these challenges. Additionally, more research is needed to understand how to develop and implement effective parental involvement policies in ECCE programs in Uganda (Ezati, Madanda & Ahikire, 2018).

Strategies for improving parental involvement in ECCE

Parental involvement is essential for the success of Early Childhood Care and Education (ECCE) programmes. However, in Uganda, several challenges hinder parents from engaging in their children's education (Mligo, 2018). Strategies have been proposed in a study conducted by Ejuu, Locoro, Nandera, Omoding, Mafabi, Kutosi & Kharono, (2022) that to improve parental involvement in ECCE in Uganda, parent and teacher associations and community engagement programmes should provide a platform for parents to participate in their children's education. The use of technology, such as mobile phones and social media, have also been proposed as an effective way to improve parental involvement in ECCE in Uganda. In addition, Lester, Pearce, Waters, Barnes, Beatty, & Cross. (2017) explain that educational institutions can provide training and resources for parents to support their children's learning at home. Such interventions can enhance parental involvement and improve children's outcomes.

Several studies have found that promoting home-school partnerships has been found to be an effective way to improve parental involvement. This involves encouraging parents to be active participants in their children's education by creating opportunities for them to interact with teachers, attend parent-teacher conferences, and volunteer in the classroom (Kocayörük, 2016). Additionally, providing parent education programmes and workshops can equip parents with the skills and knowledge needed to support their children's learning at home and in school (Mahuro & Hungi, 2016).

However, there are some gaps in the literature regarding strategies to improve parental involvement in ECCE in Uganda. For example, more research is needed to identify effective strategies for engaging fathers in their children's education, as most parental involvement programs in Uganda tend to focus on mothers (Carter, 2017). Additionally, there is a need for more research on how to overcome the cultural and language barriers that often hinder parental involvement in ECCE among immigrant and families (Norheim & Moser, 2020). Finally, there is a need to explore the effectiveness of strategies that involve the wider community, such as involving community leaders and religious leaders in promoting parental involvement in ECCE (Kunda, refugee 2016).

Research Methodology

This study employed a cross-sectional research design to investigate the impact of parental involvement on children's social-emotional development in ECCE in Uganda, involving data collection at a single point in time. The study was underpinned by the positivist paradigm, which emphasises objective observation, measurement, and empirical data analysis in research (Williams, 2020).

The positivist paradigm aligns well with the study's aim to establish cause-and- effect relationships between parental involvement and social-emotional development outcomes in children.

The survey was descriptive research utilising quantitative data analysis, to provide a comprehensive understanding of the study topic. The inclusion criteria required participants to be citizens of Uganda with a child enrolled in early childhood care and education (ECCE). The target participant group was parents, defined as a biological or adoptive caregiver, guardian, or legal custodian of a child. The sample size was determined using Krejcie and Morgan's (1970) formula, with a minimum sample size of 97 parents out of a total of 130 parents (See Appendix II).

The survey was conducted in two nursery schools, one in an urban setting and one in a rural setting. Permission to conduct the survey was secured from both nursery schools. After constructing the questionnaire, the researcher visited the selected schools and nominated research assistants in the chosen schools to help with distribution, follow-up and collection of completed instruments.

Data collection methods included self-administered questionnaire to collect quantitative data. The questionnaire, developed based on existing literature on parental involvement and social-emotional development, was pilot-tested to ensure validity and reliability. Quantitative data was analysed using descriptive statistics to summarise the data and linear regression analysis to examine the statistical relationship between parental involvement and social-emotional development in children. The findings were triangulated to provide a comprehensive understanding of the research question.

Ethical considerations were thoroughly addressed in the study. Informed consent was obtained from all participants before they answered the survey questionnaire, and their confidentiality and anonymity were ensured throughout the study.

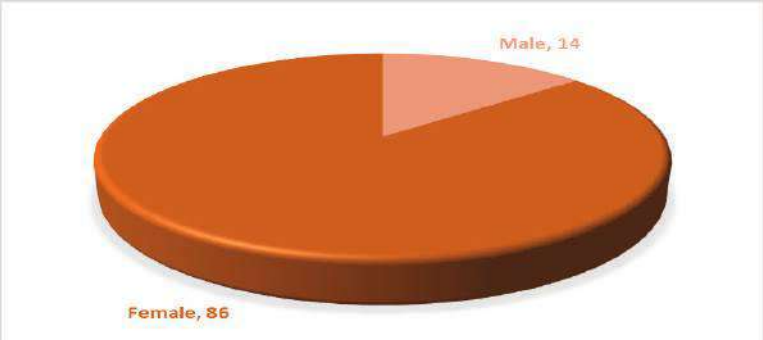
Results

This section presents the study sample, frequencies, descriptive statistics, and research question results.

Parents' Demographics

In this study, the researcher examined the demographics of the parents who took part in the survey, with a specific focus on their gender.

Figure 1: Sex of respondents



Source: Primary Data,2023

According to Figure 1, 86% of the participants were female, while only 14% were male. This indicates that the majority of the participants were women, suggesting that women are more likely to attend their children's school activities. This gender disparities implies that women are taking a more active role in their children's education and participating more in school-related activities than men.

This gender gap in parental involvement may have implications for children's academic and social-emotional development. Research has shown that parental involvement is linked to positive outcomes in both of these domains. Therefore, it is crucial to encourage and support both mothers and fathers to be actively involved in their children's education to promote the best outcomes for their children.

Parental involvement in ECCE

Data on parental involvement was analysed to establish their level of participation in the education of their children in in early childhood care education is presented

Table 1: Parent involvement

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Enough time to be involved in my child's education	97	1	5	3.8763	0.85705
Communicate with my child's teachers or caregivers often	97	1	5	1.701	0.67954
Involvement in your child's education has helped them positively	97	1	5	1.3299	0.59023
Confident in helping my child with school activities like home work	97	1	5	3.6804	1.09494
Valid N (listwise)	97				

Source: Primary Data, 2023

Based on the data analysed in Table 1, it can be concluded that most parents feel that they do not have enough time to be involved in their children's education, with the mean score of 3.8763. However, they do communicate frequently with their children's teachers or caregivers, as indicated by a mean score of 1.701. This frequent communication suggests that parents are interested in staying informed about their children's progress and well-being. This could positively impact their child's social-emotional development, as frequent communication with caregivers can foster strong relationships between parents, children, and caregivers, which is important for the child's emotional well-being.

Furthermore, the data in Table 1 reveals that parents involved in their children's education have a positive experience, with a mean score of 1.3299, indicating strong disagreement. This involvement could lead to increased motivation and engagement in the child's learning. Specifically, children with involved parents tend to have higher levels of self-esteem, self-efficacy, and emotional regulation. On the other hand, parents appear to lack confidence in assisting their children with school activities, such as homework, with a mean score of 3.6804 indicating disagreement. This lack of confidence may negatively impact the child's social-emotional development, as children who struggle with academic tasks may experience frustration, anxiety, or low self-esteem.

Table 2: Ways parents are involved in children's education

		Parents involvement		Frequencies
		Responses		
		N	Percent	Percent of Cases
ways of parents' involve-ments	Attending parent-teacher conferences	81	30.10%	83.50%
	volunteering in the classroom	26	9.70%	26.80%
	Helping with homework or projects	92	34.20%	94.80%
	Participating in school events or activities	70	26.00%	72.20%
Total		269	100.00%	277.30%
a. Group				

Source: Primary Data, 2023

Table 2 presents the various ways in which parents are involved in their children's early childhood education, as reported by the participants. The data shows that 34.2% of parents help their children with homework or projects, 30.1% attend parent-teacher meetings, 26% participate in school events or activities, and only 9.7% volunteer in the classroom. This indicates that parents are more likely to get involved in their child's education through helping with homework, attending parent-teacher meetings, and participating in school events or activities, rather than volunteering in the classroom. Parents who help their children with homework, attend parent-teacher meetings, and participate in school events or activities are more likely to have a positive impact on their child's social-emotional development.

Relationship between Parent involvement and Children's social-emotional skills

Table 3: Parent involvement and children's social-emotional development

	Descriptive Statistics				
	N	Min	Max	Mean	Std. Deviation
How often do you engage in activities with your child that promote social-emotional development, such as reading, playing games, or having conversations?	97	1	5	2.2474	0.8664
How often do you communicate with your child's teacher(s) about their well-being	97	1	5	2.1649	0.64032
How would you rate your child's emotional well-being and self-esteem	97	1	5	4.2577	0.79423

How would you rate your child's relationships with teachers and peers	97	1	5	4.299	0.6947
Emotional development	97	1	4	1.9794	0.28793
Empathy	97	1	5	3.9691	0.94045
Cooperation and sharing	97	1	54	4.7732	5.08778
Adaptability	97	1	5	1.4845	0.6143
Valid N (listwise)	97				

Source: Primary Data,2023

Table 3 presents the mean values related to parent involvement and children's social-emotional development. The data indicated that the majority of parents (mean = 2.2474) reported that they sometimes engage in activities with their children to promote social-emotional development, such as reading, playing games, or having conversations. Additionally, most parents (mean = 2.1649) reported sometimes communicating with their children's teachers about their well-being. Parents with a mean of 4.2577 reported that their children had excellent emotional well-being and self-esteem.

Table 3 also shows that parents with a mean of 4.299 reported that their children had excellent relationships with their teachers and peers. These findings suggest that when parents actively engage in promoting their children's social-emotional development and communicate with teachers, it can have a positive impact on their children's well-being and relationships with others.

The parents were surveyed regarding their observations of their children's social-emotional development, specifically in terms of emotional regulation, empathy, adaptability, cooperation, and sharing. The majority of parents with a mean of 4.7732 reported that their children always show signs of cooperation and sharing, while the majority of parents with a mean of 3.9691 reported that their children often show empathy. However, the majority of parents with a mean of 1.9794 reported that their children show limited emotional regulation, which is measured by the ability to manage and control emotions in response to different situations. Additionally, the majority of parents with a mean of 1.4845 reported that their children rarely exhibit adaptability, which is the ability to take on challenges and adapt to change. These findings indicate that while children demonstrate strength in certain aspects of social-emotional development, there is a need for improvement in others. Therefore, targeted interventions may be necessary to support children's emotional regulation and adaptability skills

Statistical relationship between parental involvement and children's social emotional development

In this section, a hypothesis testing was conducted for the statistical relationship between parental involvement and social-emotional development is presented. A model summary table is provided, which displays the level of variation between the two variables. Additionally, an ANOVA table is included, which indicates the level of significance between the variables.

Table 4: Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.903a	0.816	0.814	0.29467
a. Predictors: (Constant), Parent Involvement				

Table 4 displays a model summary table presenting the R and R^2 values. The R value, representing the simple correlation between parent involvement and social-emotional development, is 0.903, indicating a high degree of correlation. The R^2 value indicates the proportion of the total variation in children's social-emotional development that can be explained by the level of parent involvement. In this case, the R^2 value is 0.816, indicating that 81.6% of the variation in social-emotional development can be explained by the level of parent involvement. This suggests that as the level of parent involvement in children's education increases, their social-emotional development also improves. Additionally, the R^2 value indicates that a significant proportion (81.6%) of the variation in social-emotional development can be explained by the level of parent involvement. This suggests that as the level of parent involvement in children's education increases, their social-emotional development also improves.

These findings highlight the importance of parent involvement in promoting positive social-emotional development in children and reinforce the need for schools to encourage and support parent involvement in their children's education.

Table 5: Anova tests

ANOVAb						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	36.496	1	36.496	420.304	.000a
	Residual	8.249	95	0.087		
	Total	44.746	96			
a. Predictors: (Constant), Parent Involvement						
b. Dependent Variable: Social-Emotional Development						

Table 5 presents the Anova table, which includes the F-test with a value of 420.304 and 96 degrees of freedom. The high significance level of the F-test suggests a linear relationship between the variables in the regression model. Moreover, the results indicate that the regression model is an effective predictor of children's social-emotional development since the p-value is less than 0.05, with a value of 0.000. This implies that the regression model statistically significantly predicts the level of social-emotional emotional development in children.

Table 6: Coefficients table

			Coefficients(a)			
		Unstandardized Coefficients		**Standardized Coefficients**		
Model		B	Std. Error	Beta	t	**Sig.**
1	(Constant)	0.236	0.127		1.864	0.014
	Parent Involvement	0.94	0.046	0.903	20.501	0
a. Dependent Variable: Social Emotional Development						

Table 6 presents the coefficients of the regression equation, which takes the form of y = c + bx. In this equation, y represents the dependent variable (social-emotional development), c represents the constant, b represents the independent variable (parent involvement), and x represents the variable that brings about changes in the dependent variable. The regression equation derived from the coefficients table is:

Social-emotional development = 0.236 + 0.94 (Parent involvement).

This equation implies that a change in parent involvement level results in a corresponding change in their children's social-emotional development. Furthermore, the hypothesis between parent involvement and social-emotional development was presented in Table 6. The p-value of 0.014, which is less than 0.05, indicates that the null hypothesis was rejected. This result implies that parent involvement has a significant effect on children's social-emotional development in Uganda. It suggests that limited parent involvement in their children's education negatively impacts their social-emotional development, while increased parent involvement leads to positive social-emotional development outcomes in children.

The analysis indicates that there is a significant positive correlation between parent involvement and children's social-emotional development in Uganda. Specifically, the regression equation shows that for every unit increase in parent involvement, there is an increase in social-emotional development by 0.94 units. Additionally, the ANOVA test indicates that the regression model significantly predicts the level of children's social-emotional development, and the coefficient table shows that the relationship between parent involvement and social-emotional development is statistically significant ($p < 0.05$). Therefore, the implication of this analysis is that encouraging and increasing parent involvement in their children's education can have a positive impact on their social-emotional development in Uganda. This could have significant implications for policy and practice in early childhood education and development in the country.

Challenges faced by parents in engaging in their children's education

The survey identified several primary obstacles that hinder parents' participation in their children's education. The majority of parents reported that limited time due to work and lack of financial resources were significant barriers to their involvement. Additionally, language barriers were identified as an obstacle that could hinder effective communication between parents and teachers. Furthermore, parents reported difficulties with the educational system, such as different methods of teaching letters and challenges in motivating their children to learn at home.

During the survey, participants were asked about the type of support they received from their children's school to help them be more involved in their education. Parents mentioned that they received support in the form of homework assignments for their children and regular feedback on their children's progress. Additionally, the school provided parents with a WhatsApp communication platform where they could receive extra information about their children's learning progress, as well as receive extra calls from the school about their children. This level of support from the school is highly beneficial for parents, as it helps them stay informed and engaged in their children's education.

Participants were asked if there were any cultural beliefs or practices that affected the parents' involvement in their children's education. The majority of parents reported that they did not have any cultural beliefs of practices affecting their involvement in the children's education. However, some parents stated that they lacked information about the importance of parental involvement in their child's education. They expressed interest in learning about ways to balance work and education, methods to enhance their child's communication skills and confidence, strategies to raise children in the contemporary era, and techniques to assess and improve their child's mental well-being.

Recommendations and strategies for improving parent involvement in ECCE in Uganda

According to the survey, participants emphasised incorporating technology, such as mobile phones and social media, to enhance parental involvement in Early Childhood Care and Education (ECCE). Parents acknowledged that technology can facilitate communication between them and their children's teachers and enable access to quality educational content like rhymes and videos.

However, parents expressed the need for appropriate regulation of information accessible through technology to ensure that children only access relevant educational materials. Therefore, educating parents on regulating technology is crucial in promoting children's access to appropriate educational content. Participants also expressed a desire to take part in parent education programmes and workshops on topics such as personal hygiene, social-emotional development, and ways to motivate children to improve their self-esteem and confidence. They also suggested that schools should provide materials in local languages to address language barriers and work closely with parents to ensure they are informed about their children's development. By addressing language barriers and providing opportunities for parent education, parents can play an active role in their children's education and development.

Additionally, parents also suggested more of class presentations at the children's schools, more homework, and increased opportunities for sports, dance and drama. These activities can teach children about their culture, enhance self-esteem and build confidence.

Discussion, Conclusion and Recommendations

This section summarises the discussions, conclusions, and recommendations based on the findings presented in Chapter Four. The discussions were structured around the research questions, and the conclusions were drawn from the survey data. Finally, recommendations were provided based on the findings to improve parental involvement and children's social-emotional development in early childhood education.

Discussion

The study's first question examined parental involvement in early childhood care and education (ECCE) in Uganda. The survey revealed that parental involvement is essential for a child's overall development. The obtained data showed that parents are actively communicating with their children's teachers or caregivers, indicating their interest in staying updated on their children's progress and well-being. This communication can positively impact a child's social-emotional development by fostering strong relationships between parents, children, and caregivers, which is crucial for their emotional well-being. Additionally, Kurtulmus (2016) emphasised the significance of different forms of parental involvement, such as home-based and school-based activities, and parent-teacher communication in promoting children's social-emotional development. The study found that parental involvement in children's education results in positive experiences for both the parent and child. This involvement leads to increased motivation and engagement in children's learning, resulting in higher levels of self-esteem, self-efficacy, and emotional regulation. Liu, Sulaimani and Henning, (2020) also found that involved parents contribute to their children's emotional well-being, self-esteem, and positive relationships with teachers and peers. Schools can provide resources and support for parents to feel confident in assisting their children with academic tasks. Parental involvement through homework help, attending meetings and participating in school events fosters a strong parent-child relationship and promotes essential life skills for the child's social-emotional development.

The study's second research question examined the relationship between parental involvement and the development of children's social-emotional skills. The survey data revealed that parental involvement positively impacted children's social-emotional development, which is consistent with prior research studies (Liu et al., 2020; Kurtulmus, 2016). Targeted interventions are necessary to improve children's emotional regulation and adaptability skills. Parents can significantly contribute to supporting their children's social-emotional development by fostering positive relationships, providing emotional support, and encouraging them to explore their emotions in a safe environment.

Empirical studies have demonstrated that parental involvement has a positive correlation with academic performance (Danişman, 2017; Đurišić & Bunijevac, 2017), improved self-esteem (Kocayörük, 2016), better school attendance and retention rates (Danişman, 2017), favourable school attachment (Wong et al., 2018), and positive school environments for children (Wong et al., 2018). The survey result implies that limited parent involvement in children's education negatively impacts their social-emotional development, while increased parent involvement leads to positive outcomes. This indicates that parent involvement has a significant effect on children's social-emotional development in Uganda. Therefore, encouraging and increasing parent involvement in their children's education can have a positive impact on their social-emotional development, which could have significant implications for policy and practice in early childhood education and development in the country.

The third research question was about the challenges faced by parents in engaging in their children's ECCE, and how these challenges can be addressed. The survey aimed to uncover the primary obstacles that parents face when trying to participate in their children's education. The majority of parents cited their limited time due to work and the need to provide for their families as a significant barrier. The study also found financial obstacles, lack of educational resources, and language barriers to be challenges for parents. The literature review also pointed out that parents living in poverty may lack the resources needed to support their children's learning, such as educational materials and the ability to pay for school fees (Kamusiime, 2018). Parents living in poverty also have limited access to transportation, lack of time due to work or other responsibilities, and limited knowledge of the importance of ECCE (Strachan et al., 2020). Furthermore, limited access to information is a significant barrier to parental involvement in ECCE. Many parents in Uganda are not aware of the importance of their involvement in their children's education and how they can support their children's learning at home (Mahuro & Hungi, 2016). Additionally, language barriers can make it challenging for parents to communicate with teachers and understand the curriculum (Hansen, Grosso, Kakkar, & Okeyo).

The study emphasised the importance of effective communication between parents and teachers for a child's social-emotional development. The survey results showed that schools provide support to parents in the form of homework assignments, progress feedback, and communication platforms like WhatsApp. However, some parents expressed a lack of information about their involvement in their children's education and wanted to learn more about balancing work and education, improving their children's communication skills and mental well-being.

The fourth research question was about recommendations provided by the parents that can be made for improving their involvement in ECCE in Uganda. The survey revealed that technology, such as mobile phones and social media, can enhance parental involvement in Early Childhood Care and Education (ECCE) by facilitating communication between parents and teachers and providing access to quality educational content. However, appropriate regulation of technology is necessary to ensure that children only access relevant educational materials. This was in line with the literature review that pointed out that the use of technology, such as mobile phones and social media, have also been proposed as an effective way to improve parental involvement in ECCE in Uganda. However, more research is needed to determine the feasibility of using technology as a means of engaging parents and promoting positive outcomes in children's development (Sumani, Twine and Busingye, 2017). The survey found that educating parents on regulating technology is crucial for promoting children's access to appropriate educational content, as technology such as mobile phones and social media can enhance parental involvement in Early Childhood Care and Education (ECCE) in Uganda. Additionally, parents expressed a desire to participate in parent education programmes and workshops on various topics related to child development, and suggested that schools should provide materials in local languages and work closely with parents to ensure they are informed about their children's development.

Conclusions

In conclusion, the survey results demonstrate that parental involvement is crucial for the social-emotional development of children in Uganda. Effective communication between parents and teachers is essential to ensure positive outcomes. The survey also identified several barriers that parents face when participating in their children's education, including limited time due to work, financial obstacles, and language barriers. Schools must provide parents with resources and support to facilitate communication and ensure full participation. Technology can enhance parental involvement in ECCE, but appropriate regulation is necessary to ensure that children only access relevant educational materials. The survey highlights the importance of parent education programmes, addressing language barriers, and involving parents in various activities to support their children's social-emotional development. The findings of the study can inform policies and practices in early childhood education and development in Uganda.

Overall, the findings of this survey highlight the need to prioritise parental involvement in ECCE and address the challenges that parents face in supporting their children's social-emotional development. By addressing the concerns highlighted, children can receive the support and guidance they need to thrive and reach their full potential.

Recommendations

Based on the information provided from the survey, the researcher made the following general recommendations to improve the parent involvement as a strategy to improve children's social-emotional development:

1. Provide resources and support for parents: Schools should provide resources and support for parents to help them feel more confident in assisting their children and inform them about the significance of their involvement in their children's education. This can be done through parent education programmes and workshops that cover various topics related to child development and provide materials in local languages.
2. Encourage parental involvement: Schools should encourage parents to get involved in their children's education by providing opportunities for them to participate in school events, activities, and parent-teacher meetings. This can help to foster positive relationships between parents, children, and caregivers, which is essential for the children's emotional well-being.
3. Utilise technology: Technology can be a powerful tool in enhancing parental involvement in early childhood education. Schools should utilise technology such as mobile phones and social media to facilitate communication between parents and teachers and provide access to quality educational content.
4. Address language barriers: Language barriers can be a significant obstacle to parent involvement in early childhood education. Schools should work closely with parents to ensure they are informed about their children's development, and provide materials in local languages to improve communication and understanding.
5. Promote social-emotional development: Schools should prioritise promoting social-emotional development by providing opportunities for children to engage in activities that build self-esteem and confidence. This can include sports, dance, drama, and other cultural activities that teach children about their heritage and build their sense of identity.
6. Create safe and supportive environments: Creating safe and supportive environments can help children develop positive relationships with their parents, teachers, and peers. This can include fostering positive peer relationships, creating opportunities for children to develop their self-confidence, and promoting positive discipline practices.

7. The study recommends that schools provide resources and support for parents to facilitate communication and ensure full participation. Additionally, schools should provide parents with information about the importance of their involvement in their child's education and how to balance work and education.
8. It was also recommended that there is need to have more class presentations, homework, and opportunities for sports, dance, and drama to teach children about their culture and build self-esteem and confidence.

Build strong partnerships: Schools can work to build strong partnerships with parents, which can include creating opportunities for parents to engage with school staff and participate in decision-making processes related to their child's education. By implementing these recommendations, schools and educators can create a positive and supportive environment that fosters the social-emotional development of children while also strengthening the relationship between parents and their children's schools. This can have significant long-term benefits for children's overall well-being and success.

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Sub-Theme 4:
Global Trends in Education

Global Pedagogical Trends in Education

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Abstract

Education is a key concern of the 21st century, facing significant changes driven by technological advancement and evolving labour demands. This shift necessitates the integration of technology into teaching and learning, enabling both teachers and learners to generate new knowledge and apply innovative skills to enhance their lives and communities. Improved education systems are increasingly adopting Competence-Based Education (CBC) to align with contemporary trends. However, few studies have been systematically analysed global pedagogical trends and their impact on the labour market, highlighting the need for research in the area. This paper aimed to examine the global pedagogical trends in education through a systematic literature review of existing research papers and journal articles. to the review focuses on articles published in recognized journals, with 250 research and journal articles initially reviewed. Of these, only 30 articles were selected based on their relevance to identified pedagogical trends, some of which include component of systematic literature reviews. Related studies revealed a paradigm shift in education, emphasising the role of pedagogy in teaching and learning. This shift places the learner at the centre of the process and the teacher in a supportive role. There is a strong focus on providing inclusive, affordable, equitable, and accessible education to all learners. Education practitioners should reimage education to cater for the individual learner and societal needs, mastering the art of teaching, utilising technology, applying differentiated learning approaches, addressing 21st-century concerns and implementing Competence-Based Education to promote lifelong learning. This approach supports the Government of Uganda in developing policies that stimulate pedagogical innovations in education.

Keywords: Competence-Based Education, Lifelong learning, Pedagogy, Technology

Introduction

Global Pedagogical Trends (GPT) in education include personalised learning, flipped classroom, blended learning, gamification, technology and the 21st-century skills. These trends represent a paradigm shift from teacher-centred to learner centred approaches, focusing on the pedagogy and learning outcomes (Kaliisa et al., 2019). As nations and governments strive to adapt curricula and pedagogy to the Volatile, Unpredictable, Complex and Ambiguous (VUCA) world, they are implementing education reforms to develop competent human capital.

Countries such as Russia, the USA and China are integrating humanistic trend in education, aligning with their cultural norms and values within national education systems (Tolstova & Levasheva, 2019)China and the United States is a humanistic trend in education, which has its own national characteristics and peculiarities associated with the traditions, customs and particularity the development of national educational systems in these countries. The author reveals the general vector of development of the humanistic trend in education in Russia, China and the USA in the conditions of the electronic informational and educational environment, manifested in the following features. They are 1. This alignment aims to boost social and economic growth by promoting equity in education, creating a common scientific space, and redefining the roles of teachers and learners.

This paper examined GPTs are implemented in the teaching and learning process globally. GPTs refer to various teaching and learning approaches adopted to regional cultures. They range from traditional and indigenous methods to modern techniques, depending on national educational goals and philosophies aimed at improving communication, problem-solving, and resource sharing among learners (Chatti et al., 2007). The study reviewed the implementation of Global Pedagogical Trends (GPTs) by teachers to inform curricula reforms at both national and global levels, drawing from diverse scholarly works on technology use, personalised learning, flipped classrooms, and 21st-century skills.

Personalised learning is a key GPTs adopted worldwide, focusing on identifying individual learners' needs, goals, and skills. It involves creating personalised pathways, self- paced learning and leveraging the learning environment (Ilyas et al., 2021). This approach is recognised as a significant reform in contemporary education, emphasising methodology and learning outcomes (Pursel et al., 2016). In Uganda, personalised learning is gaining interest, particularly in the thematic and new lower secondary curriculum, to equip the learners with the desired learning outcomes.

Flipped classrooms represent another GPTs innovation, transforming learning environments to increase learner self-confidence, interest, and satisfaction while equipping them with lifelong skills (Rizi et al., 2017). This pedagogy encourages hands on activities outside the traditional classroom settings and is increasingly adopted globally.

Blended learning combines practical classroom lessons with online technology-facilitated sessions, allowing learners to adapt and utilise technology. And participate in global learning events (Wong 2022).

Gamification applies games in a non-game environment to enhance learning, motivation and engagement (Yen et al., 2018)online, and blended teaching modalities in an undergraduate Child Development course to determine if there were differences in student academic outcomes and course satisfaction across modalities. Student academic outcomes were measured by three examinations, one research paper assignment, and the overall course total grade. Course satisfaction was measured by administering the Student Opinion Questionnaire (SOQ. This approach supports skills acquisition in problem-solving, collaboration, and communication (Kapp, 2012). In Africa, games are used to teach basic numeracy and literacy skills.

Technology integration is a rapidly advancing GPT, prominently featuring in virtual reality and other technological application in education (Bekele et al., 2018). This trend focuses on incorporating technological pedagogical content to support the teaching and learning, equipping learners with lifelong skills, and fostering global interaction through flexible, adaptable, and interactive online courses

21st-century skills are critical for the future workforce, emphasising improved learning outcomes and producing highly skilled personnel for the global economy. Skills such as critical thinking, collaboration, communication, creativity, and computational skills are integral to modern education, ensuring learners are prepared for global context. (O'Lawrence 2017)economic growth depends on career and technical programs for skill training. Background: This study discusses the key area in promoting individual learning and skill training and discusses the importance of career education and training as a way of promoting economic growth. Methodology : This study uses a qualitative study approach to investigate and report on the status and influence of Workforce Education and Development and its economic importance. Contribution: This report contributes to the knowledge base common to all work settings that can solve many human performance problems in the workplace. Findings: This study also justifies and validates the ideas on the importance of workforce education and development in the 21st century as a way of developing economic growth and providing learning to make individuals competitive in the global economy. Recommendations for Practitioners : For practitioners, this study suggests that we must always have discussions of what leads to career success and understanding that there is not enough high-skill/high-wage employment to go around. Therefore, developing these skills requires a decision about a career or related group of jobs to prepare to compete for them; we have to provide training needed in order to be competitive in global economy. Recommendation for Researchers: Researchers have to develop strategies to promote career direction with willingness to evaluate the level of academic interest, level of career focus and readiness for life away from home (attitudes, skills and knowledge of self

These GPTs are central to the evolving educational landscape and form the focus of this paper.

Related literature

The introduction of General-Purpose Technologies (GPTs) in education has significantly increased access to learning across the globe. Online technology course shave addressed unmet educational needs, transforming the delivery of knowledge, skills and values (Magrelli et al., 2013). Magrelli further asserts that emerging technologies have made teaching and learning abstract concepts more practical and realistic to learners.

Personalized Learning (PL) as an Emerging GPT

Personalised Learning (PL) is an emerging GPT, characterised by five dimensions as outlined in an educational policy report: assessment for learning, teaching and learning strategies, curriculum choices, school centred approach to school organisation, and strong partnerships beyond school (Shemshack & Spector, 2020). The United States National Education Technology plan NETP (2017) defines Personalised Learning as instruction where the pace of learning and approach are tailored to the individual learner's needs, emphasising learner-driven activities (Han & Ellis, 2020). Additionally, the American Psychological Association Presidential Taskforce on Psychology in Education (1993, as cited in Lee etal,2018) describe Personalised Learning Plan (PLP) as a customised instruction plan addressing individual differences such as career goal, characteristics, and interests. PLP helps adjust learning events and methods to each learner's pace. Supporting this, Li and Wong, (2021) proposed an eye-tracking system to determine user interest and behaviour.

However, Bernacki, Greene, & Lobczowski. (2021) identify a research gap in PL environment, emphasising the need to focus on emotions and personality, as they significantly play a influence adaptive systems related to feedback.

Information Communication Technology (ICT) is recognised for boosting PL, with rapid development cited by Xie, Chu, Hwang, & Wang. (2019). Similarly, (Zhang et al., 2020) advocate for adaptive learning systems that support individual learning.

Personalised Learning is underpinned by Constructivism theory, which posits that individuals construct knowledge based on their prior experiences through language and social interaction. The term Personalised Learning is often used interchangeably with differentiated and individualised learning. Research indicates that Personalised Learning is particularly beneficial for learners with Special Education Needs (SEN), as they have Individualised Education Plans (IEP) mandated by some states to ensure schools accommodate their needs.

Technology as an Emerging GPT

While technology has been evolving for years, it gained prominence in the Third Industrial Revolution (3IR), which focused on electronics and information technology. Integrating technology into curriculum materials was advocated to make learning more interesting and motivating, supported by educational games (S.I., 2020). Azmi et al. (2018) assert that these games enable learners to expand content and apply knowledge and skills in real life. Innovations like Virtual Reality have also been introduced.

The Fourth Industrial Revolution (4IR) has brought about more technological innovations, including Artificial Intelligence (AI), which helps learners acquire knowledge, skills and values more easily and engage in realistic research and hands-on projects. Technological advancements have transformed teaching methods and learning environments. Cronje. (2020) argues that these advancements are reflected in Blended Learning, Virtual Classes, online classroom portals, and social media platform, making learning more flexible and accommodating multiple learning styles.

Related GPTs Reviews

Since this study focuses on exploring GPTs in education, it is important to summarise the existing research in this field. Table 1 presents a review of previous studies on GPTs.

Trends within the Systematic Review

No	Review	Year of Publication	Focus	No of Studies	Year Range of Reviewed Studies
1)	Systematic Review of Research on Personalized Learning	2021	Personalised Learning	60	2021
2)	An Operationalised Understanding of Personalized Learning	2016	Personalised Learning	45	2016-2023
3)	Learning Environment Framework	2010	Usability of Mooc Environment	75	2010-2019
4)	MovingtowardsEnvironmentalSustainability: Information & Communication Technology, Freight Transport CO2 Emissions	2021	ICTs & Transport Emission Systems	23	2021
5)	A Systematic Review of Research on Personalised Learning	2021	Personalised Learning	86	2000-2020
6)	Exploring Lecturer's Readiness for 21st Education in Malaysian Higher Learning Institutions	2020	21st-Century Skills	60	2003-2018
7)	Meta-verse Framework E-Learning Environments	2022	E-Learning Environment	46	2007-2021
8)	Exploring the Trends of Educational Virtual Reality games	2020	Virtual Reality Games	26	2005-2019
9)	Development Trends in the Subject of Pedagogy & Education Systems	2021	Pedagogy & the Education System	69	2020
10)	Current Trends in Education Technology: Worldwide	2020	Technology	64	2019-2022
11)	4 Changes that will Shape the Classroom of the Future: Making Education Fully Technological	2016	Technology	72	2016-2022
12)	What are the 21st Skills Every Student Needs	2016	21st-Century Skills	61	2016
13)	Theories of Globalisation	2007	Globalisation	64	2007

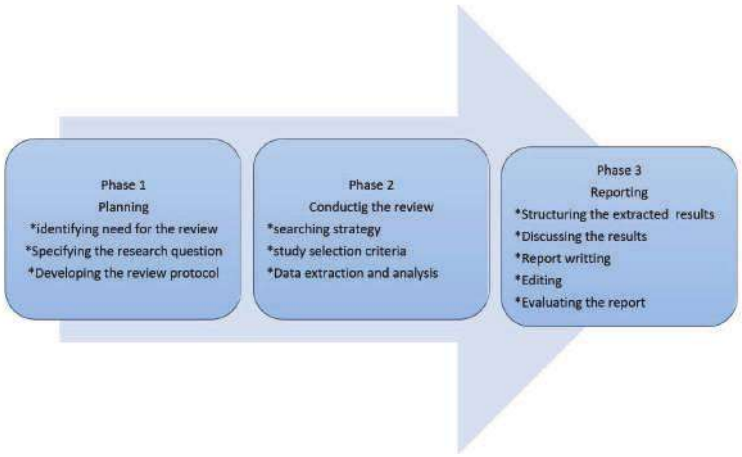
No	Review	Year of Publication	Focus	No of Studies	Year Range of Reviewed Studies
14)	Applying Gamification to Asynchronous Online Discussions	2019	Gamification	60	2019-
15)	Need-Supporting Gamification in Education; An Assessment of Motivational Effects Over Time. Computers & Education	2018	Gamification	64	2018
16)	Blended Learning: the New Normal and Emerging Technologies	2018	Blended Learning	19	2018
17)	Blended Learning: An innovative approach	2017	Blended Learning	55	2017
18)	Flipped Classrooms effectiveness in Teaching Anatomy	2022	Flipped Classroom	68	2022
19)	Flipped Classrooms: A Review of Key Ideas and Recommendations for Practice	2016	Flipped Classrooms	104	2016
20)	Flipped Classrooms: A Review of its Advantages and Disadvantages	2018	Flipped Classrooms	99	2018

Table 1 Related Literature to the Global Pedagogical Trends

We realise that minimal efforts have been made to systematically review GPTs in education, particularly concerning personalised learning, flipped classrooms, technology, and the 21st-century skills. Given the dynamic and fast-growing world that we are living in, it is important to prepare citizens to fit in it and support the socio-economic growth of their nations. Therefore, this paper provides a systematic literature review examining GPTs in education in three selected areas: Personalised Learning, Technology, and 21st-Century Skills, to provide insights for future researchers in this field.

Methodology

Guidelines for conducting a systematic literature review, as proposed by Kitchenham (2007), were followed. Scholarly articles from journals and electronic resources were utilised to extract abstracts and full papers related to GPTs. To aid organisation and management of the collected literature, Kitchenham's (2007) guidelines were divided into three phases: Planning, Conducting of the Review, and Reporting. These phases are illustrated below in Figure 1.



Phase 1. Planning the Review

This phase involves identifying the need for the review, specifying the research questions, and developing a review protocol. Studies related to GPTs in education, with a focus on Personalised Learning, Technology, and 21st-Century Skills, were reviewed due to their significant impact on pedagogical strategies in the teaching and learning process.

Phase 2. Conducting the Review

This phase involves following the guidelines for carrying out the systematic literature review as provided by Kitchenham (2007). To maintain objectivity, the search engines used to guide the study are listed in table 2. The preliminary reviews in table 1 informed the research framework and the questions, with a narrowed focus on GPTs in education. Articles were selected depending on their relevance to the question. The researcher read abstracts and scanned some full papers to gather content aligned with GPTs. Articles that did not focus on personalised Learning, Technology, and 21st-Century Skills were excluded. Out of the 250 journal articles and abstracts scanned from three databases, only 30 articles were included in this study.

Table 2: Search Engine

Database Source	Search Strategy
Google Scholar	Title & Abstract
Elsevier Journal	Full Paper Pdf
Google com	Title
Science Direct	Alternative Search
Wiley Journal	Systematic Literature Review Paper

In line with the data extraction and analysis, data was coded and themed according to the study on GPTs in education. A clear rationale for the review was established, and specific research questions were adopted for executing the review. These included:

1. Which terms are synonymously used with Personalised Learning?
2. Which publications are available on Personalised Learning?
3. Which database provides literature on Personalised Learning?
4. Which learning technology themes have been evaluated and reviewed?
5. What are the findings relating to use of technology in education?
6. Which 21st=century skills are emphasised and researched in relation to education?

Following this, data extraction and analysis were conducted. The extraction process is illustrated in Figure 2 below.

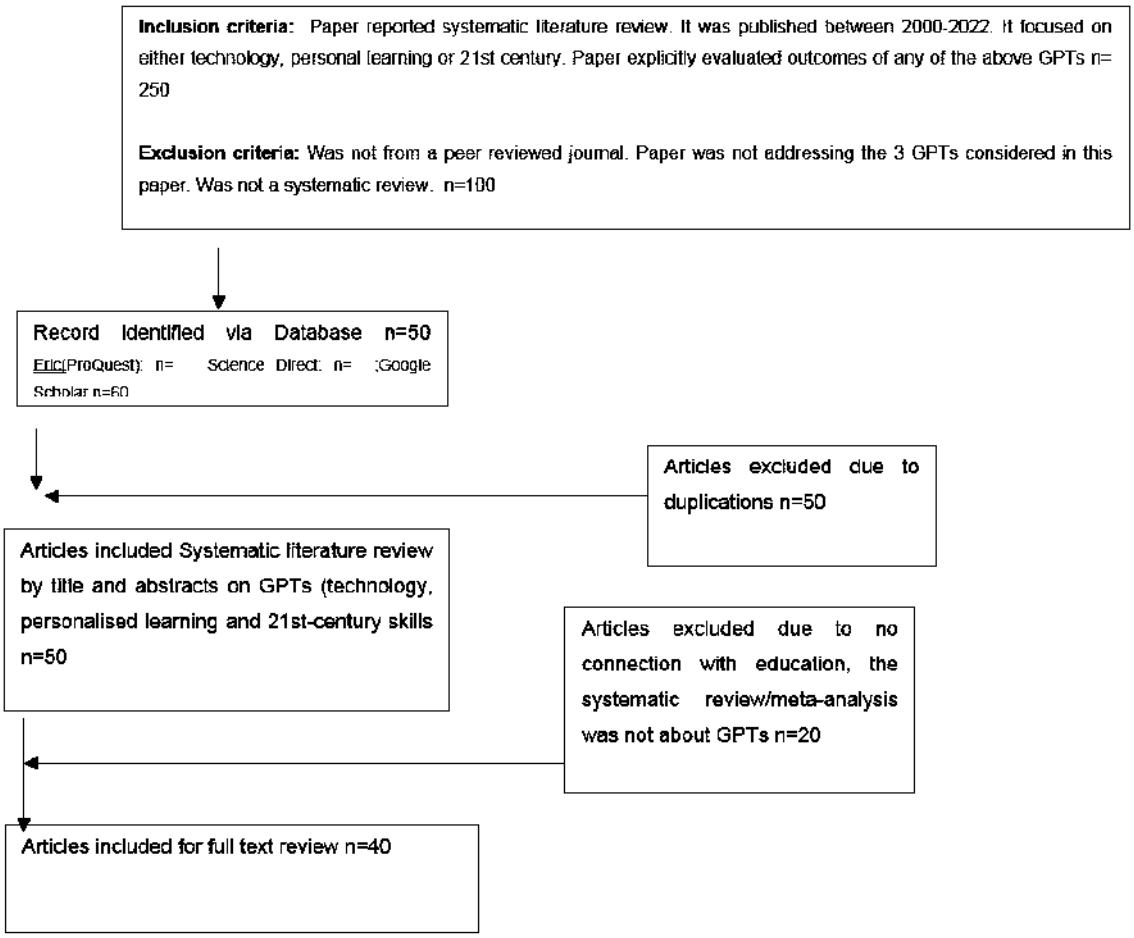


Figure 2 A diagrammatic representation of the literature selection process as adapted from Jennifer and Bower (2019)

Phase 3. Reporting the Findings

This phase involves reporting, structuring of the extracted results, discussing them, editing the report and evaluating it. The results are organised categorically as Personalised Learning, Technology, and the 21st-Century Skills.

Personalised Learning (PL)

The review focused on Personalised Learning as a GPT in education in terms of the synonymous terms used alongside it, published papers on PL seem to dominate and selected data bases for PL as illustrated in the tables below.

Table showing terms synonymously used with Personalised Learning by journal articles

Journal Name	Personalized Learning	Adaptive	Individualized	Customized
Computer and Education	6	4	0	0
British Journal of Education	1	3	0	0
Journal of Education Technology and Society	4	3	2	0
Journal of Computer Assisted Learning	3	0	0	0
Education and Information Technology	6	2	0	0
Education Technology, Research and Development	2	1	1	0
TOTAL	22	13	3	0

The table on terms synonymously used with Personalised Learning, reflects that the close used is adaptive, thus journal articles that focused on Individualised and customized learning were excluded from the study since little information was availed from them and out of the remaining 30 articles, only were considered in this study.

Table showing full papers published in journals on Personalised Learning

Journal Name	Papers in Phase 1	Papers after exclusion 1	Papers after exclusion 2
Computers and Education	100	30	10
British Journal of Education	20	5	3
Journal of Education Technology and Society	30	10	5
Journal of Computer Assisted Learning	30	6	3
Education and Information Technology	45	20	4
Education Technology and Research Development	25	20	5
TOTAL	250	91	32

A total of 250 journal papers on Personalised Learning were scanned. Papers published outside the period from 2000 to 2022 were excluded from the study. Another exclusion criteria were the publication journal; any journal not listed in the predefined table was excluded. The focus was then drawn on systematic literature reviews on Personalised Learning, resulting in only 30 fully published papers being considered to guide the study.

Technology

The study examined how technology was being adapted as a GPT to guide teaching and learning from 2000 to 2023. The guiding questions focused on identifying technology use, themes reviewed and evaluated, and findings related to technology in education. Key areas of focus included pedagogical uses of technology Yepes et al. (2022), the impact on community and systems (Juniu, 2011)rather than thinking of them in isolation. In order to teach in a given discipline, the teacher must have knowledge of the subject, an understanding of the best teaching strategies for presenting the content, and knowledge of the learners' characteristics and of the educational context (e.g., the gymnasium, and factors affecting use of technology in education (Tondeur et al., 2017).

A meta-analysis was conducted to systematically review literature related to technology, collecting quantitative data Specific technologies aiding learning in various fields were analysed, including game based learning in primary education (Hainey et al., 2016)secondary and tertiary education. Despite this recognition and utilisation there is still a lack of empirical evidence supporting GBL as an approach. This paper presents the findings of a systematic literature review performed from 2000 to 2013 specifically looking at quality empirical studies associated with the application of GBL in Primary Education (PE, the impact of learner response systems in education (Cárdenas-Moncada et al., 2020), and reviews of engineering education (Borrego et al., 2014). The effectiveness of technology in classrooms was examined by Archer et al. (2014) through meta-analyses of reviews on learning technology. This revealed the challenge for researchers and educators in understanding the trends and patterns of technology use. Supporting themes from reviews included patterns of interaction and behaviour (Li Min-yan & Cui Yan-qiang, 2015), different pedagogical uses of technology (Донской et al., 2021), institutional and systematic factors affecting the use of technology in education (Wang et al., 2021)there is scarce research exploring the older adults' attitudes towards and intention to use such technologies. This paper is based on a systematic review of existing literature to explore the multifarious factors influencing independent community-living older adults' attitudes towards and intention to use LDC technologies. Methods: Articles published in English between 2006 and 2020 were reviewed by searching electronic databases of PubMed, ProQuest, EBSCOhost. The inclusion criteria were limited to quantitative, qualitative, or mixed-methods studies that involved: 1.

The 21st-Century Skills

The guiding question for 21st-century skills was: Which 21st-century skills are emphasised and researched in education? These skills are also known as the soft skills, include communication, critical thinking, creativity, collaboration, problem-solving, self -efficacy, and technology. They are emphasised in the Organisation for Economic Cooperation and Development (OECD) 2030 map for future workforce skills (Shirai et al., 2021). The OECD asserts that modern teaching and learning should focus on outcomes and producing highly skilled personnel for the industry.

In our technology-advanced world, integrating technology into subject materials is now common. Various Open Online courses have been developed and made accessible to learners at low or no cost. These resources transform lives globally, enabling learners to network with scientists and specialists to enrich their knowledge. This international collaboration has led to co-authored courses in Europe, focusing on building innovative, resilient, and productive economies and communities. This is achieved by creating quality learning time, bridging the gap between curriculum intent and learning outcomes, developing content that promote critical thinking, and providing equitable curricula for all learners. The literature emphasises that 21st-century skills are essential for learners' success in college and careers in the globalised, high-tech, knowledge-based world (Nariman, 2014)

Discussion

The study revealed that GPTs in education have been increasing since 2007 to respond to the VUCA world and prepare learners to address unpredictable problems. Many studies integrating personalised learning, technology, and 21st-century skills have emphasised pedagogy through Personal Development Education (PDE) workshops. Jacobson-Lundeberg (2016) argued that PDE, focusing on the skills embedded within pedagogical practice, mitigates patterns of mis-education. Soft skills are emphasised because they are highly valued in the workplace. Noah & Aziz. (2020) noted that employers rate soft skills as the highest in importance relative to workplace values and norms.

21st-century skills were portrayed as enhancing confidence, self-efficacy, and credibility. Van Laar et al. (2020) stated that communication and collaboration are gateways to critical thinking, problem-solving, stress management and risk-taking. Technology is being advocated for as a GPT in education, with innovation like embedding gaming in teaching and learning to relate to real-world contexts. Likitweerawong & Palee. (2018) noted that adopting games in education is sometimes challenging, particularly when using keyboards. Although a few games are tailored to education, more are needed to boost the sector. Additionally, technologists worldwide Limitations often lack the expertise to design learning activities tailored to desired outcomes.

1. The study focused on three GPTs in education: personalised learning, technology, and 21st-century skills, without considering others equally important ones.
2. The study did not consider multi-cultural use of GPTs, such as journal articles and abstracts in languages other than English.
3. Cross-comparative reviews sharing the practice of the same GPT in education across different countries were not considered.
4. Researchers and policymakers fear technology might take over the education sector

Conclusions

Globalisation is a fast-growing trend that impacts education reforms and curriculum development. Education practitioners must align teaching and learning with workplace skills, ensuring lifelong learning and global community engagement. Educators need to update their knowledge for self- development and international collaboration. GPTs in education should focus on enabling collaboration and networking among learners from different continents. More support technologies should be adapted to operationalise online courses and curricula for learners to select according to their preference.

Educationists should emphasise lifelong learning by equipping learners with technologies and skills requiring continuous professional development. With Competence-Based Education (CBE) being advocated, teaching and learning are becoming more flexible and dynamic, occurring outside traditional classrooms. Practitioners must pay close attention to prevailing technology trends and their daily life impacts. Digital learning is becoming the new norm, supporting the production of competent citizens ready for the workforce. However, cognitive overload is a threat due to vast amount of online information. Educators must filter available information and facilitate its use in a various social-economic contexts.

Recommendation

A cross-comparative review study on GPTs, sharing practices of the same GPT in education across two or more countries, should be conducted and shared to provide clear benchmarks for further studies.

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Sub-Theme 5:
Quality Education for Socio-Economic Transformation

Integrating Practical Entrepreneurship Skills in Degree Curricula as a Basis for Sustainable Development

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Abstract

In today's job market, entrepreneurial skills are essential for professional success and sustainable development. This study examines the integration of practical entrepreneurship skills in degree curricula, considering globalisation and digital transformation. Using unstructured interviews, focus groups, and critical data reflection, the study identifies socio-economic and socio-cultural reasons for the relevance of this integration. data was analysed using Stata software for qualitative data and thematic analysis for qualitative data. Majority of the respondents lacked creativity, initiative, self-efficacy and resilience, strategic planning, problem-solving, decision-making, transformational leadership, clear communication, teamwork and networking, and digital communication skills necessary for job creation. The study concludes that many learners lacked hands-on skills and confidence, and lecturers do not sufficiently expose learners to innovative activities. Strengthening human productivity by integrating practical entrepreneurship skill into the curriculum is essential for learner's live hood.

Keywords: Curriculum; Integrating entrepreneurial skills; Sustainable development

Introduction

Integrating entrepreneurship in education: Entrepreneurship education provides a comprehensive learning management for entrepreneur learners, helping them to establish correct values, enhance innovation, and integrate new knowledge to shape their innovative ability and personalities (Anderson, N., Potočnik, K., and Zhou, J. (2014).

Kuratko and Hodgetts. (2004), describe entrepreneurship as a dynamic process involving vision, change, and creation requiring energy, passion, risk-taking, teamwork, resource management, business planning, and opportunity utilisation. (Sánchez, 2011; Burgoyne, 1989; Kraiger et al., 1993; Fisher et al., 2008), argue that entrepreneurial education aims to develop competencies like knowledge, skills and attitudes affecting entrepreneurial performance

Klofsten. (2000) proposes three activities to stimulate entrepreneurship in universities: nurturing an entrepreneurial culture, providing distinctive programmes, and offering specific training for aspiring entrepreneurs. This involves equipping learners with entrepreneurial knowledge and real-world experiences.

Researchers claim that a learning-by-doing approach is essential for developing entrepreneurial skills. Interdisciplinary teamwork and interaction with external stakeholders are particularly effective (Schultz, C., 2022). Bagiatis, Saiti & Chletsos. (2020) argue that integrating entrepreneurship in education develops real-world skills, such as teamwork, public speaking, data analysis, social media advocacy, and problem-solving.

Mariam S, (2023) reports high unemployment rates among graduates, exacerbated by inadequate entrepreneurship programmes. According to Uganda Bureau of Statistics (2019), the unemployment rate in Uganda increased to 2.44 per cent in 2020 from 1.80 per cent in 2019, and in 2021, the unemployment rate increased by 0.2 percentage points, giving a total of the unemployment rate of 2.94 per cent in 2021 (Uganda Bureau of Statistics, 2022).

The aim of the study

To investigate the need for integrating practical entrepreneurship skills in all degree curricula at higher education institutions as a basis for sustainable development.

Objectives

1. To identify activities to nurture and sustain an enduring entrepreneurial culture at universities.
2. Investigate the challenges of integrating entrepreneurship skills in degree curricula.
3. Highlight success stories of graduates who acquired practical entrepreneurship skills.

Related Literature

Anti-colonial theory promoted the inclusion of indigenous cultural values in education, criticising modernity's dominance (Adyanga, 2014). It draws upon indigenous literature to achieve this. Dei (2002) argues the theory criticizes the adoption of modernity and global spaces by countries at the expense of tradition and culture. Proponents of this theory like Frantz Fanon, Mohandas Gandhi, Kwame Nkrumah, Mao Tso-Tung, and Leopold Senghor argue for integrating positive attributes of traditional education into contemporary curricula (Simmons and Dei, 2012), challenging colonial influences. The anti-colonial theory fits well with the study because it is about pre-colonial knowledge; it is an epistemology of the colonised and it is anchored in the indigenous sense of the collective and common colonial conscious (Dei, 2008). The theory questions the methodology through which curriculum in Africa is made and approved (Adyanga, 2014). It supports the idea of going back to indigenous education to identify and select the positive attributes of indigenous education for integration into contemporary curriculum. Therefore, it supports integration of indigenous social ethics into the EFC. The theory demonstrate that adoption of practical entrepreneurship skills is at the centre of developing a counter intervention to the epistemic injustices that occurred to African knowledge systems. They helped to understand the urgency in addressing the challenges facing university graduates and the traditional lived experiences, to frame the questions and the data analysis process during the study.

Methodology

The study aimed to investigate the need to integrate practical entrepreneurship skills into the curricula of all degree programmes at higher education institutions as a basis for sustainable development in Uganda.

A qualitative approach was deemed most suitable as it focuses on interpretating the perspectives and perceptions of the subject under investigation. The study employed a phenomenological research design within a constructivist paradigm to delve into the lived experiences and viewpoints of participants. Purposive sampling was utilised to select individuals who were competent in the study context. University Academic staff from the Education Foundations Department were chosen as participants due to their expertise in designing, implementing and evaluating curriculum goals and objectives. Twelve academic staff members and 200 learners from various universities across faculties in Uganda were contacted, all of whom consented to participate. The study employed three data collection methods in conjunction: focus group discussion, document analysis and personal interviews.

Focus group discussions facilitated, detailed and analytical exchanges among participants. Interviews helped in capturing specific perspectives of lecturers on the integration of practical entrepreneurship into curriculum in Uganda.

Additionally, a documentary analysis of official documents from the Education Foundations Department such as departmental curriculum, annual self-assessment reports, and programme/ course structure, provided insight into the department's current practices. To ensure methodological rigour in both procedures and results, strategies like triangulation, selection of appropriate participants for credible data, and methodological coherence were employed. Triangulation involved using multiple data collection methods to verify information obtained from each method. Methodological coherence ensured alignment between research questions, methods, theory, and literature at every stage of the study's design and implementation**.**

Results

The following themes and their subthemes were distilled from data:

1. **A Strong Advocacy for Integrating Practical Entrepreneurship in Degree Curriculum**

Participants unanimous agreed that adopting a contextualised curriculum focused on equipping graduates with practical entrepreneurship skills in Ugandan universities was crucial. Some viewed the integration of practical entrepreneurship as a form of education that transcended mere academic learning. Participant 20 expressed,

"In this era, we have many learned individuals but very few truly educated ones. We should emphasize entrepreneurship workshops like "Harvest for Money" organised by Vision Group, under the guidance of entrepreneurship experts." Participant 4 added:

> "The environment in which learners live, study and operate is very key in determining what to teach. In situations where unemployment is very high due to scarcity of jobs on the job market, I believe it is time to tap into a kind of education that can address that societal problem. This definitely requires a review of curriculum to include practical entrepreneurship."

Participants recognised a disconnect between the current curriculum emphasis and the societal educational needs. This discrepancy echoes Mart's (2011) assertion that African universities often fail to align with African contexts. Some participants acknowledged that there are many "learned but few educated" individuals, which highlights the inadequacy of contemporary education. Scholars have also emphasised the importance of incorporating diverse knowledge forms, particularly practical entrepreneurship skills (Adebisi,2016; Grange, 2016; Heleta, 2016; Adyanga, 2014; De Carvalho and Florez- Florez, 2014), to produce graduates rooted in cultural contexts. Participants' responses underscored the and the benefits and necessity of integrating indigenous knowledge in the curriculum. This finding resonates with advocates of decolonisation and anti-colonial theory, who oppose epistemic colonialism and advocate for freeing Africans from various forms of imperialism— cognitive, linguistic, and social (Mbembe, 2016; Adebisi, 2016; Ndlovu, 2012; Dei, 2012; Dei, 2010). These scholars along with others worldwide (De Carvalho and Florez-Florez, 2014; Mignolo, 2010; Smith, 1999) strive for an inclusive curriculum that recovers specific knowledge systems capable of influencing social phenomena in their respective regions.

1.1 Success stories of university graduates gone through entrepreneurship workshops

Illustrating the benefits of integrating practical entrepreneurship into the degree curriculum, participants strongly argued that possession of creditable amounts of entrepreneurship knowledge significantly influence employee's work behaviour across various professions. They acknowledged the link between adherence to higher professional standards and entrepreneurship skills as a means of enhancing income generation.

Participant 3 emphasises the importance of practical entrepreneurship in cultivating professional behaviour:

> "Practical entrepreneurship is so vital in aligning one's behaviour to societal expectations and they are a bedrock in uplifting standards of living in a particular community. The sooner we integrate such knowledges into the curriculum, the better it would be for our country."

Participant 6 echoed this sentiment:

> "If Uganda had earlier embedded those indigenous elements into the curriculum, we should have minimized the mess we are witnessing in all sectors of society, education inclusive. This mess is the result of ignoring indigenous social principles that guided social and professional behaviour. Many people have the techniques and art of performing their professional duties, but they fail because their character and attitudes do not support their competencies."

> "Thus, it can be inferred that knowledge of professional codes of conduct and social ethics complement each other in contributing to social order. Additionally, the proposal to merge practical entrepreneurship with existing university curriculum components aims to address the social ethics gap while promoting an African educational model that blends diverse skills and knowledge beneficial to humanity. 2. Challenges of integrating practical entrepreneurship into the curriculum"

The study revealed that all participants recognised the benefits of integrating practical entrepreneurship into the university curricula. Despite lecturers having the responsibility of designing and reviewing curricula, they face challenges in integrating practical entrepreneurship into departmental curriculum. They cited various challenges such as:

2.1. Inadequate resources to support the programme

Some participants felt that due to numerous requirements, their institutions lacked sufficient resources to support the programme. Integrating practical entrepreneurship necessitate involving entrepreneurship experts and accommodating diverse cultural and social ethics, and values, making it challenging to feasibly incorporate it into the curriculum. Participant 2 raised a concern: "Who will meet the cost, is it the institutions or the students?"

Participants expressed apprehension regarding the logistical complexities associated with representing the broad diversity inherent in a more localised approach to practical entrepreneurship would entail. Despite initiatives like Vision Group's 'Harvest for Money' program over the past decade aimed at enhancing practical entrepreneurship knowledge among Ugandans, many individuals remain excluded. While participants acknowledged the benefits of integrating practical entrepreneurship, they expressed genuine concerns about ensuring inclusivity.

It is evident from the data that there is a lack of consensus on which kind of entrepreneurship knowledge should be included in or excluded from the curriculum. Many unanswered questions need resolution before engaging in a curriculum review favouring indigenous knowledge integration. Lecturers admitted to lacking comprehensive knowledge of practical entrepreneurship themselves. Despite acknowledging its importance, they were hesitant to include it in their teaching practice and curricula. This limited understanding negatively impact their ability to implement what they deemed essential.

Responses like those shared revealed that lecturers require further education on practical entrepreneurship. Acknowledging their lack of practical entrepreneurship knowledge indicates a need for lecturers to receive training in these areas to effectively deliver the same knowledge to learners. Previous studies by Seehawer. (2018), Drinkwater. (2014), and Sayed et al. (2017), have also highlighted this challenge in academic research.

It appears that academics are being tasked with introducing concepts they were not exposed to during their training.

2.2. Negative attitudes and feelings about practical entrepreneurship

Some participants expressed reservations about embracing curriculum localisation despite acknowledging its desirability. To some, integrating practical entrepreneurship was viewed as unsustainable. They perceived it as a costly endeavour, arguing that Uganda's poor economy could not sustain such an initiative. Participant 6 remarked:

> "While including our own ethics and knowledge in the curriculum is commendable, how can we eliminate Eurocentric educational approaches when the government struggles to finance education sustainably? Uganda heavily relies on donor funds, making it risky to abandon Eurocentric epistemologies at this juncture."

3. Perceived role of systemic/regulatory frameworks in the practical entrepreneurship integration process

Participants emphasised the significance of higher education regulatory bodies in facilitating the integration of practical entrepreneurship skills. However, conflicting views emerged whether these bodies constrained lecturers' academic autonomy. Some lecturers expressed uncertainty about integrating practical entrepreneurship into the curricula due to concerns about accreditation standards set by regulatory bodies like the National Council for Higher Education (NCHE). They questioned how accreditation requirements could be met if deviations from norms occurred without clear guidelines for integrating practical entrepreneurship.

Participants seemed unsure about their autonomy in curriculum design and whether NCHE imposed limitations on this aspect. These uncertainties posed challenges to integrating practical entrepreneurship into curricula. Consultation with the NCHE Quality Assurance Framework for Universities revealed discrepancies between participants' perceptions and NCHE guidelines. Participants assumed that NCHE provided strict guidelines for curriculum development and standardized qualifications across universities. However, NCHE actually offers minimum standards that institutions can build upon based on their visions, missions, and unique characteristics.

The excerpt from NCHE guidelines emphasises autonomy and academic freedom in curriculum design, indicating that lecturers have the freedom to expand on minimum standards without the interference from NCHE. This departure from general guidelines during curriculum design may impact the effectiveness of planning and implementation.

4. Success stories of those who acquired practical entrepreneurship skills in academic institutions

A sample survey of 80 learners selected from a pool of 187 graduates from the Faculty of Business and Management, where practical entrepreneurship is emphasised, revealed that 60% of them had initiated their own ventures. Furthermore, it was evident that even those who secured formal employment were capable of running their individual income-generating projects. The implementation of entrepreneurship workshops in certain universities has significantly impacted the livelihoods of those who have undergone this training.

Conclusion

The study revealed lecturers' perspectives on integrating practical entrepreneurship into university curricula. They advocate for the practical entrepreneurship, aiming to enhance upskilling of Ugandan graduates and combat poverty. They emphasise that practical entrepreneurship remains a crucial pillar in Ugandan society.

Recommendations

There is a need for universities to consistently provide academic staff with the necessary knowledge, particularly understanding the important of actions and how to execute them effectively. It is important to enhance human productivity by integrating practical entrepreneurship skill as a means to improve learners' livelihoods. Furthermore, universities should revise their curriculum by including a practical component in each semester to enhance the educational value for all.

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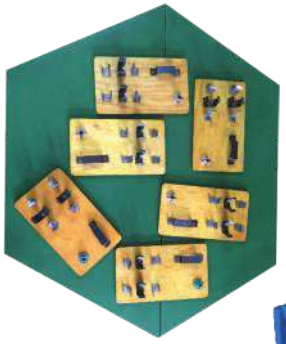

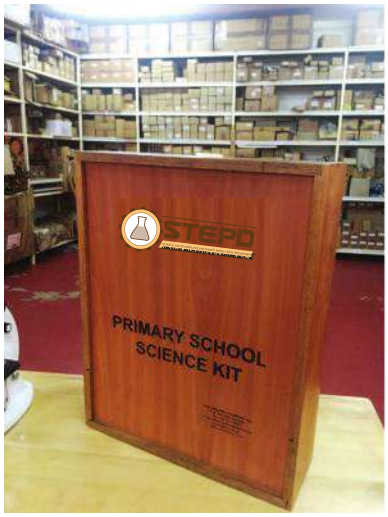




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ISBN 978-9970-675-11-1