

## From a Knowledge-based to a Competence-based Curriculum: Insights into Opportunities and Threats to Implementation in Uganda

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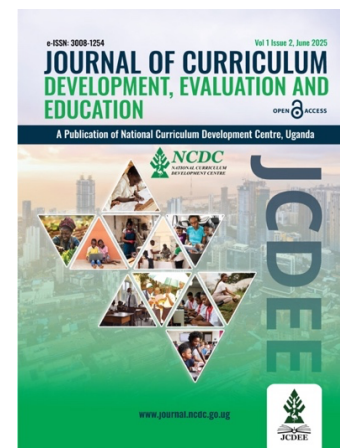
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### Abstract

Uganda, a country in East Africa, first implemented its competency-based curriculum in February 2020. This curriculum, referred to as the Lower Secondary Curriculum (LSC), replaces the knowledge-based, content-centred, and examination-oriented curriculum, designed in the 1970s mainly to produce human resources for white-collar jobs. This exploratory three-case qualitative study used semi-structured interviews with 21 teachers, eliciting their experiences in the implementation of the LSC. It illuminated potential gains/opportunities such as teacher collaboration, active learning, generic skills development, and enhancement of ICT competences. However, like previous studies on curriculum reform in developing countries, the full benefits of the LSC remain tenuous due to systemic problems. Indeed, the misalignment with the competence-based approaches, reflected through the tendency to revert to traditional teacher-centred methods, was largely attributed to inadequacies in resourcing, limited ICT competences, poor infrastructure, and shortcomings in the training, all of which disproportionately affected the poorly resourced schools. Addressing these challenges requires targeted and differentiated supported systems, including resource allocation, ongoing in-service teacher training, and institutional support for ICT integration. This is critical for plugging the deepening educational inequalities.

**Keywords:** *Competence-based curriculum, Teacher experiences and perspectives, opportunities and threats, Uganda*

### Introduction

The global shift from a traditional knowledge-based to a competence-based curriculum (CBC) is premised on the growing need for education to produce graduates with aggregate employable skills for economic development in the 21st century (Akala, 2021; Nkya, Huang, & Mwakabungu, 2021). CBC involves a move away from the traditional curricula comprising memorisation and recall, to the acquisition of higher-order thinking skills, which enable the application of learning in practical situations (Nsengimana, Rugema Mugabo, Hiroaki, & Nkundabakura, 2020). It is aligned to future employment in the national and global economies, inculcating competences which include 21st-century skills like critical thinking, innovation, research and problem solving, communication, collaboration, and lifelong learning (Nyaboke, Kereri, & Nyabwari, 2021). The CBC started in the United States of America in the 1970s, later extending to a number of European countries in the 1990s (Nsengimana et al., 2020).



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In Africa, CBC has been implemented in some countries, including South Africa, Kenya, Ghana, Ethiopia, and Tanzania (Paulo & Tilya, 2014). Uganda, which is the focus of this study, is one of the latest newcomers to the CBC, referred to as the “Lower Secondary Curriculum”.

### The Lower Secondary Curriculum in Uganda

In Uganda, CBC was implemented in February 2020. Being referred to as the Lower Secondary Curriculum (LSC), was developed by the Ministry of Education and Sports (MoES) through its department the National Curriculum Development Centre (NCDC). It replaces the knowledge-based examination-oriented curriculum (Olema, Nabitula, Manyiraho, & Atibuni, 2021), to equip learners with 21st-century skills in order to address the country’s socio-economic needs (NCDC, 2019). The subjects offered across the curriculum were reduced from 43 to 21, including pre-vocational subjects, with emphasis on deeper understanding and application of knowledge. Further, teachers’ role shifted to a facilitative one, with the focus of assessment on learners’ application of knowledge.

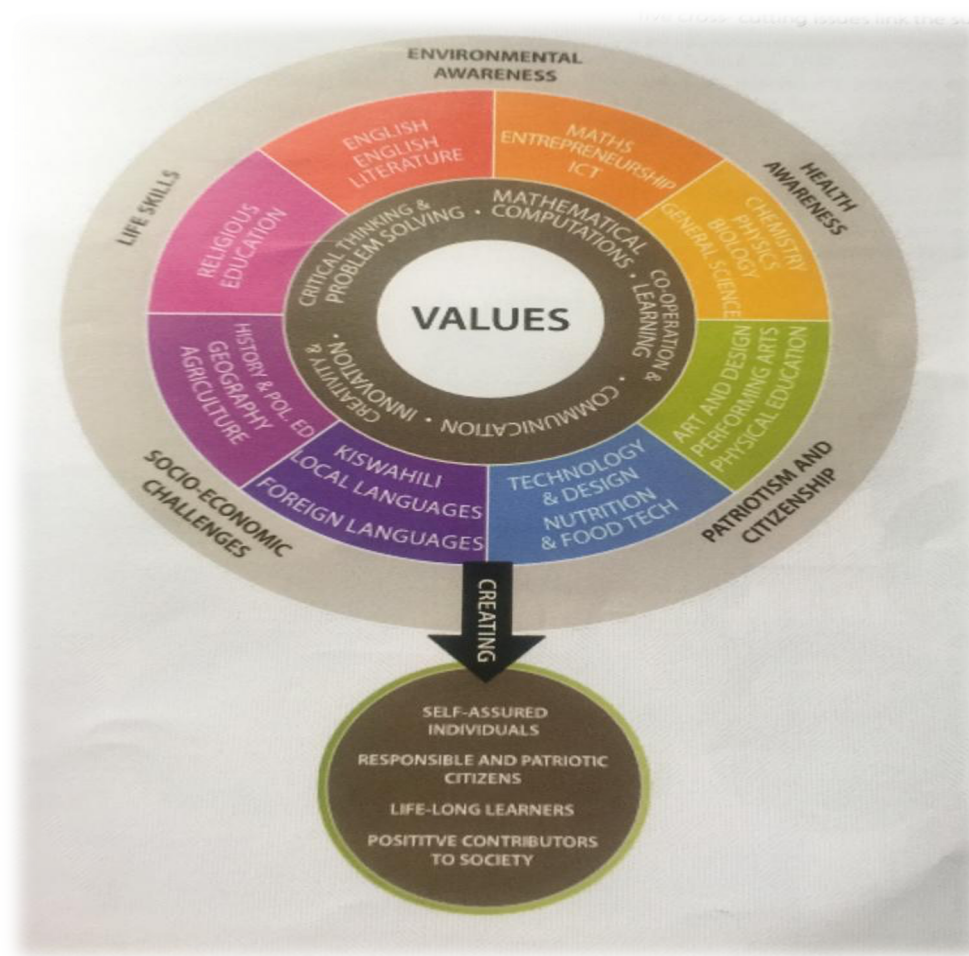


Figure 1: Lower Secondary Curriculum Framework Model (NCDC 2019, 17)

### Statement of the Problem

Uganda’s curriculum review, which informed the development of the LSC, was based on the Education Sector Strategic Plan (ESSP 2009–2018), which aimed to ensure that secondary school students are well-equipped for the workforce and for tertiary education. This is aligned to ESSP 2017–2020, Uganda’s Vision 2040, its Second National Development Plan (NDP II) and the UN’s 2030 Sustainable Development Goals (SDGs).

Yet, the Government of Uganda received a backlash about the new curriculum, in connection with doubts regarding the origins of the curriculum, inadequate subject selection, gaps in teacher training and teaching materials, and a flawed implementation process characterised by inadequate stakeholder consultation, piloting, and limited transition time (Segawa, 2020; Walugembe, 2020). Additionally, the mode of assessment was criticised for postponing regular accountability to parents (Nakatudde, 2020). Nonetheless, the Cabinet of Uganda approved implementation of the LSC, committing to revision of the curriculum during implementation (Mukalele, 2020). Therefore, this exploratory qualitative method elicited the experiences of teachers as primary stakeholders, to provide insights into opportunities as well as threats, to effectively inform subsequent implementation.

### Research Questions

The study was guided by the following research questions:

- i) What do teachers perceive as opportunities in the competence-based Lower Secondary Curriculum in Uganda?
- ii) What do teachers perceive as threats to the implementation of the competence-based Lower Secondary Curriculum in Uganda?
- iii) What are the implications of the teacher perspectives for the effective implementation of the competence-based Lower Secondary Curriculum in Uganda?

### Theoretical Framework

Rogan and Grayson's (2003) theory of curriculum implementation, based on three constructs, provided a framework for identifying implementation gaps. The **profile of implementation** provided a lens to identify differences and commonalities in implementing the curriculum across affluent, less affluent, and non-affluent schools. It was evident, for example, that the most affluent of the schools were most compliant in implementing the curriculum, given their access to resources. The **capacity to support innovation** provided a lens to establish whether schools had the essential resources to support curriculum implementation. Finally, **support from outside agencies** allowed us to establish the extent to which schools were supported by agencies like government departments and non-governmental organizations (see Rogan and Grayson's (2003) framework).

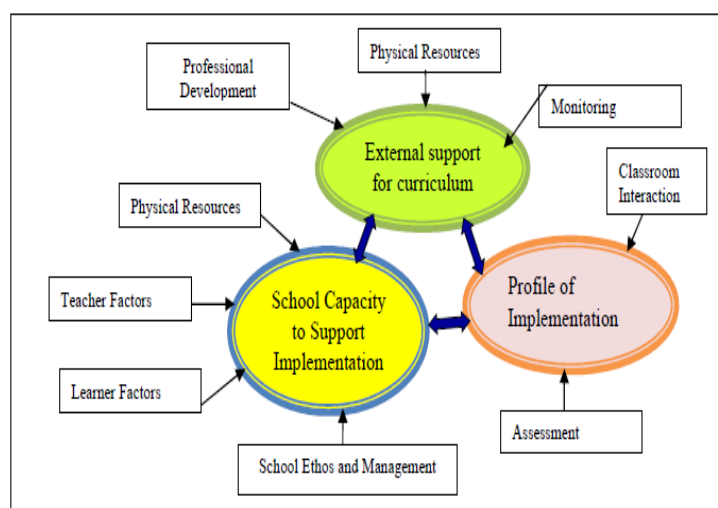


Figure 2: Theoretical Framework for Curriculum Implementation

The study is further informed by broader theories of education reform, particularly those that interrogate power, agency, equity, and postcolonial legacies in African education. Freire's critical pedagogy (1970), for example, advocates a dialogical, participatory approach to education, challenging traditional top-down forms of education, including inherited colonial curricula, that treat teachers and learners as passive

recipients of knowledge. It provides the foundation for examining how teachers engage with curriculum reform, positioning them as active agents rather than passive implementers capable of critically interrogating and reshaping the curriculum in ways that respond to learners' realities. This is aligned to a body of work situated within postcolonial theory (Ngũgĩ wa Thiong'o, 1986; Said, 1978), which examines how curriculum reforms often retain colonial structures, especially in the privileging of Western knowledge, languages, and values. For teachers, this manifests in tensions between official curricula and the socio-cultural and epistemic realities of their classrooms as reflected through their lived experiences. Furthermore, in illuminating the social inequities inherent in curriculum reform, Bourdieu and Passeron's (1977) Social Reproduction Theory provides a lens into how curriculum reforms often reinforce existing inequalities. Teachers – especially those working in marginalised, rural, low-resourced settings – must navigate inequitable conditions while being held accountable for reform outcomes. This perspective helps analyse how reforms may inadvertently reproduce social stratifications, justifying the imperative of dismantling systemic advantages to drive education reforms that promote equity and inclusion.

### Methodology

We used a qualitative approach since it is grounded in lived experiences in specific contexts (Marshall & Rossman, 2011).

### Research Design

This case study comprises three schools: Gabula High (pseudonym), Siga High (pseudonym) and Matiya Mulumba Memorial. These cases provided insights into curriculum implementation in diverse school contexts.

Table 1: Cases of the Study

| Cases                        | Gabula High School | Siga High School | Matiya Mulumba Memorial |
|------------------------------|--------------------|------------------|-------------------------|
| <b>Socio-economic status</b> | Affluent           | Less affluent    | Non-affluent            |
| <b>Ownership</b>             | Public             | Private          | Private                 |
| <b>Academic rating</b>       | High               | Medium           | Low                     |
| <b>Sex</b>                   | Single (girls)     | Mixed            | Mixed                   |
| <b>Status</b>                | Boarding           | Boarding         | Day                     |
| <b>Location</b>              | City suburb        | Semi-urban       | Rural                   |

### Sample Size and Subject Selection

We used purposive sampling to recruit seven teachers from each of the three schools, who taught the seven compulsory subjects: English, Mathematics, History and Political Education, Geography, Physics, Biology, and Chemistry. Our sample, which adhered to saturation – the gold standard for qualitative sample size determination – comprised 21 respondents. The exclusion of teachers of non-compulsory subjects, which is a limitation of the study, was based on a pragmatic choice to limit the scope in terms of population.

Table 2: Summary of Participants of the Study

| No. | Aspect | Characteristic | Number (21) |
|-----|--------|----------------|-------------|
|     |        |                |             |

|    |                               |                                                                                               |    |
|----|-------------------------------|-----------------------------------------------------------------------------------------------|----|
| 1. | Sex                           | Male                                                                                          | 10 |
|    |                               | Female                                                                                        | 11 |
| 2. | Subjects                      | English, Mathematics, Physics, Chemistry, Biology, Geography, History and Political Education | 21 |
| 3. | Highest qualification         | Master's Degree                                                                               | 01 |
|    |                               | Bachelor's Degree                                                                             | 20 |
| 4. | Length of teaching experience | 20–30                                                                                         | 02 |
|    |                               | 30–40                                                                                         | 17 |
|    |                               | 40–50                                                                                         | 02 |

### Methods of Data Collection

Data collection entailed interviews with teachers regarding their perspectives and experiences in implementing the curriculum.

### Data Analysis

The analysis followed a multi-stage process involving thematic coding and cross-case analysis, consistent with case-oriented comparative methods (Miles, Huberman, & Saldaña, 2014). First, all interviews were transcribed verbatim, and the transcripts were read repeatedly for in-depth understanding. We then conducted open coding inductively, assigning descriptive codes to segments of text that reflected participants' perspectives and experiences, generating codes such as "teacher collaboration" and "active learning". In the second cycle of analysis, focused coding was applied, clustering the initial codes into broader categories such as "opportunities" and "threats" to the CBC. This was then followed by cross-case analysis (Stake, 2006), using a matrix approach (Miles & Huberman, 1994), to examine similarities and differences in teachers' curriculum implementation experiences across the three schools.

### Trustworthiness and Credibility of the Study

We piloted and revised the instruments and triangulated the data from three schools and 21 teachers of diverse subjects, thereby corroborating findings across the cases. Additionally, using member checking, we shared data, interpretations, and conclusions with participants to establish the credibility of accounts. Finally, we have presented our findings using a rich, thick description to allow readers to make decisions regarding transferability.

### Ethical Considerations

We sought ethical approval from the Research Ethics Committee of the Infectious Diseases Institute, Makerere University, as well as permission from head teachers to access schools. Participation was voluntary as participants provided informed consent and were assured of confidentiality. Indeed, we used pseudonyms for all participants as well as two of the schools.

### Findings of the Study

The participants comprised teachers from the three cases, as illustrated in Table 3 below.

**Table 3: Participant Characteristics**

| Siga High School   |                        |     |       |                                 |                                           |                       |
|--------------------|------------------------|-----|-------|---------------------------------|-------------------------------------------|-----------------------|
| S/N                | Respondent's pseudonym | Sex | Age   | Subject taught                  | Teaching experience in the school (years) | Highest qualification |
| 1.                 | Isaac                  | M   | 30–40 | Physics                         | 5                                         | Bachelor's Degree     |
| 2.                 | Justine                | M   | 20–30 | Mathematics                     | 3                                         | Bachelor's Degree     |
| 3.                 | Sabiti                 | M   | 40–50 | Biology                         | 18                                        | Bachelor's Degree     |
| 4.                 | Sebina                 | M   | 30–40 | Geography                       | 3                                         | Bachelor's Degree     |
| 5.                 | Prudence               | F   | 20–30 | English                         | 4                                         | Bachelor's Degree     |
| 6.                 | Rolidah                | F   | 30–40 | History and Political Education | 10                                        | Bachelor's Degree     |
| 7.                 | Roda                   | F   | 30–40 | Chemistry                       | 6                                         | Bachelor's Degree     |
| Gabula High School |                        |     |       |                                 |                                           |                       |
| S/N                | Respondent's pseudonym | Sex | Age   | Subject taught                  | Teaching experience (years)               | Highest qualification |
| 1.                 | Jeff                   | M   | 30–40 | Physics                         | 6                                         | Bachelor's Degree     |
| 2.                 | Theod                  | M   | 30–40 | Mathematics                     | 12                                        | Master's Degree       |
| 3.                 | George                 | F   | 30–40 | Biology                         | 10                                        | Bachelor's Degree     |
| 4.                 | Leonades               | M   | 30–40 | Chemistry                       | 12                                        | Bachelor's Degree     |
| 5.                 | Lulu                   | F   | 40–50 | Geography                       | 18                                        | Bachelor's Degree     |
| 6.                 | Nambi                  | F   | 30–40 | English                         | 10                                        | Bachelor's Degree     |

| 7.                             | Ssali                  | F   | 30–40 | History and Political Education | 10                                        | Bachelor's Degree     |
|--------------------------------|------------------------|-----|-------|---------------------------------|-------------------------------------------|-----------------------|
| <b>Matiya Mulumba Memorial</b> |                        |     |       |                                 |                                           |                       |
| S/N                            | Respondent's pseudonym | Sex | Age   | Subject taught                  | Teaching experience in the school (years) | Highest qualification |
| 1.                             | Bonny                  | M   | 30–40 | Physics                         | 7                                         | Bachelor's Degree     |
| 2.                             | Tom                    | M   | 30–40 | Biology                         | 4                                         | Bachelor's Degree     |
| 3.                             | Peter                  | M   | 30–40 | Mathematics                     | 6                                         | Bachelor's Degree     |
| 4.                             | Mastula                | F   | 30–40 | Chemistry                       | 7                                         | Bachelor's Degree     |
| 5.                             | Grace                  | F   | 30–40 | History and Political Science   | 10                                        | Bachelor's Degree     |
| 6.                             | Justine                | F   | 30–40 | English                         | 4                                         | Bachelor's Degree     |
| 7.                             | Rosette                | F   | 30–40 | Geography                       | 7                                         | Bachelor's Degree     |

We provide insights into teacher perspectives regarding opportunities and threats to CBC as well as the implications for its effective implementation in Uganda.

### Opportunities in the Competence-based Lower Secondary Curriculum

The opportunities presented include teacher collaboration, active learning, generic skills development, and enhancement of ICT competences.

#### Teacher Collaboration

Teamwork among teachers, particularly in the affluent schools, was promoted as teachers worked more closely. As Nambi, a teacher of English at Gabula High explained, *“Actually I have realised I need to consult other teachers on how they delivered...how it was received... there is teamwork.”*

The drawing up of schemes of work was jointly done, as evidenced by Prudence, a teacher of English at Siga High, who stated: *“Departments sit together and scheme for lessons.”* This provided a space to consult one another, improving learning experiences. This is articulated by Bonny, a Physics teacher at Mulumba Memorial: *“Our lessons are definitely richer because of tapping into the expertise of different teachers as we plan lessons together.”*

#### Active Learning

The use of methods such as discovery, research and discussions provided possibilities to enhance active learning. As Roda explained, *“It has helped them to research – they get to learn through class discussions.”*

Lulu, a Geography teacher at Gabula High, added that learners actively participated in class. Indeed, even previously non-participatory boys were more active. As Prudence explained, *"We got them there by organizing gender-based debates."*

The enjoyment of learning was attributed to active classroom participation resulting from hands-on activities. This was corroborated even in the non-affluent school. As Rose, a Geography teacher, stated: *"So they were enjoying the lessons...I think it is better."* Additionally, learner autonomy was enhanced, given the hands-on activities, which shifted the responsibility for learning to students. Indeed, teachers expressed a sense of relief arising from the redefinition of their role as supervisory, as attested by Prudence: *"When the students do the work, I sit back and guide them."*

Furthermore, the active learner engagement provided a wealth of information, which teachers found enriching. As Prudence remarked, *"We also get to learn from them...you get to appreciate students' perspectives."* Indeed, comprehension was more evident across the schools. Mastula, a Chemistry teacher at Matiya Mulumba Memorial, for example, attributed the deep learning to active participation in which students took the lead: *"Students understand more than in the old curriculum...they discuss and present in groups...while we monitor and guide."*

The end-of-topic activities of integration, as a form of formative assessment, were commended for making learning practical and relevant. As Isaac explained, *"Its application to daily life depicts the importance of each topic."* This form of assessment also rewarded all kinds of learner progress. As Nambi explained, *"There are so many aspects we look at other than just an answer."* Assessment is also richer, given that learners are encouraged to assess one another. As Peter explained: *"Apart from assessment by teachers, learners also assess one another."*

### ***Skills Development***

The competence-based nature of the curriculum was commended for fostering generic skills. As Lulu asserted, *"It emphasises learning outcomes, for example, development of the critical thinking skills, logical reasoning, research writing, and problem solving."*

The opportunities for learners to speak frequently enhanced their communication skills. Indeed, learners under the new curriculum were perceived as more eloquent compared to those taught under the old curriculum. As George, a biology teacher at Gabula High, explained, *"Some students could not even speak...it has improved on speech."*

Interpersonal skills were also enhanced through the group activities and the mobile seating arrangements through which students closely interacted with different groups throughout the year. Prudence explained this thus: *"They do not have permanent seats ...we keep switching them, so they interact with different learners."*

Collaboration was yet another competence inculcated, given the opportunities for learners to work together during group discussions. Roda affirmed that learning was interactive *"since learners work in groups to discuss and make presentations."* The healthy competition borne out of collaborative work was commended, as groups worked together to excel. As Prudence asserted, *"If you are doing group presentations, you have to ensure your group excels."*

Further, the benefits of the new curriculum, such as confidence building and problem solving, were also realised. As Bonny, a Physics teacher at Matiya Mulumba Memorial, explained: *"Looking at the students we have seen so many wonders...they learn how to solve problems...Give them time, they will come up with answers; whether wrong or right, they will be confident to present."*

### **ICT Competences**

The use of ICTs for the presentation of subject content enhanced lesson delivery, as Justine explained, *"My work is simplified because of PowerPoint...easy for presentation."* The teachers also referred students to use ICTs for research. As Sabiti, a Biology teacher at Siga, explained, *"Yes, the internet has become a go-to for students and teachers to enrich teaching and learning."* This has provided opportunities to enhance their technological competences, a requisite for development. As Rolidah a teacher of History and Political Education, explained, *"The exposure to ICT is the way to go in preparing learners early enough to address 21st century problems."*

### **Threats to the Implementation of the Competence-based Lower Secondary Curriculum**

The threats to the implementation of CBC include work overload and training gaps; shallow subject scope; gaps in assessment; inadequate resources; poor infrastructure; and ICT illiteracy.

#### **Time Constraints and Work Overload**

Preparation for teaching using the new curriculum was found to be very time-consuming and tedious, given the lengthy lesson plan template. As Prudence explained,

"Many found a challenge filling the lesson plan template you have to know the number of learners topic references learning materials outcomes objectives, competences, skills, values students' prior knowledge."

The strain of lesson preparation was generally attributed to the hands-on nature of the curriculum. As Jeff a Physics teacher at Gabula High, explained, *"Since it's a hands-on, we do much preparation... see activities I need to involve learners."* The preparation also required the use of several resources. Ss Justine further asserted,

"You need a lot of consultation on the internet for information." This was corroborated by Isaac's assertion about the myriad teaching aids required: "I need to look for and organise the teaching aids like computers and ensure the availability of the internet."

Furthermore, syllabus coverage was compromised, given the limited time to engage with the planned content in the activity-packed lessons. As Roda explained,

"The time for lessons is not enough since there is much to be done in the 40 or 80 minutes. It will be hard to finish the syllabus."

Moreover, the large class numbers made it difficult to mark and provide feedback to all learners during continuous assessment. This was confirmed by Sebina, who asserted, *"The first challenge would be with marking. Remember we have big numbers and after every lesson you must look at the learner's activities."* Indeed, effectively attending to all students was compromised, given the time constraints. As Nambi explained, *"We have lessons for 1 hour 20 minutes, so attending to all learners is difficult."*

The impacts of large class sizes and subsequent work overload were mitigated in Gabula High, the affluent school, by the provision for co-teaching. As George explained, classes often had two teachers to support each other: *"Each class is taught by two teachers...students have more than one teacher to assist them... a main teacher and a co-teacher."*

In addition, the magnitude of record-keeping required by the new curriculum was highlighted. Indeed, as Roda explained, teachers expressed fears of losing records which had been so tedious to compile: The challenge is not only in the lots of work that goes in, but also in keeping those records...If they are misplaced, it becomes a problem at the end.

Furthermore, the curriculum requires more creativity on the part of teachers, especially in terms of improvisation where resources may be inadequate. Theod explained this by affirming that,

“...teachers need to be creative...you as a teacher you need to see how best you can improvise...Those who are more creative will benefit more.”

While the curriculum made such high demands on the teachers, the heavy workload was incommensurate with their remuneration, which illuminated the undervaluing of their effort. As George explained, “You cannot employ someone in a company that makes profits, and you pay less...this curriculum requires a lot of time, but the money does not add up.”

### *Shallow Subject Content Scope*

While the teachers commended the reduction in the number of subjects in the new curriculum, they also problematised the its depth and breadth. As Nambi explained, *“There are fears regarding the fewer topics...It’s like diluting the education system.”* This culminated in extracting content from the old to insert into the new curriculum. As Prudence explained that, *“When we feel that content is lacking, we always fall back to the old curriculum.”* She further explained that teachers compared both curricula before deciding the most suitable content, *“We always make comparisons in preparing lessons...you go back to the old curriculum...add something from there...so that children understand.”*

### *Gaps in Assessment*

The shift of summative assessment from the end of each term to the end of the school cycle was problematised for compromising students’ motivation to continually revise their books. As Isaac explained, *“Trying to revise the work is hard because the motivating factor was removed.”* Bonny corroborated this, stating: *“Students are going to relax, waiting only for final exams.”* Moreover, there were still gaps in understanding formative assessment, particularly the scheduling of activities of integration. Sebina explained this thus:

“Teachers have not really understood what the activity of integration means. Some think it should be assigned at the end of the topic, while others after a subtopic or after a lesson.”

Some schools defied the directive on getting rid of summative assessment at the end of each term. As Tom, a biology teacher at Matiya Mulumba Memorial, explained, “Some schools stealthily gave exams...so some schools are doing exams while others are not.”

Some teachers also resisted the grading system, which requires the use of number grades rather than percentages, something with which the parents were familiar. This was particularly the case in Siga High, a competitive private school. Sebina explained this thus: *“We still have assessments at the end of the term because we have to give value for money to the parents.”* She added, *“Parents have to see the 90s and that is when they are satisfied that the learners are studying.”*

Additionally, the uncertainty as regards the format of the end-of-cycle summative assessment created anxiety among teachers as articulated by Peter, a Mathematics teacher at Matiya Mulumba Memorial:

“We are not absolutely sure about the examination format...we are not sure how the question papers will look like...they should make sample questions.”

In addition, the weighting of formative and summative assessments was problematised. The teachers were critical about the amount of work that went into the formative projects, which only accounted for 20% of the total mark. Summative assessment, on the other hand, which is largely theoretical, accounted for up to 80%. George reiterated this, criticising this weighting as incommensurate with the amount of work learners invested in formative assessment: *“It is unfair to learners, given how much they put in...anything that needs hands-on is more hectic.”*

### ***Inadequate Teaching Resources***

One of the threats pointed out was the limited number of textbooks for the large class sizes. Sebina explained that his school provided only 10 copies of learners' guides for about 90 students, which compromised teaching and learning. The textbooks, as other teachers added, were also problematised for gaps in content. Roda explained that one had to undertake additional research to plug these gaps: *"The materials...are sketchy and one had to research to give something better to the learners."* Additionally, there were spelling errors both in the teacher's guides and learners' books. As Bonny explained, *"The prototypes of the learner's and teacher's guides have loopholes – wrong spelling."*

The paucity of teaching aids further compromised the lessons. Sebina explained how the lack of materials such as globes constrained his teaching: *"As we were teaching earth movements...even a school like Siga High did not have globes. So, if Siga High cannot afford a globe...how were poorer schools coping?"*

However, the inadequacy of textbooks was encountered less within affluent schools like Gabula High, since both the school and parents purchased the materials. George explained this thus:

"Irrespective of big numbers, all of them can go to the library and pick a textbook. And parents are also supportive...about 60% have personal copies of the textbooks, which motivates teachers."

### ***Poor Infrastructure***

The inadequate accessibility of facilities like laboratories was prohibitive, especially for teaching science subjects. As Isaac explained, "If the school does not have the necessary and well-equipped laboratory, it is very hard to deliver under the new curriculum, especially for sciences." Indeed, the lack of facilities culminated in a reversion to more theoretically oriented methods of teaching as used in the old curriculum. As Isaac asserted, "If you do not have materials in the laboratory, you end up teaching theoretically like the old curriculum."

Furthermore, vocationalisation, a primary component of the new curriculum, was compromised, given the limited resources. As Mastula revealed that,

"Students were supposed to use the afternoon sessions to learn vocational skills...However, students have resorted to using that time for sports activities, given the absence of resources to learn subjects like woodwork, construction, and carpentry."

Additionally, the infrastructure gap was aggravated in schools like Matiya Mulumba Memorial, which did not have facilities, including ICTs or electricity, as revealed by Grace's assertion that the school had only six computers to serve a class of 120 students. This was further explained by Tom, problematising the lack of adequate electricity in the school: *"We are supposed to go with computers to class...but those gadgets are not there. Power [electricity] is also a problem in Mulumba Memorial."* The high cost of the internet has also been a hindrance to the uptake of ICT. As Sebina explained, *"Internet bundles are too expensive to sustain lessons or students' research tasks."*

### ***ICT Illiteracy***

The limited ICT skills, specifically among the teachers, have been an encumbrance to lesson delivery. As Isaac explained, *"If one is not knowledgeable in ICT, this curriculum is a challenge because sometimes you have to use YouTube to explain concepts."* Similarly, Justine reinforced the above view by stating that

while using the new curriculum demanded that teachers use the internet to enrich their lessons, it remained a big challenge, especially for the older teachers who were not trained to use ICTs: *"We need internet for teaching. However, older people who did not train on ICT during their time have fears."*

### **Training Gaps**

The training gaps evidenced by teachers' failure to comprehend concepts like "competence" and "learning outcomes" within the curriculum was a concern. As Sabiti stated, *"I can assure you that the teachers did not understand."* Moreover, the trainers did not seem to understand the concepts either. In connection with this, he said, *"I think our trainers also did not comprehend these concepts."* This was corroborated by Bonny's criticism regarding the rushed training sessions and inadequate information: *"The process was hectic...The training was not enough...the trainers did not seem to have enough information... some were doing guesswork."*

Furthermore, the magnitude of content for training sessions was criticised. Nambi explained that *"there was so much that they had to learn within a very short period...such as lesson preparation, delivery, and assessment in a day...I was confused."* Additionally, the insufficiency of training materials was inhibitive. In Isaac's words, *"some materials were not yet accessible."*

Additionally, training mainly focused on classroom teachers, overlooking school administrators, who were also critical in curriculum implementation. This affected implementation in instances, for example, where administrators forced teachers to revert to the old curriculum practices such as increasing content coverage. As Mastula explained that, *"They were not trained. So, their mindsets are based on the old curriculum. They want a lot of coverage of work in learners' books."*

Finally, also overlooked was the orientation of students across all the three schools regarding the new curriculum. As Nambi explained that, *"Since there was a clear programme of orienting teachers, learners were not oriented."*

### **Discussion of the Findings**

The enthusiasm regarding gains from CBC, as reported in this study, particularly with respect to the possibilities of acquiring 21st-century skills like communication, collaboration, critical thinking, problem solving, creativity and computer literacy, have been documented elsewhere (Hoadley, 2017; Nsengimana et al., 2020). In Kenya, for example, CBC has been lauded for its strides towards developing a holistic individual (Akala, 2021). Yet, like previous studies on curriculum reform in developing countries, the full benefits of CBC remain elusive due to systematic problems, including large classes, inadequate learning materials and infrastructure, low teacher morale, as well as limited teacher training and supervision (Mulenga & Kabombwe, 2019; Nyaboke et al., 2021).

Furthermore, the use of teacher-centred methods, despite teacher awareness of CBC's learner-centred approaches, as illuminated in this study, corroborates previous research on CBC in developing countries, where the envisioned shift to progressive approaches remains elusive (Akala, 2021; Hoadley, 2017). In this study, the reversion to conventional teaching was largely attributed to constraints like large class sizes, paucity of teaching materials and infrastructure. Indeed, the tendency to teach CBC using teacher-centred approaches was mainly taken up in the less affluent schools, which lacked the requisite infrastructure to support the CBC methodologies.

In addition, subject reduction is typical of CBC, as previous studies show (Lee, Kwak, Lee, & Choi, 2012). In some African countries, for example, subject reduction was employed as a measure to nurture learners' talents and abilities (Akala, 2021). Yet, subject reduction has been problematized in this study for compromising the depth of learning. While this is worth investigating, we also see the fixation with the older content-loaded knowledge-based curriculum as a possible encumbrance to embracing a less dense curriculum.

It was interesting to find out that the shift in emphasis from summative to continuous and/or formative assessment, which is typical of CBC (Paulo, 2014), was lauded in this study for testing students' practical application of concepts, which has also been commended in previous research (Momanyi & Rop, 2019). In

addition, this study extolled the CBC formative assessment for rewarding all forms of progress, and for the possibilities it creates for peer assessment, allowing students opportunities to assess and, as such, learn from one another.

This notwithstanding, previous research, as corroborated in this study, shows gaps in assessment within a competence-based framework. This includes struggles with the conceptualization and operationalization of assessment criteria (Momanyi & Rop, 2019; Mulenga & Kabombwe, 2019), the subjectiveness of continuous assessment, as well as non-compliance with assessment formats and standards (Akala, 2021). This study attributes non-compliance to a fixation on the old examination-oriented curriculum, which is a consequence of training gaps in assessment. Additionally, in critiquing the shift of summative assessment from the end of each term to the end of the school cycle, the teachers problematised the upsetting of students' motivation to continually revise their books.

### **Implications for Effective Implementation of the Lower Secondary Curriculum**

Some recommendations for optimising CBC in developing countries, as reiterated in this study, have been documented in previous research, including regular supervision and monitoring, the provision of adequate learning materials, including internet and electricity, as well as infrastructure and training (Koskei & Chepchumba, 2020; Lee et al., 2012; Nyaboke et al., 2021). This study contributes to the discourse by recommending targeted resourcing strategies for the least affluent schools, which, as the findings reveal, are disproportionately impacted by the resource-intensive CBC. These measures promise to address growing educational inequities and provide a safety net for the most vulnerable learners, to prevent further underachievement.

Furthermore, the provision of adequate learning materials and infrastructure, as advocated in previous research, to support the CBC (Byrne et al., 2013; Labani et al., 2019), is relevant for this study, which also should foreground the urgency of resourcing schools and retooling teachers to support vocationalisation as a key component in fostering practical skills to optimize the benefits of CBC. Additionally, there should be incentivization of teachers through salary enhancements, a reduced teaching load, and the use of co-teaching arrangements for large classes promise to support effective CBC implementation.

While previous research recommended adequate training of teachers and parents (Koskei & Chepchumba, 2020; Momanyi & Rop, 2019), the emphasis on the orientation of students, who are also primary stakeholders in curriculum implementation, has largely been overlooked. This oversight risks inciting students' resistance against curriculum implementation. Additionally, special training should be tailored for administrators, as opposed to the tendency to generically train them with teachers. Indeed, administrators, as this study has illuminated, are instrumental in propelling the curriculum by either supporting or frustrating compliance. This notwithstanding, teacher training should be emphasised and undertaken regularly to reach and retool all of them. The training schedule should be communicated in advance, and regional centres used to reach all teachers. Teacher training should include digital literacy as one of the key components in supporting digitally enhanced pedagogies. Furthermore, the trainers should also be well-trained and tested to ensure effective training. In addition, the training should provide more support for the most disadvantaged and/or poorly resourced schools to stem the exacerbation of inequities in access to education.

Furthermore, although there is a dearth of literature on assessment within a CBC framework, resistance to the assessment formats of CBC has been illuminated (Byrne, Downey, & Souza, 2013; Paulo, 2014). This study extends this work through a focus on the CBC grading system of the new curriculum. The rejection of the grading system, especially in the private school, was attributed to the need to satisfy the parents (the primary financiers of the school) using a familiar grading system. These illuminate training gaps in empowering parents to appreciate the recommended grading system.

**Conclusion**

A key insight from the study is the variability in teachers' experiences based on their school environments. The observed link between school affluence and the ability to implement CBC effectively makes a critical contribution to discussions on equity in education. This underscores the need for policymakers to move beyond one-size-fits-all approaches and adopt differentiated support strategies that address disparities in resources and capacity, ensuring more inclusive and effective curriculum reform.

**Pointers for Further Research**

Future research should take up classroom observations to establish the classroom dynamics in implementing the Lower Secondary Curriculum (CBC): In what ways do teachers navigate issues like large class size, inadequate teaching aids and infrastructure, as well as time constraints, among others? Second, research based on classroom observations would provide insights as regards compliance with the new CBC standards in terms of planning, teaching, and assessment: To what extent do teachers maintain compliance with the guidelines of the CBC? Third, student voice (taking sex, class, and disability, among others, into consideration) should be elicited to illuminate their diverse perspectives, experiences, and recommendations in taking up the CBC to generate relevant recommendations to optimise their learning. Fourth, research should focus on teacher education programmes in Uganda, to establish the extent to which pre-service and in-service teachers are prepared to implement the CBC. Fifth, the dearth of research as regards assessments should be plugged: What approaches are taken up? What are the best practices? Where are the gaps, and how can we optimise assessment? Sixth, the gender dynamics of implementing the CBC should be explored: How have gender and diversity been integrated? Where are the gaps? What are the best practices, and how can they be modelled and/or scaled up? Finally, the practices of expert teachers should be documented and used as models for in-service and pre-service teacher preparation.

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