

Teachers' Autonomy in Adapting Pedagogical Practices for Effective Implementation of the Secondary School Competency-Based Curriculum in Uganda

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Abstract: This study intended to explore teachers' opinions on how much they used their autonomy to adapt their pedagogical practices as they implement the competency-based curriculum. The study used an online snowball sampling strategy, which involved sharing an online survey questionnaire with teachers on the authors' social media platforms, such as WhatsApp and emails, requesting participants to further share it in their networks. One hundred ninety-three nationwide secondary school teachers for seniors one to four volunteered to participate in the study. The study adopted the cross-section design, grounded in the positivist paradigm, using quantitative data collection and analysis methods. The study findings led the researchers to conclude that although teachers' autonomy positively triggered their intrinsic motivation to innovate and contextualize the curriculum during the pre-active phase, they are yet to adapt to new pedagogies expected in implementing a competency-based curriculum. The study recommends that the Ministry of Education and Sports as well as school administrators institutionalize the teachers' use of their autonomy to adapt the competency-based curriculum in their school context.

Keyword: Teacher autonomy; competency-based curriculum; pre-active teaching, teaching-learning process.

Introduction

Currently, lower secondary schools in Uganda are involved in a major curriculum reform called the Competency-based Curriculum (CBC). The National Curriculum Development Centre (2020) designed and rolled out the Lower Secondary School Curriculum to all Secondary Schools in 2020. The transition from traditional, content-heavy curricula to CBC, which is a more dynamic, skills-oriented learning framework, reflects a broader educational paradigm. *CBC seeks to improve students' outcomes by focusing on the development of specific skills and competencies to prepare students for the complexities of the modern world and reassure stakeholders about the curriculum's relevance* (OECD, 2005).

Implementing CBC requires significant changes in teaching practices, necessitating a high degree of teachers' autonomy (Wanyama & Mbindyo, 2020). Teachers' autonomy is the degree of control and independence teachers have over their instructional methods, classroom management and professional development. One significant aspect of the CBC is its alignment with the evolving demands of the global job market and technological advancements. As highlighted by UNESCO (2017), education systems, including those in Tanzania, Rwanda and Kenya, have adopted competency-based approaches to make learning more meaningful and relevant to students' lives and future careers. Similarly, the Organization for Economic Co-operation and Development emphasizes that CBC helps students develop a broader range of competencies, such as problem-solving, critical thinking and ability to collaborate effectively with others, which are essential for success in life beyond academics (OECD, 2005).

Teachers' autonomy encompasses several dimensions, including curricular, pedagogical and professional. Curricular autonomy refers to teachers' ability to select and adapt curriculum content to meet the needs of their students. Pedagogical autonomy involves the freedom to choose and implement teaching methods and assessment strategies. Professional autonomy includes teachers' control over their professional development and participation in school decision-making processes (Pearson & Moomaw, 2005). Research indicates that teachers' autonomy is

crucial in fostering a sense of ownership and motivation, which are essential for the effective implementation of educational reforms (Ingersoll, 2003). In the context of CBC, which emphasizes skills and competencies over traditional content delivery, autonomy allows teachers to tailor their instructional strategies to meet diverse student needs, fostering a more personalized and effective learning environment (Ryan & Deci, 2017).

According to Mia (2023), teachers' participation and involvement in curriculum design and development enhances curriculum relevance and practicality and fosters professional growth and a sense of ownership among teachers as key implementers. Teachers' close involvement ensures that the curriculum aligns with educational goals, objectives and instructional methods. It also provides teachers with the tools and flexibility needed to meet the diverse needs of their learners (Alsubaie, 2016).

Unfortunately, in Uganda, several interventions and initiatives such as Secondary School Science and Mathematics (SESEMAT) and the eLearning initiative implemented by Cyber School Solutions, among others that have been put in place to address the challenges with the quality of education in order to improve students' learning outcomes, have always had minimal teacher involvement at the conception levels. However, there is a need for more attention to addressing teacher involvement in curriculum innovations, design and development. Excellent curricula, newly designed or reviewed, have insignificant results because their designers limit their horizons to the production of the curriculum rather than the implementation.

The recent reform regarding the revised lower secondary curriculum from the traditional subject-based to CBC was designed and developed centrally, with minimal teacher input. This state of affairs has prompted the authors to conduct this study. This is due to the fact that in the rush to implement national change, most of the teachers feel a sense of compulsion to try to integrate the new pedagogical practices into their classroom teaching, despite the fact that they are usually still trying to make sense of what was expected of them (Wambi et al., 2024).

There is a need to address the problem adequately, particularly with a central concern of teacher

involvement. Otherwise, all the ongoing efforts and investment in education will remain futile because teacher participation in curriculum development is crucial for creating compelling, adaptable and relevant educational opportunities that meet students' needs and support teachers in their instructional roles. Ideally, the shift towards a CBC in secondary schools is a global trend to improve students' outcomes by focusing on developing specific skills and competencies. Implementing CBC requires significant changes in teaching practices, necessitating a high degree of teachers' autonomy.

Theoretical Underpinnings

Several theories and models support studies related to teacher autonomy and implementation of educational reforms, particularly in the context of Competency-Based Education. These include the Theory of Planned Behavior by Ajzen (1991), the Professional Capital framework by Hargreaves and Fullan (2012), the Social Cognitive Theory by Bandura (1986) and the Instructional Leadership Model by Hallinger and Heck (1996). While these theories provide valuable insights into factors influencing teacher behavior and instructional practices, they do not comprehensively address the intrinsic motivation and psychological needs that underpin teacher autonomy, making them less suitable for the current study. Hence, this study used the Self-Determination Theory (SDT) by Ryan and Deci (2000) as the theoretical framework. SDT posits that autonomy, competence and relatedness are fundamental psychological needs that drive motivation and behavior. In the context of CBC implementation, SDT provides a comprehensive and in-depth understanding of how autonomy influences teachers' intrinsic motivation to innovate, adapt to new teaching approaches and engage students in meaningful learning experiences. SDT provides a theoretical framework for understanding how autonomy can influence teacher motivation and effectiveness. According to SDT, autonomy is a basic psychological need that drives intrinsic motivation (Ryan & Deci, 2000). When teachers feel autonomous, they are more likely to be motivated, engaged and committed to implementing the CBC effectively. Thus, fostering teacher autonomy can lead to higher creativity, problem solving and persistence in achieving curriculum goals.

SDT's focus on intrinsic motivation makes it particularly relevant for studying teacher autonomy in CBC implementation. By addressing the psychological needs that drive autonomous

behavior, SDT offers a more nuanced and complete framework for understanding how teachers can effectively implement a competency-based curriculum. Therefore, this study applies the SDT to investigate the levels of autonomy among teachers and the influence of this autonomy on the implementation of CBC.

Teacher Autonomy in Implementing the Competency-Based Curriculum

Teacher autonomy, which refers to educators' professional independence in instructional decision-making, is a multidimensional construct that varies significantly across educational settings. Research highlights that autonomy is not a uniform experience. School leadership, administrative support, government policies and resource availability influence the autonomy (Salokangas et al., 2019). According to Jerrim et al. (2023), there are two areas of autonomy: those related to curriculum and material development and the second area is pedagogy and behavior management. In the context of Uganda, the implementation of CBC calls for a departure from traditional rote learning methods towards a more holistic, student-centered approach that emphasizes skills and competencies. This shift requires teachers to exercise autonomy in designing lessons that cater to diverse learning needs and align with CBC objectives (National Curriculum Development Centre, 2020). Jerrim et al. (2023) states that advocates for teacher autonomy argue that teachers are best left to decide based on their expertise and knowledge of learners. O'Sullivan (2006) found that while some teachers in Uganda enjoy relative freedom in their classrooms, others feel constrained by rigid administrative structures that dictate their teaching methods. Jerrim et al. (2023) cites Collie et al. (2016), who had it that evidence suggests that constraining teachers' autonomy can reduce their motivation. This variation in autonomy levels can affect the overall effectiveness of the CBC implementation, as teachers with higher autonomy are better positioned to adapt their instruction to meet curriculum goals.

While the literature provides insights into the importance of teacher autonomy in educational reforms in the CBC curriculum that was rolled out in 2020 with specific guidelines, there is need to find out the level of autonomy teachers have to contextualize and adapt to their school situations. Teachers' autonomy in adapting to the CBC varies across different educational settings. However, this

variation presents an opportunity for positive change and improvement. There is an urgent need for more research and empirical data on the levels of autonomy in Ugandan schools, which can pave a way for positive reform.

Literature centers on the influence of teacher autonomy on the practical implementation of CBC in the context of strategies that emphasize student-centered learning. Pearson and Moomaw (2005) indicate that when teachers have greater autonomy, they are more likely to engage in practices that align with the principles of CBC, such as fostering students' critical thinking, creativity and problem-solving skills. Autonomy enables teachers to tailor their instruction to their students' unique needs, enhancing their teaching's relevance and effectiveness.

In Uganda, CBC seeks to empower teachers to take a more active role in learning by allowing them to design and implement lessons that focus on competencies rather than content memorization (NCDC, 2020). However, the extent to which teachers can exercise this autonomy varies from teacher to teacher, as exemplified by Nakabugo et al. (2007), who stated that while teachers are encouraged to be innovative and student-centered, many still need more resources, professional development and restrictive administrative policies. This highlights the crucial role of continuous learning and growth through professional development in effectively implementing the CBC. Moreover, studies from other countries, such as Indonesia and Kenya, reveal that teacher autonomy relates to teacher preparedness and training. Utomo (2005) and Isaboke et al. (2021) found that when teachers are well trained and confident in their abilities, they are more likely to exercise autonomy in their classrooms, leading to more successful CBC implementation. However, more than autonomy, ongoing professional development that equips teachers with the skills and confidence to implement the curriculum effectively is essential.

Competency based curriculum calls for learner - centered pedagogy that allows flexibility of learning which cannot be achieved under a standardized countrywide protocol as indicated in the CBC framework. However, specific ways autonomy influences the successful implementation of the CBC in Uganda are yet to be established. There is a need for further research to examine how these dynamics

play out within the Ugandan education system, particularly under the CBC framework.

Relatedly, empirical studies provide evidence of the positive impact of teachers' autonomy on CBC implementation. A study by Muwanga-Zake and Kincheloe (2009) in Uganda found that teachers with greater curricular and pedagogical autonomy were more effective in implementing CBC, as they could adapt the curriculum to local contexts and use diverse teaching methods. Similarly, research in the United States by Leithwood and Beatty (2008) demonstrated that schools with higher levels of teacher autonomy showed better student performance and engagement in CBC programs. These studies highlight the importance of empowering teachers to exercise autonomy to achieve successful educational reforms.

Influence of Teachers' Autonomy on the CBC Implementation

The implementation of CBC requires teachers to adopt new instructional strategies that emphasize student-centered learning, critical thinking and problem-solving skills. Studies have shown that teachers with a high degree of Autonomy are more likely to embrace innovative teaching practices and effectively implement CBC (Cunningham, 2009). Autonomous teachers can tailor their instructional approaches to address diverse student needs, enhancing student engagement and learning outcomes (Ryan & Deci, 2000). Furthermore, teachers' Autonomy in assessment practices allows for formative assessments that provide timely feedback and support student learning (Black & Wiliam, 1998).

Investigating the extent to which teachers' autonomy influences the effective implementation of the Competency-Based Curriculum, Pearson and Moomaw (2005) emphasized that teacher autonomy is crucial for promoting creativity, innovation and responsiveness to student needs—elements central to the CBC's success. However, the extent of this autonomy is often dependent on external factors, such as policy regulations and the availability of resources, which can either support or limit teachers' ability to exercise their professional independence.

The literature review highlights the complex interplay between teacher autonomy and the effective implementation of the Competency-Based Curriculum in Uganda. Assessing the levels of autonomy, investigating its influence on CBC

implementation and identifying the challenges teachers face reveal that autonomy is essential, but more is needed on its own. While autonomy empowers teachers to innovate and meet their students' needs, adequate training, resources and systemic changes that promote a balance between autonomy and accountability must support it. Addressing these challenges requires a holistic approach that includes professional development, collaborative networks and policy reforms to ensure that teachers can exercise their autonomy effectively and contribute to the successful implementation of the CBC in Uganda.

Methodology

The study employed positivist research philosophy, using a cross-sectional research design to explore the current state of teachers' role in implementing the Competency-based curriculum in Uganda. It allowed exploration and description of the levels of autonomy among teachers across the country and how they use it to adapt the CBC in that context—a quantitative data collection method using a semi-structured questionnaire.

Population and Sampling

The study population included secondary school teachers implementing the competency-based curriculum. Since the CBC was launched in Uganda, starting with Senior One, the first cohort of students completed Senior Four in October/ November, 2024. Therefore, teachers from senior one to senior four years were eligible to participate in the study.

The study employed the snowball sampling, a non-probability sampling technique using an online semi-structured questionnaire. The researchers shared an online survey questionnaire with teachers through social media platforms (WhatsApp and email listing groups). The target audience was likely to be found on these platforms, such as Teachers Associations at district and national levels. Further, the researchers used Telephone calls to explain the instructions and eligibility further and encouraged those interested in the study to share the tool with whoever was willing in their networks. The authors noted the challenges of this approach because only teachers who had access to the internet participated. Particularly, 193 responded and filled out the questionnaire.

Reliability and Validity

The utilized the Cronbach's alpha for the internal consistency reliability of each of the constructs.

Cronbach's alpha ranges from 0.00 (no reliability) to 1.00 (perfect reliability). Lietz and Zayas (2010) and Nunnally (1967) suggest that the Cronbach alpha coefficient of a scale should ideally be above 0.7.

Exploratory Factor Analysis (EFA) was used to measure the construct validity of the questionnaire i.e., to measure the underlying relationships between questionnaire items and the factors ("constructs") and as a data reduction method to re-express a set of variables by a smaller number of variables, called factors. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is a statistic which tells whether you have sufficient items for each factor (the acceptable threshold for KMO is 0.7) (Yong & Pearce, 2013; Watkins, 2018). Bartlett et al.'s (2001) test checks that the original variables are sufficiently correlated. This test should come out significant ($p < 0.05$); if not, factor analysis will not be appropriate. The study used the Kaiser's criterion, which recommends retaining only factors with eigenvalues (λ) exceeding unity and scree plot analysis to determine the number of factors extracted (Watkins, 2018; Cattell, 1966).

Statistical Treatment of Data

The researchers downloaded the data into Microsoft Excel spreadsheet, cleaning and preparing it for analysis. The challenge of missing data, inconsistent data and presence of outliers is relatively common in almost every research and can have a significant effect on the drawn conclusions from the data. In this study, 193 respondents started the survey but 15 completed the demographic questions and stopped responding. The researchers removed these from the dataset used for analysis. Quantitative data analysis included descriptive and inferential statistics.

Ethical Considerations

The instrument's opening statement clarified the purpose of the study and sought voluntary participation. The researchers kept the identity of the participants confidential by employing an anonymous questionnaire, requesting only generic factors like gender, educational background, district where the school is located and years of teaching experience. They collected data using a Google form. The instrument also included this statement: *"Please note that the responses you are to give will be kept with utmost confidentiality as all data gathered shall be coded anonymously."*

Findings and Discussion

This section presents the results and discussion of the findings. The section begins with the demographics of respondents and then it moves into the analysis of the data.

Demographics of Respondents

The study attracted 193 participants, of which 53.4% (103) were males while 46.6% (90) were females. Regarding qualification, teachers with bachelor's degrees were the majority 65.5% (126), followed by those with master's degrees 18% (35) and the fewest were those with PhDs - 0.6% (2). In terms of teaching experience, results show that a bigger portion, 40.2% (n=72) had teaching experience of 0-5, 17.9% (n=32) had 6-10 while 15.1% (27) had taught for 11 – 15 years. In addition, 14.5% (n=26) had taught for 16–20 years.

Around 12.3% of the participants had taught for more than 20 years. Consequently, the strength of the data presented in this study lies in the fact that it was collected from a relatively balanced gender representation, incorporating views of both male and female participants. In addition, participants had the prerequisite qualifications to teach in secondary schools in Uganda as prescribed by the 2019 National Teacher Policy and enshrined in the National Teachers' Bill that is before parliament for consideration to operationalize the National Teacher Policy. Lastly, majority of the participants had taught for more than five years. Consequently, they were in position to compare their autonomy in

knowledge-based curriculum with what is expected from them to successfully implement the CBC.

Further, even the 40% that had taught for less than five years, they studied their secondary, trained as teachers and undertook school practice in a knowledge-based curriculum; hence, they had a yardstick upon which they offered opinions about the influence of their autonomy in adaptation of pedagogical practices in CBC.

Study Area

The highest data collection source, 51.59%, were teachers teaching in secondary schools located in 13 districts of central Uganda. Meanwhile, 25.53%, 14.89% and 7.99% of our data was collected from teachers teaching in 18, 15 and 14 districts of Eastern, Western and Northern Uganda, respectively. Consequently, while the data is highly skewed to districts of central Uganda, such as Wakiso (20.74%) and Kampala (15.43%) who have access to better internet access, the researchers obtained national representativeness from participants in the remote districts of other regions of the country.

Exploratory Factor Analysis (EFA) Results

In Table 1, results indicate that the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.682, which is adequate and Bartlett's test of sphericity indicated that correlations between items were sufficiently large p-value < 0.001 ($\chi^2 = 399.837$, df = 55) and is statistically significant.

Table1: Teacher Autonomy in planning for teaching and learning in CBC classes.

KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			0.682
Bartlett's Test of Sphericity	Approx. Chi-Square		399.837
	df		55
	Sig.		< 0.01

Table 2 shows the initial number of components for Section B on Teacher Autonomy in the planning for teaching and learning scale, initial Eigen values, the proportion and cumulative proportion of variances explained. The first three components had their Eigen values greater than one, explaining 52.548% of the variation. The Kaiser's criterion (Eigen values > 1) suggests the extraction of three (3) components.

Figure 1 shows a scree plot of eigenvalues for the Section on Teacher Autonomy in the planning for teaching and learning. The scree plot criterion

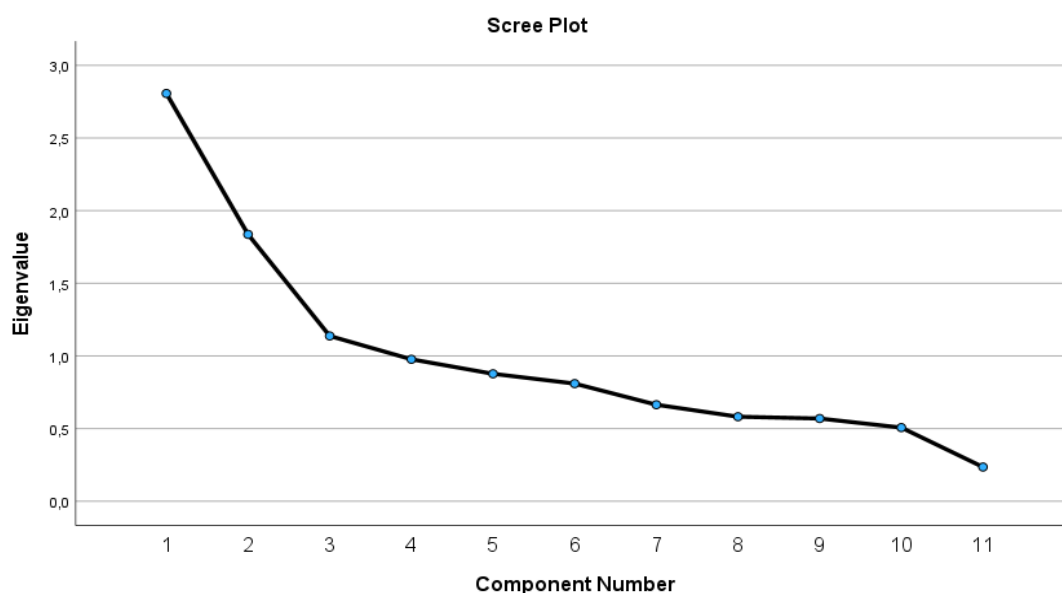
suggests the extraction of two components. The researchers extracted two factors based on this criterion using the *Varimax* rotation method and results presented in Table 3.

The study used the *Varimax* rotation method because the factor correlations after running a two-factor EFA followed by a direct oblimin rotation ≥ 0.32 , indicating that there is not enough variance to warrant oblique rotation (Tabachnick & Fidell, 2007).

Table 2: Teacher Autonomy in Planning for Teaching and Learning in CBC Classes Variance Explained

Component	Total	Initial Eigenvalues % of Variance	Cumulative %
1	2.806	25.512	25.512
2	1.837	16.696	42.208
3	1.137	10.339	52.548
4	0.977	8.880	61.427
5	0.877	7.972	69.399
6	0.809	7.359	76.758
7	0.664	6.037	82.795
8	0.581	5.286	88.081
9	0.569	5.174	93.256
10	0.507	4.606	97.862
11	0.235	2.138	100.000

Extraction Method: Principal Component Analysis.

**Figure 1: Scree Plot of Eigenvalues of Teacher Autonomy in the Planning for Teaching and Learning****Table 3: Factor Correlation Matrix**

Factor	1	2
B:1. Teacher autonomy in the preparation and contextualization of learning Outcomes & Content	1.000	0.304
B: 2. Teacher autonomy in the preparation and contextualization of instructional Materials	0.304	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

Table 4 depicts the two components extracted using the *Varimax* rotation method. The results show items B2, B3, B1 and B7 loading highly onto Factor 1, which is Teacher autonomy in the Preparation and contextualization of learning Outcomes & Content. In contrast, items B8, B5, B11, B4, B10, B6 and B9 load highly onto Factor 2. Which is Teacher autonomy in the preparation and contextualization of instructional materials.

The study repeated the Exploratory Factor Analysis (EFA) for section C that dealt with Teachers' autonomy in facilitation of the teaching and learning process in the Competency-Based Curriculum. The results suggest the extraction of one factor for each construct. The Scree plots in figure 2 shows the basis for extracting one factor (aggregate score for each construct).

Table 4: Pattern Matrix Showing Extracted Factors

Item	Factor	
	1	2
B2. Restate suggested competences for individual lessons you are going to facilitate to suit the learning needs of the learners you teach at your school	0.935	
B3. Restate learning outcomes for individual lessons you are going to facilitate to suit the learning needs of the learners you teach at your school	0.777	
B1. I reorganize themes, topics, scope and sequence in the most logical way that I think can bring about the best learning and development of competences among learners.	0.500	
B7. Modify NCDC proposed Teaching and learning activities for the lessons you teach	0.390	
B8. Choose technologies to use in preparation, instructional delivery and assessment of learners		0.549
B5. Design and develop your own instructional materials for lessons you teach		0.496
B11. Decisions on involvement of community human and other resources in instructional processes		0.482
B4. Decisions on the choice of instructional materials to be used in lessons		0.455
B10. Decisions on the choice of the space on the school compound to use for instructional processes		0.451
B6. Determination of sequence of facilitating a learning activity for the lessons you teach		0.408
B9. Select and use additional reading materials and references you consider relevant for the lessons		0.407

"Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization."

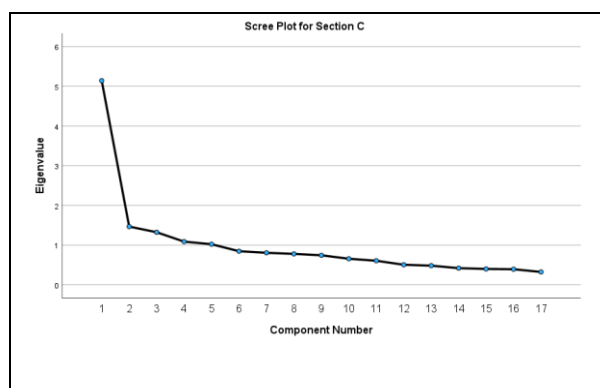


Figure 2: Scree Plot of Eigenvalues of Teacher autonomy

Figure 2 shows that the Exploratory Factor Analysis on Section C was conducted on 17 components. These 17 components were adapted from Short and Rinehart (1992), Pearson and Hall (1993) as well as the preliminary pages of the NCDC revised lower secondary school subject syllabus books. The adapted items that were presented to respondents sought opinions on how teachers' autonomy influence their decisions on classroom work procedures, selection of the teaching methods and strategies that they use with their students and freedom to be creative in their teaching approach.

The other components were concerned with their control of the selection of student learning activities, use of alternative procedures as they teach, composing new learning materials for students, determination of norms and rules for student classroom behavior, as well as scheduling appropriate use of time in the classroom/ lessons they teach.

Furthermore, other questionnaire items of Section C addressed control over how classroom space is used, determination of classroom physical environment, selection of teaching materials from a

known inventory, nurturing of 21st century competences (generic skills) among learners and freedom to make decisions on what is taught to your learners were explored. Finally, section C items sought information about control over how school space, use of community resource persons and control over how community space(s) are used for instructional processes as well as adding to or deleting content from the official curriculum.

Table 5 shows that aggregate scores were then computed for each construct by averaging the constituent item values and were then tested for normality. The Shapiro-Wilk's test for normality

(Saunders et al., 2019) shows section B1: on Teacher autonomy in the Preparation and contextualization of Learning Outcomes and Content, as well as Section B2: on Teacher autonomy in the preparation and contextualization of instructional materials are not normally distributed ($p\text{-value} > 0.001$ since the $p\text{-values}$ are less than the level of significance (shows $\alpha = 0.05$). However, Section C on Teachers' autonomy in facilitation of the teaching and learning process in the Competency-Based Curriculum is normally distributed ($p\text{-value} = 0.101$) since the $p\text{-value}$ is greater than the level of significance shows $\alpha = 0.05$).

Table 5: Shapiro-Wilk Aggregate Scores and Tests of Normality for the data

	Statistic	df	Sig.
B1: Teacher autonomy in the Preparation and contextualization of Learning Outcomes & Content	0.655	179	< 0.001
B2: Teacher autonomy in the preparation and contextualization of instructional materials.	0.798	179	< 0.001
C: Teachers' autonomy in facilitation of the teaching and learning process of the Competency-Based Curriculum	0.987	179	0.101

Table 6: Summary of Statistics

	Mean	Std. Dev.	Median	IQR
B1: Teacher autonomy in the Preparation and contextualization of learning Outcomes & Content	2.70	0.50	3.00	0.50
B2: Teacher autonomy in the preparation and contextualization of instructional materials	2.72	0.33	2.86	0.43
C: Teachers' autonomy in facilitation of the teaching and learning process in the Competency-Based Curriculum	3.36	0.69	3.35	0.88

Summary statistics

Table 6 present the summary statistics for the computed aggregate scores to assess the two research questions that guided this study:

A) To what extent does teachers' autonomy influence their contextualization of the pre-teaching phase in the Competency-Based Curriculum?

B) To what extent does teachers' autonomy influence their facilitation of the teaching and learning process in a classroom implementing a Competency-Based Curriculum?

Section B with items that focused on Teacher autonomy in the Preparation and contextualization of learning Outcomes and Content and those on Teacher autonomy in the preparation and contextualization of instructional material corresponded to research question A and were

coded as Disagree = 1, undecided = 2 and agree = 3. Sections C with items that focused on Teachers' autonomy in facilitation of the teaching and learning process of the Competency-Based Curriculum addressed research question B, coded as Very least extent = 1, Little extent = 2, Do Not Know = 3, Great extent = 4 and very great extent = 5.

Research Question 1: To what extent does teachers' autonomy influence their contextualization of the pre-teaching phase in the Competency-Based Curriculum?

Section B1 addressed the findings for the first research question on Teacher Autonomy in the Preparation and Contextualization of Learning Outcomes and Content as well as Section B2 on

Teacher Autonomy in the Preparation and Contextualization of Instructional Materials.

Teacher Autonomy in the Preparation and Contextualization of Learning Outcomes and Content

Table 6 shows findings in Section B1, which concerns teacher autonomy in preparing and contextualizing learning outcomes and content. The mean score was 2.7 (SD.50), indicating that the teachers agreed to use autonomy in this area. The implication is the majority of the teachers made modifications to NCDC learning outcomes. The potential benefit of this self-reported teacher autonomy in preparation of learning outcomes lies in the fact that teachers aligned what they planned to teach to learners with their school contexts, fundamental time class dynamics and their lived experiences as advocated by Ozturk (2012) and Nihayah et al. (2023).

It is important to note that teachers implementing a new curriculum require this autonomy to enhance their professional and instructional effectiveness to meet students' learning needs in their local school contexts (Silberstein & Ben-Peretz, 1987; Jiang & Ma, 2012). This requires curriculum innovations and reforms, such as a Competency-based curriculum, to be designed in a shape conducive to further development and modification during the implementation stage (Galton, 1998 in Ozturk, 2012). There is a need for such flexibility in innovative curricula in order to allow teachers address the shortcomings in standardized curriculum materials from NCDC. For instance, in some of the open-ended items on the survey, teachers who responded reported shortcomings in the standardized curriculum from NCDC, especially in sequencing content. A *teacher of Chemistry reported that the introduction of elements and compounds take place before the periodic table*. Another teacher of Physical Education reported, *the running skills in S1 and Jumping skills in S3 are scanty*; another teacher reported that he introduced a traditional sport, "mweso" (board game). Such action is in line with Banegas (2012) who asserted that teacher autonomy is a professional attribute, which refers to teachers' freedom to implement curricula discretely. Teacher autonomy is essential for ensuring a learning environment that addresses learners' needs through addition of content that they feel is missing from the standard curriculum (Sehrawat, 2014). Some teachers felt compelled to use their autonomy to review and include more

relevant topics than prescribed in the curriculum. These findings align with Jales and Meral's (2015) assertion that teachers do not accept to practice curriculum as it appears to them. Instead, they prefer to think critically about it in terms of how beneficial it is to the progress of the students and any other better way to do it.

Teacher Autonomy in the Preparation and Contextualization of Instructional Materials

Table 6 shows findings in Section B2, which concerns teacher autonomy in preparing and contextualizing instructional materials.

The mean score was 2.72 (SD = 0.33), indicates that the teachers agreed to use autonomy in reviewing and adapting instructional materials to their school context. Some teachers acknowledged the flexibility in improving the curriculum materials and used their autonomy to contextualize the curriculum. They agreed that they made materials with more alternatives than those recommended in the CBC curriculum and some even sent students to ask their parents to contribute or check in the books meant for the former subject-centered curriculum. Such trends resonated with Nihayah et al. (2023), who concluded that teachers' autonomy contributes to selecting and adapting materials to their student's learning needs and teaching competency, hence preparing engaging lessons. Similarly, Banegas (2012) quotes Benson 2010 who stated, that teachers may exercise their autonomy by creating opportunities which exceed the prescriptive curriculum and design tasks and materials, which respond to their student's interests and abilities. However, just like in Ozturk (2012), teacher autonomy was restricted to strict adherence to official curriculum instructions; some participants felt that standards in the curriculum did not leave room for innovations. As Ozturk (2012) noted, these restrictions on teacher autonomy disadvantage the learners as their teachers cannot prepare materials and appropriate lessons tailored to their local school contexts.

The introduction of CBC in lower secondary schools in Uganda coincided with the era of 'The Internet of Things (IoT)'. IOT and the fourth industrial era greatly influenced the design and implementation of CBC. Besides the development of some ICT competencies, e.g., the use of equation editors, spreadsheets, online Encarta, simulations and file downloads, by embedding them in the different subjects taught (NCDC Syllabus books), teachers

reported that students are expected to check the internet, yet they cannot determine the authentic materials. While the practice of students checking and consulting online materials promotes learners' autonomy, it further threatens the autonomy of teachers who were not appropriately nurtured in the development of learner autonomy during their pre-service training (Reinders & Balcikini, 2011).

Research Question 2: To what extent does teachers' autonomy influence their contextualization of the pre-teaching phase in the Competency-Based Curriculum?

This research question sought to establish the extent to which teachers' autonomy influence their contextualization of the pre-teaching phase in the Competency-Based Curriculum. Pearson and Moomaw (2005), while explaining the role of teacher autonomy, states that pedagogical autonomy involves the freedom to choose and implement teaching methods and assessment strategies. Joyti (2014) reaffirms that autonomy is essential in ensuring a learning environment that addresses children's adverse needs. Similarly, Varis (1997) in Ozturk (2012) says, the curriculum development process does not end with preparing curriculum programs; it continues with teachers' instructional planning activities, finalizing with the actual delivery of the instruction in the classroom. The framers of CBC in Uganda were aligned with Vari's views when they sought to empower teachers to take a more active role in learning by allowing them to design and implement lessons that focus on competencies rather than content memorization (National Curriculum Development Centre, 2020)..

As seen in Table 6, findings in Section C reported a mean score of **3.36** (SD = **0.69**), indicating that, to a less extent, teachers have used their autonomy to contextualize the teaching and learning process while implementing CBC. The findings are in agreement with Sehwat's (2014) synthesis that even in the presence of curriculum freedom, teachers lack the confidence to exercise their autonomy particularly when implementing a highly prescriptive and standardized curriculum like CBC in Uganda, unless it is sanctioned by school administrators,. Similarly, the study's findings are consistent with those by Erbiyik and Köybaşı (2024), who established that while teachers felt autonomous in classroom management and lesson preparation, they had less autonomy in curriculum development, implementation and evaluation.

Consequently, teachers require support in classroom practices to implement lessons featuring activities and methodologies customized to their learners' needs. Such will go a long way in nurturing autonomous learners who can thrive in work in the 21st Century (Reinders & Balcikini, 2011). If we are to strike a balance, then as a country, we need to consider the possibility of implementing what Nakabugo et al. (2007) suggested as practical strategies to adopt innovative and student-centered learning through the provision of adequate resources, professional development and supportive national and school-based administrative policies. Teachers do not need to feel threatened when they attempt to exercise their autonomy while facilitating the teaching and learning processes in their respective subjects in the CBC.

Conclusions and Recommendations

Conclusions

Despite the prescriptive guidelines of the CBC, the majority of the teachers used their autonomy to adapt the NCDC instructional materials, content and learning outcomes to the context of their school environment and the nature of their learners. However, most teachers struggled to exercise their autonomy in facilitating the teaching and learning processes within and outside the classrooms. Consequently, although teachers' autonomy positively triggered their intrinsic motivation to innovate and contextualize the instructional materials, learning outcomes and content to their school context during the pre-active phase, they are yet to adapt to new teaching approaches and engagement of students in meaningful learner-centered pedagogies expected in implementing a competency-based curriculum.

Recommendations

Successful implementation of CBC depends on teachers' interpretation and contextualization of the curriculum learning outcomes, content and instructional materials in the pre-teaching phase. Consequently, the Ministry of Education and Sports as well as school administrators should encourage and institutionalize teachers' use of their autonomy to innovate, customize and contextualize the instructional materials, learning outcomes and content to their school context for the benefit of their learners.

Furthermore, the Ministry of Education and Sports as well as school administrators should put in place targeted professional development programs,

policies and support systems that enhance teacher autonomy to adapt to new teaching approaches and engage students in meaningful learner-centered pedagogies expected in implementing competency-based curriculum. For example, the schools should pair teachers who are confident in exercising their autonomy with those who feel that the prescribed curriculum from the NCDC should be implemented as it disregards their school context.

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