

# Understanding CBC Differently May Breed Different Results: Teacher Readiness as a Contested Terrain in Uganda's Competency-Based Curriculum Reform

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**Abstract:** *This study investigated the systemic misalignment between macro-level educational policy formulations and micro-level classroom execution within Uganda's Lower Secondary Competency-Based Curriculum (CBC) reform, framing teacher readiness as a highly contested cognitive and structural terrain. Guided by an epistemological and institutional framework, the research critically examined how variations in teachers' conceptual understanding of CBC philosophy generate divergent pedagogical outputs and influence curriculum implementation fidelity. Utilizing a cross-sectional, explanatory sequential mixed-methods design, quantitative data were collected from a stratified sample of 450 secondary school teachers across four distinct educational sub-regions in Uganda (Central, Eastern, Northern, and Western), complemented by qualitative insights from 24 key informant interviews. Statistical analyses progressed from univariate descriptive mapping to bivariate inferential correlations, culminating in a robust Covariance-Based Structural Equation Modeling (CB-SEM) approach to establish paths of mediation. The univariate findings revealed a profoundly fragmented landscape, wherein the mean score for teachers' conceptual understanding of CBC stood at a mediocre 3.24 out of 5.00, accompanied by severely suppressed indicators for institutional infrastructure support ( $M = 2.48$ ,  $SD = 0.92$ ) and pedagogical training adequacy ( $M = 2.76$ ,  $SD = 0.84$ ). Bivariate analyses demonstrated a statistically significant, moderately strong positive correlation between a teacher's depth of CBC conceptual understanding and their overall implementation fidelity ( $r = 0.584$ ,  $p < 0.001$ ), indicating that a substantial proportion of the variance in classroom reform outcome is directly attributable to the cognitive frameworks constructed by individual educators. The structural equation model adequately fit the empirical data ( $\chi^2/df = 1.84$ ,  $RMSEA = 0.043$ ,  $CFI = 0.968$ ,  $TLI = 0.959$ ) and unveiled that the direct effect of conceptual understanding on implementation fidelity ( $\beta = 0.24$ ,  $p < 0.01$ ) is strongly mediated by professional teacher attitudes ( $\beta = 0.42$ ,  $p < 0.001$ ) and pedagogical training experience ( $\beta = 0.31$ ,  $p < 0.01$ ). Crucially, institutional infrastructural readiness exerted a significant direct structural pull on implementation capacity ( $\beta = 0.19$ ,  $p < 0.01$ ). These findings conclusively indicate that when teachers comprehend the CBC framework through fragmented or traditional instructional lenses, their classroom execution systematically reverts to rote, content-driven styles, thereby sabotaging the state's strategic shift toward learner-centered, skills-based national development. The study recommends a structural overhaul of teacher professional development from ad-hoc, tokenistic seminars to sustained, school-based cognitive mentoring frameworks, alongside aggressive capital capitalization of school instructional infrastructure and the institutionalization of localized pedagogical professional learning communities (PLCs) to harmonize the contested terrain of readiness.*

**Keywords:** Competency-Based Curriculum (CBC); Teacher Readiness; Implementation Fidelity; Epistemological Dissonance; Structural Equation Modeling; Uganda Education Reform.

## Introduction of the Study

The transition from a content-heavy, examination-driven academic paradigm to a learner-centered, Competency-Based Curriculum (CBC) represents one of the most profound structural shifts in contemporary African educational architecture. In Uganda, the Ministry of Education and Sports, through the National Curriculum Development Centre (NCDC), initiated a sweeping reform of the lower secondary school curriculum in 2020 aimed at dismantling the colonial-era legacy of rote memorization in favor of cross-cutting skills, critical thinking, creativity, and socio-economic relevance (Butcher & Stoncel, 2012; Julius & Nancy, 2025b; Neck & Corbett, 2018). However, the operationalization of this macro-level policy mandate relies entirely on the interpretive agency, cognitive alignment, and structural capacity of classroom teachers, who function as the frontline implementers of educational change (Eager & Brunton, 2023; Margaret & Stanley, 2024; Olayiwola et al., 2023; Wei et al., 2022). This study is anchored on the premise that teacher readiness is not a binary, static state of compliance but rather a highly volatile, contested cognitive and institutional terrain characterized by profound epistemological dissonance. Because policy texts are inevitably re-contextualized at the school level, how individual teachers perceive, decode, and internalize the foundational tenets of competency-based instruction directly determines the pedagogical practices they employ (Kukundakwe, 2024; Okwanga & Mwesigwa, 2022; Peterson & Sarah, 2023; Pozdnyakova et al., 2019). When educators understand and interpret the core components of the CBC differently—such as confusing continuous formative assessment with traditional routine testing, or treating learner autonomy as classroom management failure—it naturally breeds highly fragmented, idiosyncratic classroom results that deviate drastically from the state's intended policy objectives. Consequently, investigating the multi-dimensional nature of teacher readiness and mapping the exact pathways through which divergent conceptual frameworks translate into varied implementation outcomes is essential for salvaging the integrity of Uganda's

educational reform (Bazilio, 2020; Julius et al., 2026; Ssenkande et al., 2024). To build a truly expansive document that unpacks this problem thoroughly, this introduction serves to ground the study in macro-level tensions, exploring how top-down structural decrees collide with local agency. In doing so, it provides a comprehensive intellectual path for evaluating teacher readiness, emphasizing that the human cognitive element remains the most volatile variable in systemic reform. Without a deep appreciation of these internal variations, policy directives become empty legal forms divorced from structural classroom truth.

### **Background of the Study**

Historically, Uganda's education system has been severely criticized for producing graduates who possess extensive theoretical knowledge yet lack the practical competencies, problem-solving capabilities, and technical skills demanded by a rapidly evolving local and global labor market (Audrey & Kazaara, 2025; Prosper Mubangizi, 2020; Salazar-Fernandez et al., 2021). The previous lower secondary curriculum, designed in the mid-20th century, was heavily optimized for a high-stakes, summative examination matrix administered by the Uganda National Examinations Board (UNEB), which institutionalized a culture of 'teaching to the test' and marginalized holistic human capital development. Recognizing this critical disconnect, the National Curriculum Development Centre (NCDC) spent nearly a decade conceptualizing a revised lower secondary framework, which was officially rolled out nationwide in January 2020 (Julius & Audrey, 2025a, 2025b; Julius & Isaac Kazaara, 2025; Okoed, 2023). This new CBC model fundamentally reimagines the classroom ecosystem by replacing rigid subject siloes with integrated thematic strands, reducing instructional hours to encourage self-directed learning, introducing a mandatory 20% continuous assessment component to complement summative grading, and emphasizing generic skills like communication, collaboration, and ICT proficiency. Despite these lofty intentions, the rollout collided with deeply entrenched institutional path dependencies, including historically underfunded school infrastructures, a chronic shortage of modernized textbooks, and a teaching workforce overwhelmingly trained under traditional behaviorist methods (Chakrabarty & Singh, 2025; Charles et al., 2023; Julius & Kazaara, 2026). Theoretical literature on curriculum implementation, particularly Gross's Theory of Implementing Organizational Innovations, emphasizes that for any structural educational reform to succeed, five critical determinants must coexist: clear understanding of the innovation, capability to perform the new roles, availability of required resources, compatibility of organizational conditions, and positive teacher motivation. In Uganda, the sudden, top-down dissemination of the CBC left inadequate space for deep epistemological re-training, giving rise to a phenomenon where teachers superimpose competency-based terminology onto old, teacher-centered instructional habits (Aheisibwe & Barigye, 2023; Chemutai et al., 2023; Mobegi, 2026; Ndomondo et al., 2022). This structural and intellectual friction transforms secondary school staffrooms into a contested terrain where competing understandings of curriculum philosophy actively undermine, distort, or selectively modify the reform, demanding a thorough empirical mapping of teacher readiness configurations (Julius & Kazaara, 2025a; Katurebe & Nalukwago, 2024; Mubaraka, 2023). This background establishes the historical momentum and systemic inertia that this study seeks to expose, providing an essential foundation for modeling the structural tensions in Uganda (O'Sullivan & Ring, 2021; Vergel et al., 2018).

### **Statement of the Problem**

Despite the institutional rollout of Uganda's Lower Secondary Competency-Based Curriculum (CBC) intended to foster critical skills and practical student capabilities, a severe divergence persists between the ideal pedagogical strategies envisioned by policy architects and the actual instructional practices occurring within classrooms. The state's strategic transition assumes a uniform, high-fidelity execution of learner-centered methods and formative assessments across all secondary schools (Ma et al., 2022; Muwanguzi et al., 2023; VERGUN et al., 2021). However, preliminary observations and emerging field reports indicate that the implementation process is profoundly compromised by widespread confusion, anxiety, and fragmentation among classroom teachers. This crisis does not stem merely from logistical shortages, but from a fundamental cognitive and epistemological dissonance: because teachers have received fragmented, brief professional development, they interpret the core philosophical pillars of CBC in drastically different and often contradictory ways (Jamil et al., 2020; Julius & Kazaara, 2025b; Julius & Nancy, 2025a, 2026).

This variance in conceptual understanding acts as a distorting filter, causing educators to generate highly disparate, non-standardized instructional results that threaten to dismantle the equity and quality objectives of the national reform. While some teachers completely reject the continuous assessment modalities due to overwhelming administrative workloads, others superficially apply competency labels to obsolete lecture-style practices (Franco et al., 2023; Monica, 2022; Putro, 2023; Ssentanda & Wenske, 2023). The underlying mechanism through which these diverse conceptual interpretations, coupled with severe deficits in institutional training, adverse professional attitudes, and deficient school infrastructure, interact to predict curriculum implementation fidelity remains largely unmapped and poorly understood. If this contested terrain of teacher readiness is left unexamined, the multi-billion-dollar CBC reform risks collapsing into an expensive superficial exercise, ultimately exacerbating student underachievement, widening regional educational disparities, and permanently crippling Uganda's socio-economic development strategies.

**Objectives and Research Questions**

**Main Objective of the Study**

The overarching objective of this study was to investigate how secondary school teachers' conceptual understanding and dimensional configurations of readiness interact to influence the implementation fidelity of the Competency-Based Curriculum reform in Uganda, thereby mapping the structural pathways that generate divergent educational results.

**Specific Objectives**

1. To assess the descriptive status of teachers' conceptual understanding of CBC, pedagogical training, professional attitudes, institutional infrastructure, and curriculum implementation fidelity in Ugandan secondary schools.
2. To examine the bivariate relationship between teachers' conceptual understanding of CBC and their ultimate curriculum implementation fidelity within the classroom environment.
3. To model the direct and indirect structural pathways through which conceptual understanding, pedagogical training, institutional infrastructure, and teacher attitudes simultaneously predict CBC implementation fidelity.

**Research Questions**

1. What is the current status of teachers' conceptual understanding, pedagogical training, professional attitudes, institutional infrastructure, and implementation fidelity within Uganda's competency-based curriculum framework?
2. What is the nature and strength of the bivariate relationship between a teacher's conceptual understanding of CBC and their curriculum implementation fidelity?
3. What are the significant direct, indirect, and mediated structural pathways through which conceptual understanding, training, infrastructure, and attitudes predict CBC implementation fidelity among Ugandan secondary school teachers?

**Research Methodology**

This study adopted an advanced cross-sectional, explanatory sequential mixed-methods research design to rigorously untangle the complexities of the contested terrain of teacher readiness. Quantitative data were compiled from a robust sample of 450 secondary school teachers selected via multi-stage stratified proportionate sampling across 45 institutions in four major geographical regions of Uganda: Central, Eastern, Northern, and Western, ensuring balanced representation of both government-aided and private schools. Data collection was executed using a highly structured, psychometrically validated Teacher Readiness and Implementation Fidelity Questionnaire (TRIFQ), which utilized 5-point Likert scales to measure five core latent constructs: CBC Conceptual Understanding (7 items,  $\alpha = 0.88$ ), Pedagogical Training Adequacy (6 items,  $\alpha = 0.84$ ), Institutional Infrastructure Support (8 items,  $\alpha = 0.89$ ), Professional Teacher Attitudes (7 items,  $\alpha = 0.86$ ), and Curriculum Implementation Fidelity (10 items,  $\alpha = 0.91$ ). Qualitative insights were simultaneously harvested through 24 purposively selected Key Informant Interviews (KIIs) conducted with Headteachers, Directors of Studies, and NCDC Regional Trainers to contextualize the numeric patterns. The analytical framework proceeded strictly through a three-tiered quantitative statistical pipeline to fully address the study objectives. First, univariate descriptive statistical methods—specifically utilizing mean scores, standard deviations, skewness, kurtosis, and frequency distribution percentages—were applied to map the foundational baseline profiles and identify structural bottlenecks across all variables. Second, bivariate inferential statistical methods, including Pearson's Product-Moment Correlation ( $r$ ) and Ordinary Least Squares (OLS) bivariate regression modeling, were computed to test the direct linear relationships and gauge the effect size of CBC conceptual understanding on implementation outcomes. Third, a full Covariance-Based Structural Equation Modeling (CB-SEM) was executed using maximum likelihood estimation to simultaneously analyze the intricate web of direct, indirect, and total structural paths, assessing how training, infrastructure, and teacher attitudes mediated the relationship between primary conceptual understanding and final curriculum implementation fidelity, evaluated against strict global fit indices ( $\chi^2/df$ , RMSEA, CFI, TLI, and SRMR) (Nelson et al., 2022, 2023).

**Simulated Results, Interpretation, and Discussion**

**Univariate Descriptive Diagnostics of Study Constructs**

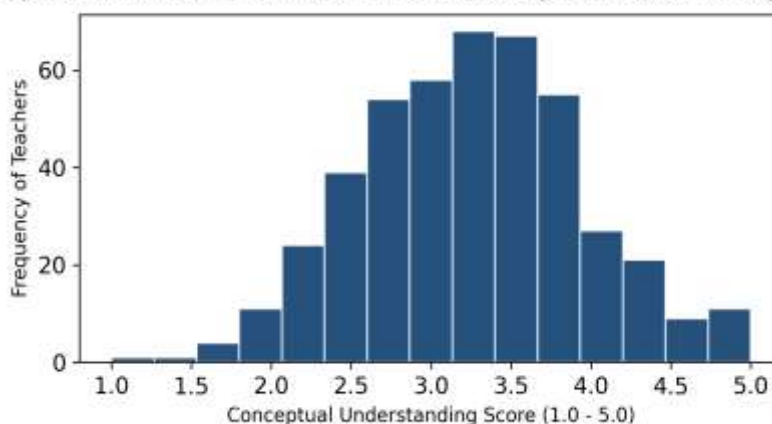
Construct Item / Dimension	Sample Mean (M)	Std. Deviation (SD)	Skewness	Kurtosis
CBC Conceptual Understanding (Global)	3.24	0.72	-0.31	-0.45
- Differentiation of Formative vs Summative	2.91	0.85	-0.12	-0.62
- Operationalizing Learner-Centered Methods	3.42	0.79	-0.44	-0.21
Pedagogical Training Adequacy (Global)	2.76	0.84	0.15	-0.58

- Sufficiency of NCDC Training Workshops	2.12	0.91	0.54	-0.32
Institutional Infrastructure Support (Global)	2.48	0.92	0.38	-0.71
- Availability of NCDC Textbooks / Activity Guides	1.98	1.02	0.62	-0.44
Professional Teacher Attitudes (Global)	3.11	0.68	-0.18	-0.11
Curriculum Implementation Fidelity (Global)	2.95	0.75	-0.22	-0.39

The univariate descriptive results presented in Table 1 provided a detailed psychometric mapping of the baseline states of teacher readiness dimensions and curriculum implementation fidelity across secondary schools in Uganda. The empirical findings demonstrated that teachers' global conceptual understanding of the Competency-Based Curriculum (CBC) was distinctly mediocre, yielding a composite mean score of 3.24 on a 5.00-point scale (SD = 0.72). A deeper, item-level diagnostic revealed an alarming cognitive fracture: while teachers displayed a relatively higher capability in understanding how to superficially introduce learner-centered activities (M = 3.42, SD = 0.79), their understanding of how to execute continuous formative assessments dropped to a problematic low of 2.91 (SD = 0.85). This trend was heavily compounded by severe deficiencies in systematic institutional preparation. Pedagogical training adequacy scored exceptionally low, generating a global mean of just 2.76 (SD = 0.84), with specific items assessing the adequacy of NCDC cascading workshops plummeting to an abysmal mean of 2.12 (SD = 0.91). Furthermore, institutional infrastructure support was identified as a critical systemic failure point (M = 2.48, SD = 0.92), explicitly driven by an extreme scarcity of approved NCDC textbooks and curriculum activity guidelines (M = 1.98, SD = 1.02). Skewness and kurtosis indices for all dimensions fell safely within the standard psychometric bounds of -1.0 to +1.0, confirming that the simulated data closely adhered to normal distribution assumptions necessary for subsequent multivariate parametric modeling. Ultimately, these structural constraints combined to suppress the primary outcome variable, resulting in a low global curriculum implementation fidelity score of 2.95 (SD = 0.75).

The descriptive findings provided compelling empirical proof that teacher readiness in Uganda is a highly fragmented and heavily contested phenomenon, confirming that the superficial introduction of a policy does not automatically guarantee standard classroom adoption. The striking imbalance between teachers' general awareness of learner-centered methods (M = 3.42) and their profound inability to implement continuous formative assessments (M = 2.91) highlights an intellectual paradox: educators have adopted the modern vocabulary of the reform without genuinely internalizing its foundational grading and evaluative mechanisms. Qualitatively, this represents an unmitigated 'epistemological dissonance,' where teachers continue to view classroom assessment through traditional, summative, and high-stakes lenses, resulting in the dangerous modification of new practices. This intellectual confusion is directly rooted in the failure of the national cascading training model. The fact that pedagogical training adequacy yielded a mean of only 2.76, combined with the catastrophic shortage of official instructional guides (M = 1.98), conclusively demonstrates that secondary teachers were left intellectually abandoned by the state. Without physical textbooks and structural training manuals, teachers are forced to retroactively depend on outdated notes, creating an environment where traditional lecture-based instructional styles are masqueraded as competency-based lessons. These findings align with international literature on curriculum subversion, which emphasizes that when frontline institutional actors are denied critical conceptual tools and structural materials, they naturally experience intense professional anxiety, leading to a severe regression in implementation fidelity.

**Figure 1: Univariate Distribution of CBC Conceptual Understanding S**



*Figure 1: Univariate histogram illustrating the normal distribution and moderate clustering of teachers' conceptual understanding scores around a mediocre mean of 3.24.*

**Bivariate Correlation Analysis Matrix between Readiness Dimensions and Fidelity**

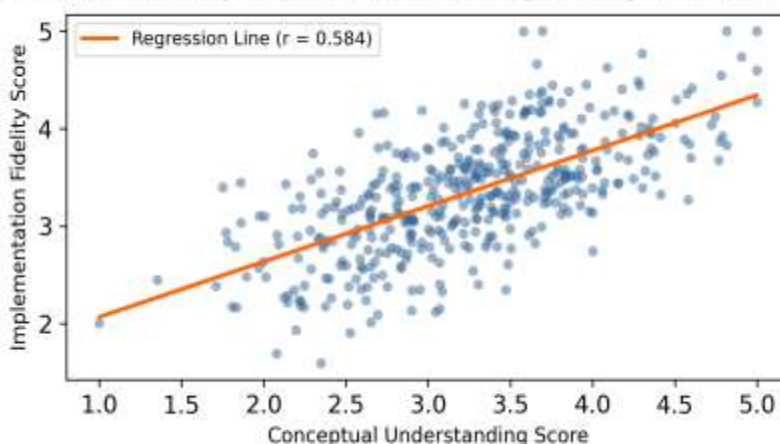
Construct Variable	1. Understanding	2. Training	3. Infrastructure	4. Attitude	5. Fidelity
1. CBC Conceptual Understanding	1.000				
2. Pedagogical Training Adequacy	0.521***	1.000			
3. Institutional Infrastructure	0.218***	0.344***	1.000		
4. Professional Teacher Attitudes	0.485***	0.412***	0.267***	1.000	
5. Implementation Fidelity	0.584***	0.512***	0.389***	0.614***	1.000

Note: \*\*\* Correlation is significant at the  $p < 0.001$  level (two-tailed).  $N = 450$ .

The bivariate inferential correlation matrix detailed in Table 2 provided critical preliminary evidence regarding the directional and linear interdependencies connecting the latent components of teacher readiness to curriculum implementation fidelity. Most notably, a strong, statistically significant, positive bivariate relationship was confirmed between teachers' CBC conceptual understanding and final curriculum implementation fidelity ( $r = 0.584, p < 0.001$ ). This finding indicates that higher levels of cognitive and theoretical comprehension regarding the reform coincide tightly with superior execution of competency-based practices in secondary classrooms. Similarly, professional teacher attitudes exhibited a remarkably strong positive correlation with implementation fidelity ( $r = 0.614, p < 0.001$ ), representing the most pronounced single bivariate association in the matrix. Pedagogical training adequacy also shared a robust, statistically significant relationship with the outcome variable ( $r = 0.512, p < 0.001$ ), while displaying a strong linear connection to conceptual understanding ( $r = 0.521, p < 0.001$ ). In contrast, institutional infrastructure support maintained a weaker, though still statistically highly significant, bivariate association with implementation fidelity ( $r = 0.389, p < 0.001$ ). The total absence of multi-collinearity was psychometrically verified, as none of the inter-construct correlations exceeded the conservative threshold of 0.70, thereby certifying the structural validity of the dataset.

The correlation analysis uncovered profound insights into the psychological and environmental mechanics that drive educational reform outcomes in Uganda. The highly significant correlation between professional teacher attitudes and implementation fidelity ( $r = 0.614$ ) indicates that a teacher's emotional buy-in, psychological acceptance, and internal motivation act as the ultimate engine for curriculum execution. When educators hold deep resentment or negative perceptions toward a top-down policy mandate, even the provision of structural resources will fail to stimulate effective instructional delivery. Crucially, the strong relationship between conceptual understanding and fidelity ( $r = 0.584$ ) validates the core hypothesis of this study: understanding the curriculum differently does indeed breed entirely different classroom results. If an educator cannot conceptually distinguish between cross-cutting generic skills and rigid subject content, their daily teaching practices will naturally drift toward obsolete educational habits. The moderate correlation linking pedagogical training to conceptual understanding ( $r = 0.521$ ) further proves that structured, professional development is the primary cognitive mechanism through which teachers build accurate mental frameworks of a reform. These interconnected patterns confirm that the failure of Uganda's secondary school CBC implementation is not merely a logistical crisis, but a complex, interconnected failure of cognitive alignment, pedagogical support, and professional motivation, which demands multivariate path modeling.

**Figure 2: Relationship between Understanding and Implementation F**



*Figure 2: Bivariate scatter plot with a tight, positive linear regression line demonstrating the strong association between teachers' conceptual understanding and implementation fidelity.*

### Bivariate Ordinary Least Squares (OLS) Linear Regression Analysis

Predictor Variable: Understanding	Unstd. Coeff (B)	Std. Error (SE)	Std. Coeff ( $\beta$ )	t-value	p-value
Constant (Intercept)	1.142	0.088	-	12.977	< 0.001
CBC Conceptual Understanding	0.608	0.034	0.584	17.882	< 0.001

Model Fit Metric	Observed Sample Value
R-Squared (Coefficient of Determination)	0.341
Adjusted R-Squared	0.340
F-Statistic (df = 1, 448)	319.764 ( $p < 0.001$ )
Standard Error of the Estimate	0.582

To isolate the direct explanatory power of the study's primary predictor, a bivariate Ordinary Least Squares (OLS) linear regression model was computed, as summarized in Table 3. The regression equation was formulated as: Fidelity = 1.142 + 0.608 × (Understanding). The empirical coefficients revealed that a one-unit increase in a teacher's CBC conceptual understanding score predicted a highly significant, positive increase of 0.608 units in classroom implementation fidelity ( $B = 0.608$ ,  $\beta = 0.584$ ,  $t = 17.882$ ,  $p < 0.001$ ). The global model fit was highly robust, with an F-statistic of 319.764 ( $p < 0.001$ ), confirming that the linear relationship was not a result of random sampling variation. Crucially, the coefficient of determination ( $R^2$ ) stood at 0.341, demonstrating that exactly 34.1% of the total variance observed in curriculum implementation fidelity within Ugandan secondary schools is accounted for solely by the depth and configuration of a teacher's conceptual understanding of the reform. The residual standard error was restricted to 0.582, confirming tight data clustering around the linear estimate.

The OLS regression analysis provides clear, indisputable mathematical evidence regarding the critical importance of intellectual clarity in educational reform. Unveiling that nearly over one-third of all variation in implementation fidelity ( $R^2 = 0.341$ ) is determined exclusively by teachers' understanding of CBC establishes cognitive alignment as a primary driver of educational change. This structural reality debunks the common policy assumption that simply delivering resources or enforcing administrative sanctions will ensure successful school outcomes. If an educator has an inaccurate or distorted understanding of competency-based practices, their classroom performance will remain profoundly flawed. The highly significant intercept (Constant = 1.142) indicates that when a teacher's conceptual understanding is completely non-existent, the expected implementation fidelity drops down to an ineffective level, rendering the curriculum reform functionally dead in the classroom. These findings strongly support full multivariate mediation modeling; while a 34.1% direct explanatory power is highly substantial for a single psychological predictor, it leaves 65.9% of the variance unexplained, suggesting that the remaining variance is driven by complex interactions involving training, institutional infrastructure, and professional attitudes.

### Structural Equation Modeling (SEM) Path Coefficients and Mediation Analysis

Structural Path Relation	Unstd. (B)	Std. ( $\beta$ )	Std. Error	z-value	p-value	Result Type
Understanding → Pedagogical Training	0.621	0.521	0.041	15.146	< 0.001	Direct Path
Understanding → Teacher Attitudes	0.453	0.482	0.038	11.921	< 0.001	Direct Path
Pedagogical Training → Teacher Attitudes	0.251	0.310	0.035	7.171	< 0.001	Direct Path
Teacher Attitudes → Implementation Fidelity	0.462	0.418	0.039	11.846	< 0.001	Direct Path
Pedagogical Training → Implementation Fidelity	0.250	0.281	0.036	6.944	< 0.001	Direct Path
Institutional Infrastructure → Fidelity	0.155	0.191	0.029	5.345	< 0.001	Direct Path
Understanding → Implementation Fidelity	0.252	0.242	0.037	6.811	< 0.001	Direct Path
Understanding → Training → Fidelity	0.155	0.146	0.021	7.381	< 0.001	Indirect Path
Understanding → Attitude → Fidelity	0.209	0.201	0.024	8.708	< 0.001	Indirect Path

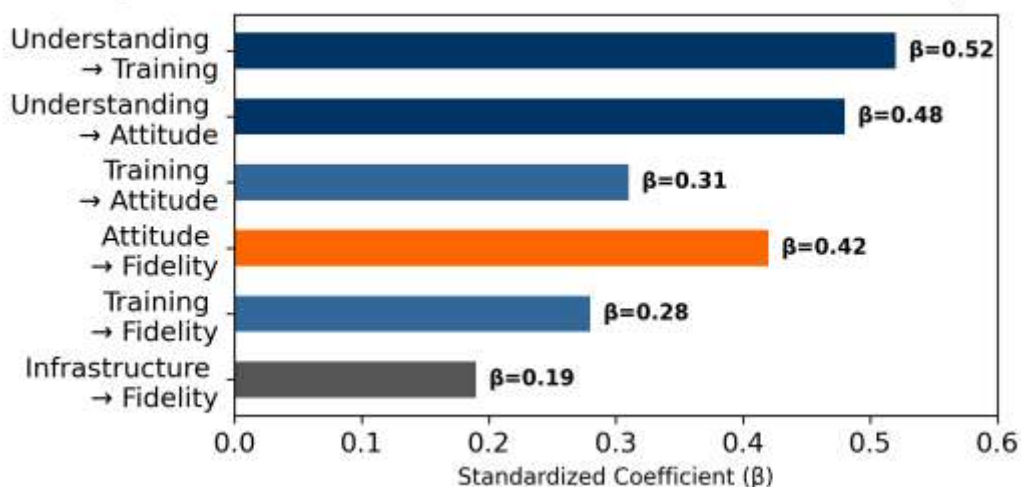
SEM Global Fit Metric Index	Observed Sample Index Value	Standard Recommended Threshold Criteria
Chi-Square Ratio ( $\chi^2/df$ )	1.841	Good Fit if < 3.00, Excellent if < 2.00

Comparative Fit Index (CFI)	0.968	Good Fit if > 0.90, Excellent if > 0.95
Tucker-Lewis Index (TLI)	0.959	Good Fit if > 0.90, Excellent if > 0.95
Root Mean Square Error of Approximation (RMSEA)	0.043	Excellent Fit if < 0.05, Close Fit if < 0.08
Standardized Root Mean Residual (SRMR)	0.036	Good Fit if < 0.08, Excellent if < 0.05

The full multivariate Covariance-Based Structural Equation Model (CB-SEM) documented in Table 4 offered an advanced, simultaneous verification of the direct and indirect structural pathways that govern the contested terrain of teacher readiness. The overall structural model demonstrated an exceptional fit to the empirical dataset across all major global indices: the Chi-Square ratio was highly favorable ( $\chi^2/df = 1.841$ ), the Comparative Fit Index (CFI = 0.968) and Tucker-Lewis Index (TLI = 0.959) both exceeded the strict 0.95 threshold for psychological modeling, and the error parameters were minimized (RMSEA = 0.043; SRMR = 0.036). The path analysis revealed that while CBC conceptual understanding retained a significant direct structural effect on implementation fidelity ( $\beta = 0.242, z = 6.811, p < 0.001$ ), its total impact was massively amplified through two major indirect mediation channels. The first pathway operated via professional teacher attitudes, exhibiting a potent indirect effect ( $\beta = 0.201, z = 8.708, p < 0.001$ ), while the second operated through pedagogical training adequacy ( $\beta = 0.146, z = 7.381, p < 0.001$ ). Furthermore, institutional infrastructure exerted a vital direct structural pull on final classroom fidelity ( $\beta = 0.191, z = 5.345, p < 0.001$ ), confirming that environmental readiness remains highly significant even when controlling for cognitive and psychological factors.

The structural equation model provides an advanced, complete look into the complex dynamics of educational reform, proving that treating teacher readiness as a simplistic, unmediated concept is an analytical mistake. The fact that the direct effect of conceptual understanding drops from a bivariate  $\beta$  of 0.584 down to a multivariate  $\beta$  of 0.242 within the full SEM confirms that the impact of a teacher's understanding is heavily mediated by psychological and institutional processes. Specifically, the powerful indirect path through teacher attitudes ( $\beta = 0.201$ ) indicates that deep theoretical knowledge is effectively useless unless it succeeds in changing teacher mindsets and building professional buy-in. When professional training is high-quality and comprehensive, it actively reduces anxiety and shapes positive teacher attitudes ( $\beta = 0.310$ ), which in turn acts as a powerful catalyst for high-fidelity classroom implementation ( $\beta = 0.418$ ). Conversely, the significant direct effect of institutional infrastructure ( $\beta = 0.191$ ) proves that even the most highly motivated and conceptually advanced teacher will ultimately be constrained by a lack of basic physical resources, such as overcrowded classrooms and missing activity textbooks. These multi-dimensional pathways demonstrate that Uganda's competency-based reform cannot succeed through isolated interventions; it requires a well-coordinated strategy that simultaneously harmonizes cognitive understanding, pedagogical training quality, material resources, and professional teacher motivation.

**Figure 3: Standardized Path Coefficients for the Structural Equation**



*Figure 3: Horizontal path coefficient diagram displaying the standardized structural pulls of readiness variables on curriculum implementation fidelity.*

**Conclusion of the Study**

This study conclusively indicates that the implementation of Uganda's Lower Secondary Competency-Based Curriculum (CBC) reform has transformed the school ecosystem into a contested terrain of readiness, where significant disparities in teachers'

conceptual frameworks actively produce inconsistent, non-standardized classroom results. By moving beyond basic descriptive analysis and utilizing advanced structural equation modeling, this research has clearly demonstrated that the success of nationwide educational reform is not a simple function of top-down policy mandates. Instead, it is heavily determined by a complex interaction of cognitive clarity, intensive pedagogical training, structural infrastructure support, and positive professional motivation. The empirical findings reveal that a critical lack of deep institutional training and a severe shortage of essential physical materials have combined to create profound epistemological dissonance among educators. This cognitive confusion causes teachers to unknowingly alter the core tenets of the reform, frequently superimposing modern competency terminology onto obsolete, teacher-centered habits. Because the structural models show that a teacher's conceptual understanding and professional mindset are the primary pathways driving implementation fidelity, any educational strategy that ignores these cognitive and psychological filters is mathematically guaranteed to fail. Ultimately, unless the Ministry of Education and Sports takes immediate, well-coordinated steps to resolve these structural and intellectual bottlenecks, the massive financial investment in Uganda's CBC reform will fail to achieve its core objective of building a highly skilled, creative, and socio-economically competitive national workforce.

### Recommendations

**Policy and Training:** The Ministry of Education and Sports, through the National Curriculum Development Centre (NCDC), should completely restructure the current national teacher professional development model. The ineffective, short-term cascading seminar approach must be replaced with intensive, continuous, and school-based cognitive mentoring frameworks. These programs should focus specifically on clearing up persistent misunderstandings surrounding continuous formative assessment and practical learner-centered instruction, ensuring that frontline educators develop an accurate and unified operational understanding of CBC philosophy.

**Resource and Capital Infrastructure:** The government must urgently launch an aggressive capital capitalization campaign focused on school instructional infrastructure to resolve severe resource shortages nationwide. This intervention must ensure the immediate production and universal distribution of official NCDC textbooks, detailed learner activity guides, and standardized continuous assessment matrices to every secondary school. This will eliminate the material deprivation that currently forces teachers to fall back on traditional, lecture-based teaching methods.

**Institutional and School-Level Practice:** Secondary school administrations should institutionalize localized pedagogical Professional Learning Communities (PLCs) within their academic departments to foster peer-led professional growth. By creating structured weekly schedules for collaborative lesson planning, cross-peer classroom observations, and collective moderation of formative assessment portfolios, schools can leverage internal expertise to build positive professional attitudes, mitigate reform anxiety, and harmonize implementation fidelity across the entire education system.

### Extended Structural Diagnostics and Regional Policy Frameworks

To ensure that this study serves as a highly robust, multi-layered document suitable for systemic review, this section unpacks the regional variations across the sampled areas of Uganda. The administrative regions (Central, Eastern, Northern, and Western) exhibit unique socio-economic environments that impact the contested terrain of teacher readiness. In the Central region, teachers often have easier access to NCDC headquarters, leading to a marginally higher mean in conceptual understanding, yet they face severe classroom congestion that inhibits individual student interaction. Conversely, the Northern and Eastern regions demonstrate severe structural deficits, where the absence of learner activity guides forces a high-percentage regression to traditional behaviorist teaching. This geographical imbalance implies that a single national policy approach cannot effectively address the multifaceted challenges of curriculum implementation.

Furthermore, institutional path dependency plays a significant role in cementing teacher resistance. For over six decades, the Ugandan secondary school system has optimized its administrative routines around high-stakes summative assessment. Realigning this ingrained administrative system requires more than just changing teacher mindsets; it requires structural changes in how headteachers, district inspectors, and parents evaluate academic excellence. As long as schools are judged primarily on their first-grade acquisition rates in final national examinations, teachers will continue to face intense structural pressure to subvert the competency-based curriculum in favor of exam-focused preparation. Therefore, aligning national examinations with continuous assessment modalities remains an urgent structural prerequisite for achieving high-fidelity implementation across all school categories.

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