

The Paradox of Expertism: Authoritative Knowledge Structures and the Arrested Development of Autonomous Discipline in Ugandan Secondary Schools

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ABSTRACT: Background: Critical thinking and autonomous learning constitute essential capabilities for intellectual independence and lifelong learning in contemporary knowledge economies, yet secondary education systems in many developing contexts, including Uganda, remain characterized by authoritative, teacher-centered pedagogical approaches emphasizing knowledge transmission and expertism. Understanding how pedagogical practices, institutional structures, and systemic factors interact to constrain or enable critical thinking development is essential for designing contextually appropriate educational reforms that can cultivate intellectual independence while remaining feasible within resource-constrained African educational systems. **Main Objective:** To examine how authoritative knowledge structures and expertism in Ugandan secondary schools inhibit the development of autonomous discipline and critical thinking, and to identify pedagogical reforms that can promote intellectual independence. **Methods:** This concurrent mixed-methods study was conducted across 45 purposively selected Ugandan secondary schools stratified by location, type, and performance levels. Participants included 820 students from Senior 3 and 4 classes (sample size determined through power analysis: $\alpha = 0.05$, power = 0.80), 180 teachers, and 45 school administrators. **Key Results:** Teacher-centeredness demonstrated strong negative correlations with critical thinking ($r = -0.58$, $p < 0.001$) and autonomous learning ($r = -0.52$, $p < 0.001$), while hierarchical regression analysis revealed that teacher-centered pedagogy independently predicted diminished critical thinking ($\beta = -0.26$, $p < 0.001$) after controlling for student characteristics and institutional factors, with the full model explaining 58.9% of outcome variance. **Conclusion and Recommendations:** Authoritative knowledge structures in Ugandan secondary schools systematically inhibited critical thinking and autonomous learning development through teacher-centered pedagogies that provided minimal opportunities for student agency, independent inquiry, or collaborative problem-solving. However, viable reform pathways existed within current constraints. The study recommended implementing structured professional development programs equipping teachers with practical skills for student-centered pedagogy in large-class contexts and reforming assessment systems to prioritize critical thinking competencies over content recall, creating systemic incentives for pedagogical transformation

Keywords: Critical thinking, autonomous learning, authoritative pedagogy, teacher-centeredness

Introduction

The cultivation of autonomous discipline the capacity for self-directed learning, independent critical thinking, and intrinsic motivation to pursue knowledge represents a fundamental objective of education that enables individuals to become lifelong learners capable of adapting to changing circumstances and solving novel problems without requiring constant external direction and supervision (Jayawardena, 2021; Najoli et al., 2019). However, educational systems characterized by rigid hierarchies, authoritarian pedagogies, and what might be termed "expertism" the concentration of knowledge authority in teachers who position themselves as sole legitimate sources of information while discouraging student questioning, independent inquiry, or alternative perspectives may paradoxically undermine the development of autonomous discipline even as they maintain surface-level classroom order and compliance (Bracho-Amador et al., 2023; Damrongpanit, 2019). In Ugandan secondary schools, where colonial-era educational structures emphasizing rote memorization, teacher-centered instruction, and unquestioning deference to authority remain largely intact despite post-independence curriculum reforms and contemporary pedagogical discourse emphasizing student-centered learning, the paradox of expertism manifests in students who can recite information transmitted by teachers but struggle to apply knowledge to unfamiliar contexts, who await teacher instruction rather than initiating independent learning, and who lack the confidence and competence to challenge received wisdom or construct original arguments based on evidence and reasoning (Geng & Wei, 2023; Gideon, 2023a; Mercader & Gairín, 2020).

Background

The authoritative knowledge structures prevalent in Ugandan secondary education reflect multiple historical and contextual influences including colonial educational systems designed to produce compliant clerks and administrators rather than independent thinkers or challengers of established order; post-colonial continuities where education systems retained hierarchical structures and authoritarian pedagogies even as political rhetoric emphasized African authenticity and independence; resource constraints that make teacher-centered lecture methods pragmatically necessary when schools lack libraries, laboratory materials, or technology that would enable more exploratory learning approaches; teacher preparation programs that emphasize content transmission over facilitation of student inquiry and that model authoritarian approaches in training institutions which prospective teachers then replicate in their own classrooms; and cultural norms emphasizing respect for authority and seniority that translate into educational contexts as expectations that students remain passive recipients of teacher knowledge rather than active participants in knowledge construction (Gideon, 2023b; Julius & Sula, 2025; Sahasakul et al., 2023).

Expertism in this context manifests through multiple practices including teachers who present information as settled fact without acknowledging uncertainty, contestation, or evolving understanding in academic disciplines; discouragement or punishment of student questions that might challenge teacher authority or reveal gaps in teacher knowledge; assessment approaches that reward reproduction of teacher-provided information while penalizing original thinking or alternative interpretations; classroom management styles that equate order with silence and compliance rather than engaged discussion and intellectual risk-taking; and institutional cultures where teacher authority remains sacrosanct and student agency is systematically constrained through regulations, disciplinary practices, and spatial arrangements that reinforce hierarchical power relations (Abulela & Bart, 2021; Nizhenkovska et al., 2022).

The arrested development of autonomous discipline resulting from these authoritative structures becomes evident in multiple ways: students who struggle with open-ended assignments or research projects requiring independent inquiry because they lack experience formulating questions, identifying sources, evaluating information, or constructing arguments without explicit teacher direction; graduates who enter university or workplace environments expecting to be told exactly what to do and how to do it rather than exercising judgment and initiative; citizens who accept information from authority figures without critical evaluation, making them vulnerable to misinformation and manipulation; and a broader pattern where educational expansion in terms of enrollment and years of schooling does not translate into corresponding development of critical thinking, problem-solving, or innovative capacity that modern economies and democratic societies require (Abonyi & Salifu, 2023; Pozdnyakova et al., 2019). The paradox lies in recognition that while authoritative knowledge structures may produce short-term benefits in terms of classroom management, examination performance on tests rewarding memorization, and maintenance of teacher status, they simultaneously undermine the very objectives of developing independent learners, critical thinkers, and self-directed individuals capable of contributing to national development through innovation, adaptation, and creative problem-solving rather than mere replication of existing knowledge and practices (Amato et al., 2020; Julius Arianitwe, 2025).

Problem Statement

Ugandan secondary schools operate within a pedagogical paradigm of "expertism" where teachers are positioned as sole knowledge authorities and students as passive recipients, a model that prioritizes obedience and information transmission over critical thinking, autonomous learning, and intellectual independence. This authoritative knowledge structure, inherited from colonial education systems and reinforced by cultural norms emphasizing hierarchical respect, creates what can be termed "arrested development of autonomous discipline"—students remain perpetually dependent on external authority for learning, unable to self-direct their education, critically evaluate information, or develop intrinsic motivation for intellectual inquiry (Richardson et al., 2020; Wilson et al., 2012). The paradox lies in the fact that while this system appears orderly and respectful of expertise, it fundamentally undermines the development of the very qualities modern society demands: independent thinking, problem-solving, self-directed learning, and intellectual autonomy. Students trained to memorize rather than question, to accept rather than analyze, to depend on teachers rather than learn independently, emerge from secondary education ill-prepared for university learning, professional adaptability, or citizenship in complex democratic societies (Sterpu et al., 2024).

The consequences of this expertism paradox extend far beyond academic performance to affect Uganda's broader development trajectory. A workforce conditioned to await instructions rather than exercise initiative, citizens unable to critically evaluate political rhetoric or media information, professionals lacking problem-solving creativity, and a society perpetually seeking foreign expertise rather than developing local solutions all these outcomes can be traced to educational systems that prioritize compliance over autonomy (Hogan & O'Flaherty, 2022; Kelly et al., 2023). The problem is reinforced by examination systems that reward memorization, large class sizes that make interactive pedagogy impractical, teacher training that emphasizes content delivery over facilitation, and cultural contexts where questioning authority is perceived as disrespectful (An, 2022; Rivaldo & Nabella, 2023). Additionally, students who are never taught to develop autonomous discipline the internal capacity to organize their learning, persist through challenges, and take responsibility for their intellectual development struggle immensely when confronted with less structured learning environments in universities or workplaces. Breaking this cycle requires fundamental reconceptualization of the teacher-student relationship, pedagogical approaches, assessment methods, and the very purpose of secondary education.

Main Objective

To examine how authoritative knowledge structures and expertism in Ugandan secondary schools inhibit the development of autonomous discipline and critical thinking, and to identify pedagogical reforms that can promote intellectual independence.

Specific Objectives

1. To analyze the prevailing pedagogical approaches in Ugandan secondary schools and their effects on students' capacity for autonomous learning, critical thinking, and self-directed discipline.
2. To examine the structural, cultural, and institutional factors that perpetuate teacher-centered, authoritative knowledge transmission models in Ugandan secondary education.

3. To identify and evaluate alternative pedagogical approaches that can cultivate autonomous discipline and critical thinking while remaining contextually appropriate for Ugandan schools.

Research Questions

1. How do authoritative, teacher-centered pedagogical approaches in Ugandan secondary schools affect students' development of autonomous learning capabilities and critical thinking skills?
2. What structural, cultural, and institutional factors perpetuate expertism and prevent the adoption of more student-centered, inquiry-based pedagogical approaches?
3. What pedagogical reforms and teacher development strategies can effectively promote autonomous discipline and critical thinking in Ugandan secondary schools while respecting contextual realities?

Methodology

This study employed a concurrent mixed-methods design to examine how authoritative knowledge structures and expertism in Ugandan secondary schools inhibited the development of autonomous discipline and critical thinking. The research was conducted across 45 purposively selected secondary schools in Uganda, stratified by location (urban, peri-urban, and rural), school type (government-aided, private, and community), and performance levels to ensure representational diversity. Based on power analysis calculations ($\alpha = 0.05$, power = 0.80, effect size = 0.25), a sample size of 820 students from Senior 3 and Senior 4 classes was recruited, alongside 180 teachers and 45 school administrators. Data collection involved multiple instruments: classroom observations using structured observation protocols that captured pedagogical practices, teacher-student interactions, and evidence of critical thinking engagement; semi-structured interviews with teachers and administrators exploring their pedagogical philosophies, institutional constraints, and perceptions of student autonomy; focus group discussions with students examining their learning experiences and capacity for self-directed learning; a validated Critical Thinking Disposition Inventory and Autonomous Learning Scale administered to students; and document analysis of national curriculum frameworks, school policies, and examination systems.

Quantitative data analysis proceeded through univariate, bivariate, and multivariate approaches to comprehensively address the study objectives. Univariate analyses included descriptive statistics (means, standard deviations, frequencies, and percentages) to characterize pedagogical approaches, student critical thinking scores, and autonomous learning capacities across different school contexts, with normality assessed through Shapiro-Wilk tests and graphical methods. Bivariate analyses employed independent t-tests and one-way ANOVA to compare critical thinking and autonomous learning scores across school types, locations, and student demographics, with Levene's test confirming homogeneity of variance assumptions; chi-square tests examined associations between categorical variables such as pedagogical approaches and student engagement patterns; and Pearson or Spearman correlation coefficients (depending on normality) assessed relationships between teacher-centeredness scores, critical thinking outcomes, and autonomous discipline measures. For multivariate analysis, hierarchical multiple regression models were constructed to identify predictors of critical thinking and autonomous learning outcomes, with predictor variables entered in blocks: student-level factors (age, gender, prior academic performance) in Block 1, classroom-level pedagogical variables (teacher-centeredness index, frequency of student-led activities, questioning techniques) in Block 2, and institutional factors (school type, teacher qualifications, class size) in Block 3.

Model assumptions including linearity, independence of residuals (Durbin-Watson statistic), homoscedasticity (scatter plots of residuals), absence of multicollinearity (Variance Inflation Factors < 5), and normality of residuals (Q-Q plots and histogram inspection) were rigorously tested and verified. Additionally, multilevel mixed-effects models with random intercepts for schools were employed to account for the nested structure of students within classrooms within schools, using restricted maximum likelihood estimation (Nelson et al., 2022, 2023). These statistical approaches enabled robust examination of how authoritative knowledge structures operated at multiple levels to constrain critical thinking development, while integration of qualitative findings provided contextual depth to explain quantitative patterns and identify culturally appropriate pedagogical alternatives.

Results.

Table 1: Descriptive Statistics and Normality Tests for Key Study Variables (N=820)

Variable	Mean	SD	Min	Max	Skewness	Kurtosis	Shapiro-Wilk W	p-value
Critical Thinking Score	52.34	12.67	22.00	89.00	0.18	-0.45	0.994	0.062
Autonomous Learning Score	48.21	14.32	18.00	92.00	0.23	-0.38	0.993	0.051
Teacher-Centeredness Index	73.45	11.28	38.00	95.00	-0.67	0.52	0.991	0.018
Student Engagement Score	41.67	13.95	15.00	78.00	-0.12	-0.56	0.995	0.089
Frequency of Student-Led Activities (per week)	1.85	1.42	0.00	7.00	1.34	2.18	0.876	<0.001

Class Size	56.23	18.47	25.00	112.00	0.89	0.76	0.971	<0.001
Teacher Qualification Score	6.78	2.34	2.00	12.00	0.45	-0.23	0.988	0.004

The descriptive statistics revealed concerning patterns in Ugandan secondary schools regarding pedagogical practices and student outcomes. The mean Critical Thinking Score of 52.34 (SD = 12.67) and Autonomous Learning Score of 48.21 (SD = 14.32) indicated that students performed slightly above the midpoint on these scales, suggesting moderate but underdeveloped capacities for independent intellectual work. The notably high Teacher-Centeredness Index (M = 73.45, SD = 11.28) confirmed the prevalence of authoritative, expert-driven pedagogical approaches across the sampled schools, with scores clustering toward the upper end of the scale. The low frequency of student-led activities (M = 1.85 per week, SD = 1.42) further substantiated the dominance of teacher-directed instruction, with significant positive skewness (1.34) indicating that most schools rarely implemented such approaches. Normality testing through Shapiro-Wilk statistics revealed that Critical Thinking Scores (W = 0.994, p = 0.062), Autonomous Learning Scores (W = 0.993, p = 0.051), and Student Engagement Scores (W = 0.995, p = 0.089) approximated normal distributions, validating the use of parametric statistical procedures. However, Frequency of Student-Led Activities (W = 0.876, p < 0.001) and Class Size (W = 0.971, p < 0.001) demonstrated significant departures from normality, necessitating non-parametric approaches or transformations for analyses involving these variables. These findings established the empirical foundation for understanding how structural constraints (large class sizes averaging 56 students) and entrenched pedagogical practices (high teacher-centeredness) created an educational environment that systematically limited opportunities for developing critical thinking and autonomous learning capacities among Ugandan secondary school students.

Table 2: Bivariate Analysis - Comparison of Critical Thinking and Autonomous Learning Scores Across School Contexts

School Characteristic	n	Critical Thinking Score M (SD)	Autonomous Learning Score M (SD)	Test Statistic	p-value	Effect Size
School Type				F(2, 817) = 24.67	<0.001	$\eta^2 = 0.057$
Government-aided	342	48.92 (13.21)	44.65 (14.89)			
Private	298	56.78 (10.85)	52.34 (12.76)			
Community	180	51.23 (12.94)	47.89 (14.52)			
Location				F(2, 817) = 31.45	<0.001	$\eta^2 = 0.071$
Urban	285	58.43 (11.23)	54.21 (13.45)			
Peri-urban	312	51.67 (12.34)	47.89 (14.12)			
Rural	223	46.21 (12.89)	42.34 (14.76)			
Student Gender				t(818) = 3.87	<0.001	d = 0.27
Male	398	54.56 (12.34)	50.23 (13.89)			
Female	422	50.32 (12.78)	46.43 (14.56)			
Teacher Qualification				F(2, 817) = 18.92	<0.001	$\eta^2 = 0.044$
Diploma	234	47.89 (13.45)	43.21 (15.23)			
Bachelor's Degree	456	53.21 (11.98)	49.67 (13.78)			
Postgraduate	130	57.45 (11.23)	53.89 (12.45)			

Post-hoc Comparisons (Tukey HSD): For School Type: Private > Government-aided (p < 0.001), Private > Community (p = 0.003); For Location: Urban > Peri-urban (p < 0.001), Urban > Rural (p < 0.001), Peri-urban > Rural (p = 0.002); For Teacher Qualification: Postgraduate > Diploma (p < 0.001), Bachelor's > Diploma (p = 0.001)

The bivariate analyses revealed significant disparities in critical thinking and autonomous learning outcomes across multiple contextual dimensions, with all comparisons demonstrating statistical significance at p < 0.001, indicating robust and reliable differences that were unlikely to be attributable to sampling variability. School type emerged as a significant predictor, with private schools (M = 56.78, SD = 10.85 for critical thinking) substantially outperforming government-aided schools (M = 48.92, SD = 13.21), yielding a medium effect size ($\eta^2 = 0.057$) that explained approximately 5.7% of variance in outcomes. This disparity suggested that resource availability, teacher autonomy, and potentially reduced class sizes in private institutions facilitated more conducive environments for developing higher-order thinking skills. Geographic location demonstrated an even stronger effect ($\eta^2 = 0.071$), with urban schools (M = 58.43) significantly surpassing both peri-urban (M = 51.67) and rural schools (M = 46.21) on critical thinking measures, revealing a pronounced urban-rural divide that reflected differential access to qualified teachers, instructional resources, and exposure to diverse pedagogical practices. The statistically significant gender gap (t = 3.87, p < 0.001, d = 0.27), wherein male students outperformed female students by approximately 4 points on both scales, raised important equity concerns and suggested that authoritative pedagogical structures may have been differentially constraining for female students,

potentially through gendered patterns of classroom participation, teacher expectations, or sociocultural factors that inhibited girls' assertiveness in expressing independent thinking.

Teacher qualifications showed a clear graduated relationship with student outcomes, with postgraduate-qualified teachers' students scoring nearly 10 points higher than those taught by diploma-holders, indicating that teachers' own educational experiences and pedagogical knowledge significantly mediated their capacity to move beyond authoritative transmission models. These findings collectively demonstrated that the effects of expertism and authoritative knowledge structures were not uniformly distributed but were amplified in under-resourced, rural, and government schools, thereby compounding educational inequalities and suggesting that pedagogical reforms must be accompanied by structural interventions addressing resource disparities and teacher professional development.

Table 3: Correlation Matrix - Relationships Between Pedagogical Variables and Student Outcomes (N=820)

Variable	1	2	3	4	5	6	7	8
1. Critical Thinking Score	1.00							
2. Autonomous Learning Score	0.74***	1.00						
3. Teacher-Centeredness Index	-0.58***	-0.52***	1.00					
4. Student Engagement	0.67***	0.71***	-0.49***	1.00				
5. Frequency of Student-Led Activities	0.51***	0.56***	-0.62***	0.58***	1.00			
6. Class Size	-0.34***	-0.38***	0.41***	-0.32***	-0.47***	1.00		
7. Teacher Qualification Score	0.43***	0.39***	-0.38***	0.36***	0.44***	-0.29***	1.00	
8. Prior Academic Performance	0.61***	0.54***	-0.31***	0.48***	0.37***	-0.21***	0.28***	1.00

* $p < 0.001$; Correlations 1-4 and 7-8 are Pearson's r ; Correlations involving variables 5 and 6 are Spearman's ρ due to non-normality

The correlation matrix revealed a theoretically coherent and statistically robust network of relationships that substantiated the study's central hypothesis regarding the inhibitory effects of authoritative knowledge structures on critical thinking and autonomous learning. The strong positive correlation between Critical Thinking and Autonomous Learning Scores ($r = 0.74$, $p < 0.001$) confirmed that these constructs were closely interrelated yet sufficiently distinct, suggesting that the capacity for independent thinking and self-directed learning were mutually reinforcing capabilities that developed in tandem. Most critically, the Teacher-Centeredness Index demonstrated substantial negative correlations with both Critical Thinking ($r = -0.58$, $p < 0.001$) and Autonomous Learning ($r = -0.52$, $p < 0.001$), providing compelling bivariate evidence that authoritative, expert-dominated pedagogical approaches systematically constrained students' development of intellectual independence.

This relationship was further illuminated by the strong negative correlation between Teacher-Centeredness and Frequency of Student-Led Activities ($\rho = -0.62$, $p < 0.001$), indicating that highly teacher-centered classrooms provided minimal opportunities for students to exercise agency, make decisions, or engage in collaborative learning—experiences essential for developing autonomous discipline. The positive correlations between Frequency of Student-Led Activities and both outcome variables (Critical Thinking: $\rho = 0.51$, Autonomous Learning: $\rho = 0.56$, both $p < 0.001$) suggested that pedagogical approaches incorporating student participation, inquiry-based learning, and collaborative problem-solving were associated with enhanced higher-order thinking capacities. Class Size emerged as a significant structural constraint, demonstrating moderate negative correlations with outcomes ($r = -0.34$ to -0.38) and a strong negative relationship with Student-Led Activities ($\rho = -0.47$, $p < 0.001$), confirming that large classes created practical impediments to implementing student-centered pedagogies and individualized intellectual engagement. The moderately strong correlation between Prior Academic Performance and Critical Thinking ($r = 0.61$, $p < 0.001$) warranted attention in multivariate modeling, as it indicated that students' entering capabilities significantly influenced their measured outcomes, necessitating statistical control to isolate the independent effects of pedagogical variables. These bivariate relationships established a compelling empirical foundation demonstrating that authoritative knowledge transmission, structural constraints, and limited opportunities for student agency operated synergistically to inhibit critical thinking development, while also identifying potential leverage points—particularly increasing student-led activities and reducing teacher-centeredness—for pedagogical reform interventions.

Table 4: Hierarchical Multiple Regression Analysis Predicting Critical Thinking Scores (N=820)

Predictor Variables	Block 1 β (SE)	Block 2 β (SE)	Block 3 β (SE)	Final β	t-value	p-value	VIF
Block 1: Student-Level Factors							
Age	0.08 (0.41)	0.05 (0.38)	0.04 (0.36)	0.04	1.21	0.227	1.23
Gender (Male=1)	0.12 (1.18)	0.09 (1.08)	0.08 (1.05)	0.08	2.34	0.019*	1.15
Prior Academic Performance	0.54 (0.09)	0.42 (0.09)	0.38 (0.09)	0.38	10.87	<0.001***	1.67

Block 2: Pedagogical Variables							
Teacher-Centeredness Index		-0.31 (0.05)	-0.26 (0.05)	-0.26	-7.84	<0.001***	2.18
Frequency of Student-Led Activities		0.18 (0.34)	0.15 (0.33)	0.15	4.52	<0.001***	1.94
Student Engagement Score		0.24 (0.04)	0.22 (0.04)	0.22	6.78	<0.001***	2.34
Block 3: Institutional Factors							
School Type (Private=1)			0.11 (1.23)	0.11	3.21	0.001**	1.87
School Location (Urban=1)			0.09 (1.34)	0.09	2.67	0.008**	1.76
Teacher Qualification Score			0.12 (0.23)	0.12	3.89	<0.001***	1.52
Class Size			-0.08 (0.03)	-0.08	-2.45	0.014*	1.98
Model Summary							
R ²	0.392	0.547	0.589				
Adjusted R ²	0.390	0.543	0.584				
R ² Change	0.392	0.155	0.042				
F Change	174.32***	92.45***	20.67***				
Final Model F	F(10, 809) = 116.23***						

*** $p < 0.001$, * $p < 0.01$, $p < 0.05$; Durbin-Watson = 1.98; All VIF values < 3, indicating no problematic multicollinearity

Interpretation and Discussion of Table 4:

The hierarchical multiple regression analysis provided robust evidence that authoritative pedagogical structures significantly inhibited critical thinking development even after controlling for student characteristics and institutional contexts, with the final model explaining 58.9% of variance in critical thinking scores (Adjusted $R^2 = 0.584$, $F(10, 809) = 116.23$, $p < 0.001$). Student-level factors in Block 1 accounted for 39.2% of variance, with Prior Academic Performance emerging as the strongest predictor ($\beta = 0.38$, $p < 0.001$), confirming that students' entering capabilities substantially influenced their critical thinking capacities and justifying the hierarchical approach to isolate pedagogical effects. The addition of pedagogical variables in Block 2 produced a substantial and statistically significant increment in explained variance ($\Delta R^2 = 0.155$, $p < 0.001$), demonstrating that teaching practices contributed meaningfully to outcomes beyond student characteristics alone. Most critically, the Teacher-Centeredness Index emerged as the strongest pedagogical predictor ($\beta = -0.26$, $t = -7.84$, $p < 0.001$), indicating that for every one-unit increase in teacher-centered practices, critical thinking scores decreased by 0.26 standard deviations after controlling for all other variables—compelling evidence that authoritative knowledge transmission directly impeded students' development of higher-order thinking skills.

Conversely, Frequency of Student-Led Activities ($\beta = 0.15$, $p < 0.001$) and Student Engagement ($\beta = 0.22$, $p < 0.001$) demonstrated significant positive effects, suggesting that pedagogical approaches granting students agency, voice, and active participation partially counteracted the negative effects of expertism. Block 3's institutional variables added a modest but significant 4.2% additional variance ($p < 0.001$), with Teacher Qualification Score ($\beta = 0.12$, $p < 0.001$) indicating that better-educated teachers employed less authoritative approaches, while Class Size ($\beta = -0.08$, $p = 0.014$) confirmed that structural constraints limited opportunities for student-centered engagement. The Durbin-Watson statistic of 1.98 confirmed independence of residuals, while all VIF values remained below 3, well within acceptable thresholds, indicating that multicollinearity did not compromise the model's integrity. Residual diagnostics revealed approximately normal distribution and homoscedastic variance, validating the regression assumptions.

These findings established that while student prior achievement was the strongest single predictor, pedagogical practices particularly the degree of teacher-centeredness—exerted substantial independent effects on critical thinking development, accounting for a larger portion of variance than all institutional factors combined. This provided strong empirical support for the conclusion that authoritative knowledge structures constituted a remediable barrier to critical thinking that could be addressed through pedagogical reform, even within existing institutional constraints, though the persistence of significant effects for school type, location, and class size indicated that purely pedagogical interventions would have limited impact without concurrent structural reforms addressing resource inequities and teacher professional development.

CONCLUSION

This study comprehensively examined how authoritative knowledge structures and expertism in Ugandan secondary schools inhibited the development of autonomous discipline and critical thinking, fulfilling its main objective through rigorous mixed-methods investigation across 45 schools involving 820 students, 180 teachers, and 45 administrators. The first specific objective, analyzing prevailing pedagogical approaches and their effects on students' capacity for autonomous learning and critical thinking, was conclusively addressed through findings that demonstrated the dominance of teacher-centered instruction ($M = 73.45$ on the Teacher-Centeredness Index) and its significant negative association with both critical thinking ($r = -0.58$, $p < 0.001$) and autonomous

learning outcomes ($r = -0.52$, $p < 0.001$). The hierarchical regression analysis further established that teacher-centeredness independently predicted diminished critical thinking capacity ($\beta = -0.26$, $p < 0.001$) even after controlling for student characteristics and institutional factors, while the notably low frequency of student-led activities ($M = 1.85$ per week) confirmed that Ugandan students had minimal opportunities to exercise intellectual agency, engage in collaborative inquiry, or develop self-directed learning habits. These findings provided robust empirical evidence that authoritative pedagogical approaches systematically constrained the development of higher-order cognitive capabilities essential for intellectual independence in the 21st century. The second and third objectives, examining structural and institutional factors perpetuating authoritative models and identifying contextually appropriate alternatives, were addressed through the demonstration that multiple interconnected barriers sustained teacher-centered pedagogies in Ugandan secondary education. Large class sizes ($M = 56.23$ students), limited teacher qualifications (with only 15.9% holding postgraduate degrees), significant resource disparities between urban and rural schools, and examination-oriented curricula collectively created an educational ecosystem wherein authoritative knowledge transmission appeared pragmatically necessary and pedagogically rational to teachers operating under substantial constraints.

However, the study identified viable pathways for reform: schools that implemented more frequent student-led activities, even within existing structural limitations, demonstrated significantly better outcomes, suggesting that pedagogical transformation was possible without prerequisite systemic overhaul. The qualitative data revealed that teachers recognized the value of student-centered approaches but lacked training, administrative support, and practical strategies for implementation in large-class contexts, indicating that contextually appropriate reforms must acknowledge resource constraints while progressively building teacher capacity for facilitative rather than authoritative roles. Ultimately, this study established that while authoritative knowledge structures profoundly inhibited critical thinking and autonomous discipline in Ugandan secondary schools, targeted pedagogical interventions emphasizing student agency, inquiry-based learning, and collaborative problem-solving coupled with investments in teacher professional development and incremental class size reduction offered realistic pathways toward cultivating intellectual independence within Uganda's educational context.

RECOMMENDATIONS

Implement Structured Professional Development Programs for Student-Centered Pedagogy The Ministry of Education and Sports should establish mandatory, ongoing professional development programs specifically designed to equip secondary school teachers with practical skills for implementing student-centered pedagogical approaches within large-class contexts. These programs should emphasize inquiry-based learning techniques, collaborative group work strategies, formative assessment methods, and classroom management approaches that facilitate student agency while maintaining instructional coherence.

Reform Assessment Systems to Prioritize Critical Thinking and Autonomous Learning The Uganda National Examinations Board should undertake comprehensive reforms of secondary-level assessment systems to explicitly evaluate critical thinking, problem-solving, analytical reasoning, and independent inquiry skills rather than predominantly measuring content recall and procedural knowledge. Examinations should incorporate open-ended questions, case study analyses, project-based assessments, and tasks requiring students to synthesize information, evaluate evidence, construct arguments, and propose solutions to authentic problems.

Develop Phased Class Size Reduction and Resource Allocation Strategies The government, in partnership with development organizations and private sector stakeholders, should develop and implement a phased, evidence-based strategy for reducing class sizes in secondary schools, prioritizing rural and government-aided institutions where student-teacher ratios most severely constrained pedagogical innovation.

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