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Curriculum Dynamics in Colleges of Education: Interactions between Intended, Translated and Achieved Curricula

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ABSTRACT

This study investigates the interactions between intended, translated and achieved curricula in colleges of education in Lagos State, Nigeria. Employing a descriptive survey research design, the study collected data from a sample of 180 randomly selected science students across three purposively chosen tertiary institutions within the state. The Intended, Translated, and Achieved Curriculum and Student Academic Achievement Questionnaire (ITACSAAQ) was developed to gather insights into students' perceptions regarding the curricula's impact on their performance. The questionnaire comprised demographic information and items rated on a 4-point Likert scale. Validation by experts in curriculum studies ensured the instrument's reliability, yielding a Cronbach's Alpha score of 0.73. Data analysis involved mean, standard deviation and analysis of variance. Findings revealed statistical significant impact of intended curriculum and the implemented curriculum $F(13, 15) = 2.44, p > 0.02$, however, no statistical significant impact of translated curriculum on achieved $F(13, 15) = 1.11; p > 0.05$. The study concludes that this type of comprehensive approach is crucial for fostering meaningful academic achievement and ensuring the effectiveness of science education in Nigeria. The study recommends that educational stakeholders should ensure that the intended curriculum is regularly reviewed and updated to reflect current academic, societal, and industry demands.

1. Introduction

The academic achievement of students serves as a critical metric for evaluating the effectiveness of educational systems worldwide. Across global education landscapes, student achievement is not merely a reflection of individual capabilities but also an indicator of how well curricula, instructional methodologies, and institutional structures align with learning objectives. This is especially significant in science education, a cornerstone for technological and economic advancement

(Okojie et al., 2022). In Nigeria, enhancing academic achievement has become a central focus, particularly within Colleges of Education where science curricula are designed to develop future educators. These institutions are pivotal in sustaining Nigeria's commitment to producing competent teachers capable of driving national development through science education. However, challenges such as inadequate resources, insufficient training, and systemic issues have hindered the effectiveness of science teacher education programs. Addressing these challenges is essential to improve the quality of science education and, by extension, national development (Aina, 2014).

Globally, academic achievement is a key determinant of educational effectiveness, students' success as well as societal progress. High-performing students contribute to innovation, economic development, and social transformation. In developed countries, such as Finland and South Korea, emphasis on quality education and rigorous curriculum frameworks has produced consistently high academic outcomes (Organization for Economic Co-operation and Development, OECD, 2019). Contrastingly, many developing nations, including Nigeria, grapple with systemic challenges that hinder similar progress. In Nigeria, academic achievement plays a pivotal role in addressing longstanding gaps in literacy, scientific innovation and national development. For colleges of education, especially those in the Nigeria, the stakes are even higher, as these institutions not only prepare future educators but also shape the next generation of learners (Ogunyemi et al., 2021).

Given this dual responsibility, the quality and relevance of their science curricula have a profound impact on national educational outcomes. To effectively evaluate and enhance these curricula, the Stufflebeam CIPP (Context, Input, Process, and Product) Model provides a comprehensive framework. Introduced in the 1960s, the CIPP model supports a holistic assessment of educational programs by examining the needs and objectives (context), resources and strategies (input), implementation (process), and outcomes (product). This approach aligns well with the need to analyze the intended, translated, and achieved curricula in science education, ensuring that these programs meet both institutional goals and broader societal needs.

In Nigeria, the application of the CIPP model has gained traction for its ability to identify discrepancies between planned and actual educational outcomes. It is particularly useful in assessing whether the curricula in Colleges of Education align with the objectives of equipping science educators with the knowledge and skills required for effective teaching. Studies have demonstrated the utility of the CIPP model in evaluating curriculum implementation in science education. For example, research assessing the implementation of the national Biology curriculum in Taraba State revealed significant gaps between curriculum objectives and actual execution, emphasizing the need for targeted interventions (International Journal of Trend in Scientific Research and Development, IJTSRD, 2022). Additionally, a comparative evaluation of 12th-grade chemistry curricula in Nigeria and Türkiye highlighted differences in the alignment between intended and achieved outcomes, further affirming the model's relevance in ensuring effective educational programs (Opast Publishers, 2019). These findings underscore the importance of using the CIPP

model to enhance the quality of science education in Nigerian Colleges of Education.

The curriculum in education comprises three interconnected stages: the intended, translated, and achieved curriculum. The intended curriculum refers to the officially designed educational objectives, content, and methodologies outlined in policy documents or syllabi. In science education, it embodies national aspirations for fostering scientific literacy and competency. For example, the Nigerian Educational Research and Development Council (NERDC) designs curricula aimed at aligning with global scientific standards (NERDC, 2014). However, significant gaps often emerge between the intentions of the curriculum and its realization due to various challenges.

The translated curriculum represents the adaptation of the intended curriculum during implementation, which is influenced by teacher interpretation, resource availability, and the institutional context. In Nigeria's Colleges of Education, this translation frequently varies, leading to inconsistencies in teaching practices and learning experiences. Teachers, as intermediaries, play a crucial role in interpreting the curriculum; however, disparities in their training, access to teaching materials, and institutional support can hinder uniform delivery (Iyekekpolor et al., 2020). The achieved curriculum captures the actual learning outcomes, measured through student performance and competency acquisition. This stage is the most critical in curriculum evaluation as it directly correlates with academic achievement. Studies indicate that in science education, a lack of alignment between the intended, translated, and achieved curricula often results in suboptimal academic performance, particularly in areas requiring conceptual understanding and practical application (Adejumo & Olagoke, 2018).

The alignment of these curriculum stages significantly influences academic success. While the intended curriculum establishes educational goals, the translated curriculum determines the effectiveness of teaching methodologies, and the achieved curriculum reflects whether the educational objectives were met. Misalignment among these stages can create gaps in knowledge acquisition and skill development, thereby hindering educational outcomes in science education and beyond. Ensuring coherence across these stages is essential for promoting meaningful learning experiences and achieving national educational objectives. Advocates of intended curriculum argue that clearly defined educational objectives provide a structured framework, ensuring that national goals are uniformly pursued (Tyler, 2013). Similarly, Ogunyemi et al. (2021) argued that a well-defined intended curriculum sets clear expectations for learning outcomes. It provides a roadmap for educators to follow and ensures consistency across educational institutions.

For translated curriculum, scholars asserted that effective translation of the curriculum into teaching practices directly impacts student engagement and understanding (Eze et al., 2019). A teacher's ability to adapt content to meet students' needs is crucial for fostering academic success. Ayodele (2014) opined that effective teacher adaptation can address contextual challenges, making learning

more relevant to students, while achieved curriculum serves as the ultimate measure of educational success, offering tangible evidence of program effectiveness. Critics of intended curriculum, contend that an overly rigid intended curriculum can stifle creativity and adaptability among educators (Adeyemi & Adu, 2010). If teachers feel constrained by prescribed content, they may struggle to engage students effectively. Similarly, Eisner (2022) highlighted the rigidity of prescribed curricula, which may fail to accommodate local realities. Conversely, with respect to translated curriculum, some argue that variability in how teachers interpret and implement curricula can lead to inconsistencies in student learning experiences (Amuche et al., 2023). This inconsistency can create disparities in academic achievement among students. However, critics note that focusing solely on achieved outcomes can overlook important aspects of learning that are not easily measurable (Adeyemi & Adu, 2010). Additionally, standardized testing may not capture all dimensions of student learning.

Studies affirm the significant impact of curriculum alignment on academic performance. For instance, Wiggins and McTighe (2005) emphasize that a well-aligned curriculum enhances conceptual understanding and skill application. Similarly, Darling-Hammond (2010) underscores the importance of curriculum coherence in fostering meaningful learning experiences. Contrarily, some researchers argue that curriculum alone cannot guarantee academic success. Berliner (2019) pointed to socioeconomic factors, resource constraints, and institutional inefficiencies as critical barriers. Similarly, Ololube (2019) noted that inadequate teacher training undermines the effectiveness of even the well-designed curricula.

Despite extensive research on curriculum and academic achievement, limited studies address the interconnected impact of intended, translated, and achieved science curricula in the Nigerian context. While some research has explored aspects of curriculum implementation and evaluation in Nigeria, such as the development of integrated science curricula (Oludipe, 2017) and evaluation strategies in science education (Ezeudu & Obi, 2022), comprehensive analyses that examine the alignment and interaction among the intended, translated, and achieved curricula in science education remain scarce. This gap highlights the need for more holistic studies that consider how these curriculum stages collectively influence educational outcomes in Nigeria.

Furthermore, there is a paucity of evidence on how these curriculum stages collectively influence student outcomes in Colleges of Education using the CIPP model. This gap underscores the need for comprehensive evaluation to guide curriculum development and implementation. Failure to align the intended, translated, and achieved curricula poses significant risks. Students may graduate without the requisite competencies, compromising their ability to teach effectively. This misalignment also perpetuates systemic inefficiencies, undermining Nigeria's educational and developmental goals. In science education, the stakes are particularly high, as inadequate preparation of educators can stifle innovation and technological advancement.

Overview of Stufflebeam's CIPP Model

The CIPP (Context, Input, Process, Product) evaluation model, developed by Daniel L. Stufflebeam in the early 1970s, is a comprehensive framework designed to guide program improvement and decision-making. Its emphasis on formative and summative evaluations distinguishes it from traditional methods that primarily focus on outcomes. The model assesses all stages of a program's lifecycle, making it particularly versatile for diverse contexts such as education and curriculum development (Stufflebeam, 2003). Studies, such as those by Olson and Frey (2019), demonstrate the utility of the CIPP model in evaluating curricula, particularly in complex areas like science education. Its systematic approach allows for the examination of the intended, translated, and achieved curricula, ensuring a holistic understanding of their interaction and impact on learning outcomes. The model's iterative nature ensures continuous improvement throughout the curriculum cycle.

Despite its strengths, critics like Apple (2019) pointed out the potential for inconsistent application due to its flexibility. Variability in evaluator expertise can affect its implementation. However, this adaptability is also its strength, especially in resource-constrained education systems such as Nigeria's. The CIPP model's ability to function dynamically in such settings underscores its enduring relevance and value in educational evaluation.

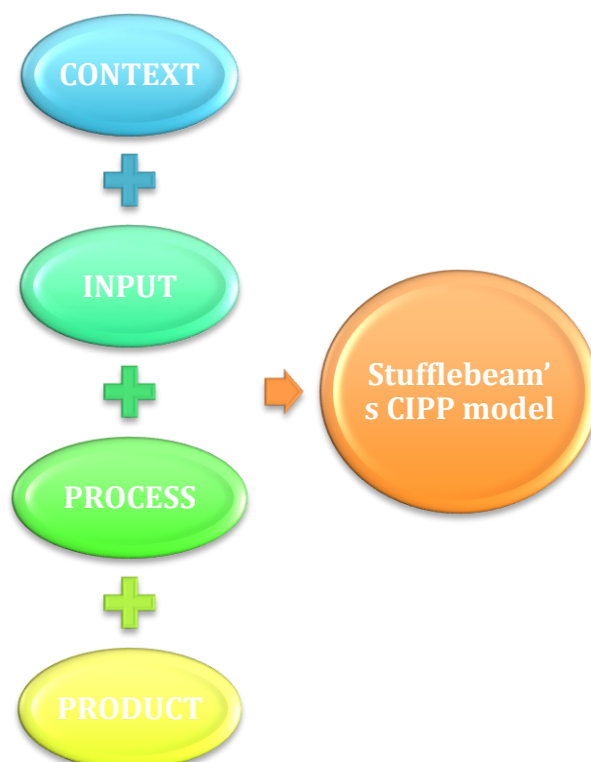


Figure 1. Diagrammatic Representation of the CIPP Model

1. **Context:** Analyzing needs and goals → Aligning objectives.
2. **Input:** Reviewing resources and plans → Determining feasibility.

3. **Process:** Monitoring implementation → Identifying gaps.

4. **Product:** Evaluating outcomes → Informing decisions.

This flow emphasizes the cyclical and interconnected nature of the CIPP model, ensuring continuous feedback and improvement. Stufflebeam's CIPP model remains a cornerstone in program and curriculum evaluation. Its ability to address complex educational challenges through a structured yet flexible methodology ensures its applicability across diverse settings. While its adaptability may lead to variability in application, its iterative approach ensures that it continues to be a valuable tool for improving educational outcomes and decision-making.

Statement of the Problem

Academic achievement in science education has long been a benchmark for national development and global competitiveness (Darling-Hammond, 2010). In Nigeria, particularly in Colleges of Education, the disconnect between the intended, translated, and achieved science curricula has raised concerns over the quality of teacher preparation. Despite the robust science curriculum designed by institutions like the Nigerian Educational Research and Development Council (NERDC), inconsistencies in implementation and outcomes persist, resulting in suboptimal student performance (Ololube, 2019).

The nature of this misalignment is multifaceted. The intended curriculum, which represents the policy-driven educational goals and objectives, often fails to translate effectively into classroom practice due to factors such as inadequate teacher training, lack of instructional resources, and poor institutional support. For example, studies have shown that many science teachers in Nigerian Colleges of Education struggle to interpret and implement curriculum goals effectively due to insufficient pedagogical knowledge and professional development opportunities (Ezeudu & Obi, 2022).

The translated curriculum, influenced by teacher interpretation and institutional contexts, is further compromised by disparities in teaching methodologies and resource availability. Empirical evidence highlights that the translation of the national science curriculum often overlooks the specific needs of students and regional educational disparities, leading to inconsistent instructional practices across institutions (Adejumo & Olagoke, 2018). The achieved curriculum, which measures actual learning outcomes, often reveals poor student performance in critical areas such as conceptual understanding and practical application. Studies have linked these deficiencies to a lack of alignment across the three curriculum stages. For instance, Wiggins and McTighe (2005) emphasize that when the intended curriculum does not align with teaching practices and assessment measures, students struggle to achieve deep learning and mastery of content.

The rationale for adopting the Stufflebeam CIPP (Context, Input, Process, Product) model lies in its ability to provide a holistic framework for evaluating the interconnected stages of the curriculum. The model examines the context (the educational needs and goals), input (resources and strategies), process

(implementation), and product (outcomes), offering a comprehensive approach to identify gaps and improve educational programs (Stufflebeam, 2003). This framework is particularly relevant for addressing the systemic challenges in Nigerian Colleges of Education, as it enables stakeholders to assess not only the design of the curriculum but also its practical implementation and outcomes.

The choice of the CIPP model is further supported by its effectiveness in similar educational contexts. For instance, it has been successfully used to evaluate the alignment between curriculum design and implementation in science education in other developing countries, providing actionable insights for improvement (Oludipe, 2011). By adopting this model, this study aims to bridge the gap between the intended, translated, and achieved curricula, thereby strengthening science teacher education and enhancing academic achievement in Nigeria's Colleges of Education. Addressing these discrepancies is imperative to ensure that science education aligns with national development goals and equips future educators with the skills and knowledge necessary for effective teaching. This study therefore, seeks to evaluate the impact of intended, translated, and achieved science curricula on the academic achievement of students in Colleges of Education in South West, Nigeria, using the Stufflebeam CIPP model.

Research Questions

1. Is there any impact of the intended curriculum on the translated curriculum in College of Education?
2. Is there any impact of the translated curriculum and the achieved curriculum in College of Education?
3. Is there any impact of the intended curriculum and the achieved curriculum in College of Education?

Hypotheses

1. There is no statistically significant impact of the intended curriculum on the translated curriculum in College of Education.
2. There is no statistically significant impact of the translated curriculum on the achieved curriculum in College of Education.

There is no statistically significant impact of the intended curriculum on the achieved curriculum in College of Education.

2. Methodology

The study adopted a descriptive survey research design to investigate the interactions between intended, translated and achieved curricula in colleges of education in Lagos State, Nigeria. This design was deemed appropriate as it allows for the systematic collection and description of data from a group to infer findings about the larger population.

The sample for the study comprised 180 science students from three purposively selected Colleges of Education in Lagos State. These colleges—Adeniran Ogunsanya College of Education, Michael Otedola College of Education, and

Federal Technical College of Education, Akoka Lagos—were specifically chosen based on their strong emphasis on teacher education and their roles in implementing the science curriculum. The colleges represent institutions with established frameworks for preparing science teachers, making them suitable for exploring the relationships between intended, translated, and achieved curricula in science education.

A total of 60 science students were randomly selected from each college to ensure fair representation and minimize selection bias within the chosen population. The students were distributed across key science education courses, including Biology/Integrated Science (Bio/IsC), Biology/Mathematics (Bio/Maths), and Biology/Computer Science (Bio/Comp), to provide a balanced and comprehensive perspective on the curriculum implementation processes.

This study was conducted in the context of evaluating the impact of curriculum design and execution on science teacher education in Lagos State. Lagos is a metropolitan state with a diverse population and a pivotal role in Nigeria's educational landscape, making it an ideal setting for examining the dynamics of curriculum implementation in Colleges of Education. By focusing on science students, the study aimed to provide insights into how well teacher training institutions translate the intended curriculum into practice and how this translation affects student outcomes. The selection of this sample was justified by the need to focus on institutions that are both prominent in teacher education and actively involved in science curriculum implementation, ensuring that findings are relevant to improving science teacher preparation and curriculum delivery.

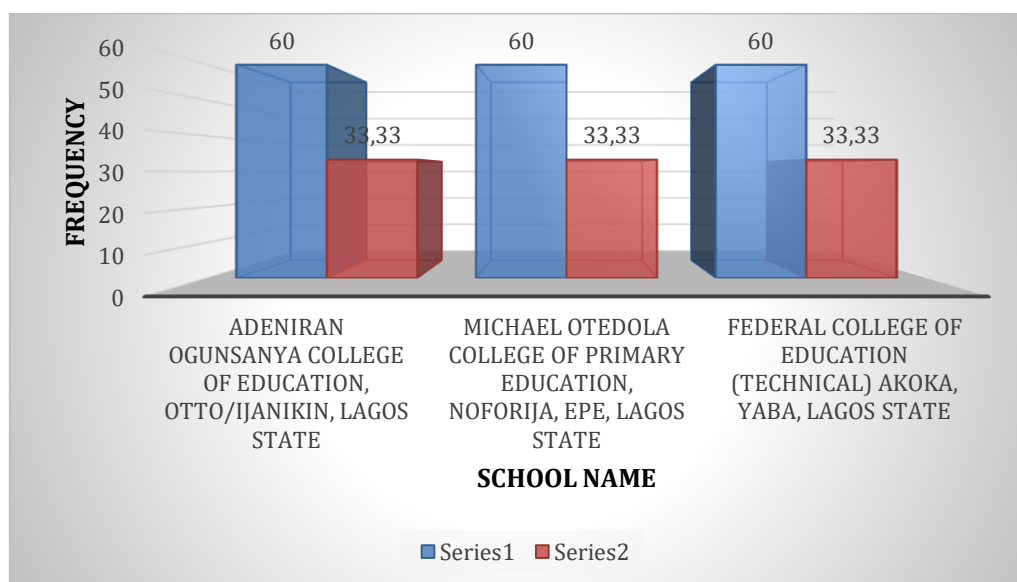


Figure 2. Distribution of schools

Figure 2 provided the demographic summary of the respondents involved in the study, which included 180 randomly selected science students from three purposively chosen Colleges of Education in Lagos State, Nigeria. The sample is evenly distributed among the three Colleges of Education, with each contributing

60 respondents (33.33% of the total sample) (see figure 2). This ensures equal representation from the selected institutions. Of the 180 respondents, 102 (56.67%) are male, and 78 (43.33%) are female (see figure 3). Male respondents constitute a higher percentage compared to females, showing a greater participation of males in the study.

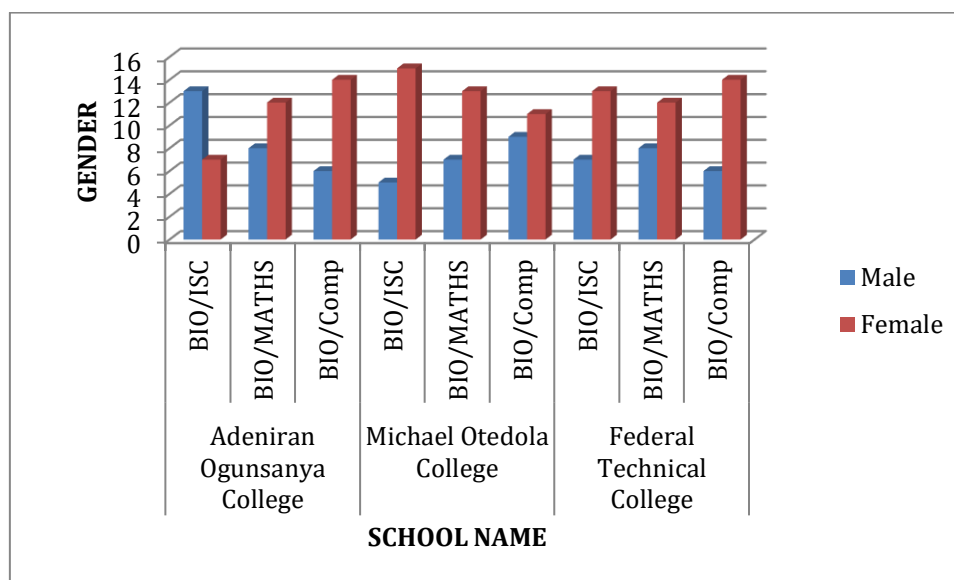


Figure 3 Distribution of gender among the 3 schools

Figure 3 shows that **Adeniran Ogunsanya College of Education**, the respondents in Bio/Isc are predominantly male, with 13 males and 7 females. In contrast, Bio/Maths has a majority of females, with 12 females compared to 8 males. Similarly, Bio/Comp is dominated by females, with 14 females and only 6 males. While at **Michael Otedola College of Education**, females form a significant majority across most courses. Bio/Isc has 15 females and just 5 males, making it the most female-dominated course in this college. Bio/Maths also has more females (13) than males (7), though the gap is smaller. Bio/Comp is relatively balanced, with 11 females and 9 males and at **Federal Technical College of Education** Bio/Isc, there are 13 females and 7 males, while Bio/Maths has 12 females and 8 males. BIO/Comp, like the other two colleges, has a significant female majority, with 14 females and 6 males.

The study employed a self-designed instrument to collect qualitative data: the Intended, Translated, and Achieved Curriculum Students' Academic Achievement Questionnaire (ITACSAAQ). The instrument focused specifically on measuring students' perceptions of how these curriculum components influence students' academic achievement in biology. The instrument consisted of two sections: Section A gathered demographic information about the respondents, such as gender, age, college, and course of study, providing contextual background for the analysis. Section B contained items that assessed teachers' perceptions of the intended, translated, and achieved curricula and their impact on academic achievement. A 4-point Likert scale, ranging from Strongly Agree to Strongly

Disagree, was used in Section B to capture responses, offering a structured and quantifiable means of measuring perceptions.

To ensure the credibility and appropriateness the instrument, it was validated by professionals in curriculum studies and test measurement. Experts in curriculum studies evaluated the content validity, confirming that the items were relevant and aligned with the study's objectives. Specialists in test measurement assessed the construct validity to ensure that the questionnaires effectively measured the intended constructs. This rigorous validation process ensured the instruments' academic reliability and relevance to the study. The reliability of the instruments was tested using Cronbach's Alpha, yielding a coefficient value of 0.73, this indicates a high level of internal consistency as it falls within acceptable range in education research.

We began the process by obtaining permission from relevant authorities: formal letter of introduction from the department, addressed to the Deans of Student Affairs and Registrars of the selected institutions. This was followed by personal visits to the Deans to secure approval for conducting the study with lecturers. Three research assistants were employed, trained and deployed to the colleges of education to conduct the survey. The data was collected using the self-developed questionnaire, this process was supervised by the researcher to ensure proper adherence to protocol. Participants were assured of confidentiality and informed of their right to withdraw at any stage.

The research questions were answered using descriptive statistics of mean, standard deviation while the hypotheses were tested using ANOVA to explore relationships among variables, the data was factored into IBM SPSS version 23 for the analysis.. The use of ANOVA (Analysis of Variance) in this study was justified because it allows for the comparison of group means to determine if there are any statistically significant differences between them. The results of the analyses were presented in the next section.

3. Result and Discussion

The first research question examined if there is any impact of the intended curriculum on the translated curriculum in College of Education, to answer this, mean and standard deviation were used as presented in table figure 4. The findings in Figure 4 revealed a considerable difference between the groups (intended and translated curriculum), the mean score for the intended curriculum is 49.14, while the mean scores for the translated curriculum is significantly lower at 18.31. This considerable difference in average scores suggests that the content intended to be taught in the curriculum is not being fully reflected in what is actually being implemented in the classroom. In other words, there is a notable gap between the planned and the delivered curriculum. Furthermore, the standard deviation for the intended curriculum is 4.82, while the standard deviation for the translated curriculum is 6.84.

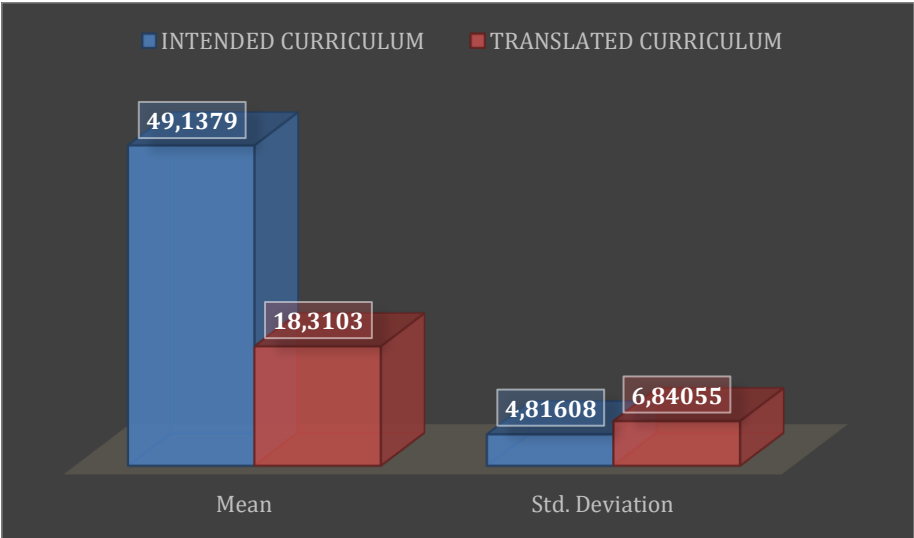


Figure 4. Mean and SD on the impact of the intended curriculum on the translated curriculum

The higher variability in the translated curriculum implies that its implementation is inconsistent across the sample, whereas the intended curriculum shows less variation, suggesting a more uniform design. The results point to a clear difference between the intended and translated curricula, with the intended curriculum being more substantial and consistently planned, while the translated curriculum shows a marked decrease in both average score and consistency. This highlights a potential issue in the delivery of the curriculum that could impact learning outcomes. Further statistical analysis, such as a paired t-test, would be needed to confirm whether this difference is statistically significant. The research question two examined the impact of the translated curriculum and the achieved curriculum in Colleges of Education, we employed mean and standard deviation to answer the question as presented in figure 5.

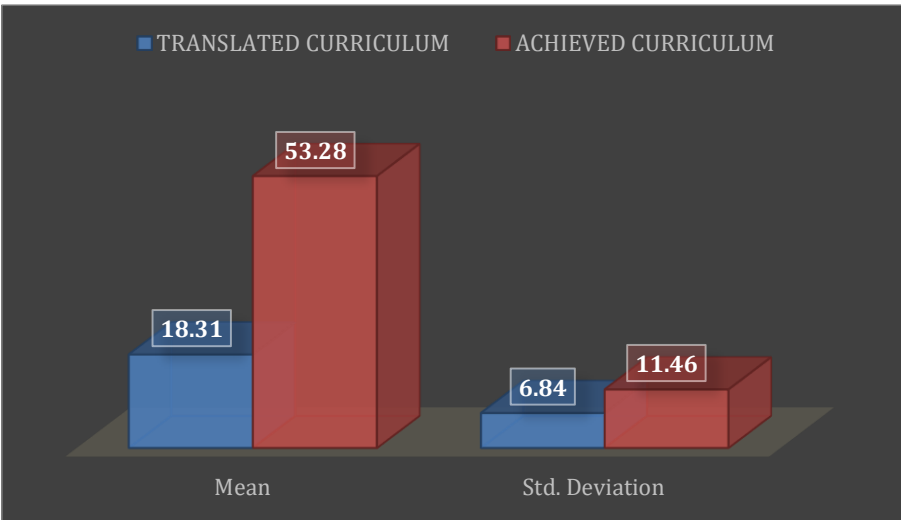


Figure 5. Mean and SD on the impact of the translated curriculum and the achieved curriculum

The results in figure 5 show the relationship between the translated and achieved curricula. The mean score for the translated curriculum is 18.31, while the mean score for the achieved curriculum is much higher at 53.28. This significant difference suggests that although the content formally delivered in the classroom (the translated curriculum) is relatively low, students are achieving much more, as reflected in the higher achieved curriculum mean. In other words, students perform better than expected based on what was taught. The standard deviation for the translated curriculum is 6.84, indicating a moderate level of variability in how the curriculum was implemented. In contrast, the standard deviation for the achieved curriculum is 11.46, which is higher, suggesting more variability in students' learning outcomes. This could indicate that while the translated curriculum is delivered relatively consistently, students' performance varies more widely, potentially due to factors outside the curriculum. The research question examined the impact of the intended curriculum and the achieved curriculum in Colleges of Education as revealed in Figure 6.

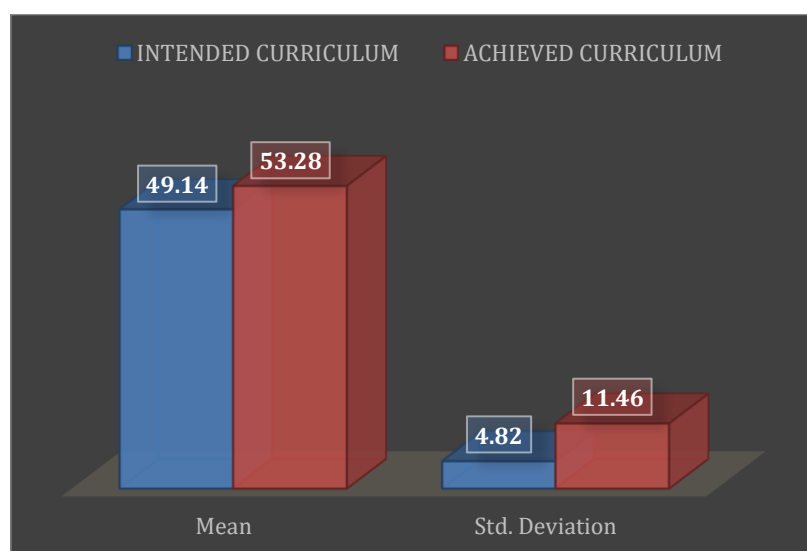


Figure 6. Mean and SD on the impact of intended curriculum and the achieved curriculum on achievement

Figure 5 provides the relationship between the intended curriculum and the achieved curriculum. The mean score for the intended curriculum is 49.14, while the mean for the achieved curriculum is slightly higher at 53.28. This suggests that, on average, students performed better than what was planned or intended in the curriculum. The fact that the achieved curriculum exceeds the intended curriculum indicates that students, on average, accomplished more than the curriculum set out to deliver. However, when looking at the standard deviation, the intended curriculum has a value of 4.82, reflecting relatively low variability in what was planned to be taught. In contrast, the standard deviation for the achieved curriculum is 11.46, showing greater variability in student performance. This suggests that while the intended curriculum was fairly consistent, the achieved outcomes varied more widely, with some students performing much higher or lower than expected. The results show a modest difference between the intended and achieved curricula,

with the students slightly outperforming the expectations of the intended curriculum. The increased variability in the achieved curriculum indicates that individual student performance was more diverse. To confirm if the differences in Figures 4, 5 and 6, further inferential statistics (ANOVA) was used confirm whether this difference is statistically significant.

Hypothesis 1: There is no statistically significant impact of the intended curriculum on the translated curriculum in College of Education.

Table 2. Shows the ANOVA table of the intended curriculum and the curriculum as translated

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	440.92	2	33.92	2.44	.02
Within Groups	208.53	177	13.90		
Total	649.45	180			

Table 2 presents a non- statistically significant difference in the interpretation of the curriculum as intended versus the curriculum as translated. For the curriculum as intended, the between-groups sum of squares was 440.92 with 13 degrees of freedom, and the within-groups sum of squares was 208.53 with 15 degrees of freedom. This results in mean squares of 33.92 and 13.90 for between-groups and within-groups, respectively. The calculated F-value for this analysis was 2.440 with significance (p-value) of 0.05. Given that the $F(13, 15) = 2.44$, $p < 0.02$, we fail to reject the null hypothesis.

Hypothesis 2: There is no statistically significant impact of the intended curriculum on the translated curriculum in Colleges of Education.

Table 3. Shows the ANOVA table of the curriculum as translated and the curriculum as achieved

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1804.26	2	138.79	1.11	.42
Within Groups	1873.53	177	124.90		
Total	3677.79	180			

As indicated in table 3, there is no significant difference in the interpretation of the curriculum as translated versus the curriculum. For the curriculum as achieved, the between-groups sum of squares was 1804.26 with 2 degrees of freedom, and the within-groups sum of squares was 1873.53 with 177 degrees of freedom. This resulted in mean squares of 138.79 for between groups and 124.90 for within groups. The calculated F-value for this analysis was 1.11, with significance (p-value) of 0.42. Given that the p-value $F(13, 15) = 1.11$; $p > 0.05$, which is well above the common significance threshold of 0.05, we fail to reject the null hypothesis.

Hypothesis 3: There is no statistically significant impact of the intended curriculum on the achieved curriculum in Colleges of Education.

Table 4. shows the ANOVA table of the curriculum as intended and the curriculum as achieved

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1538.83	2	102.59	.624	.810
Within Groups	2138.97	177	164.54		
Total	3677.79	180			

Table 4 revealed a non-statistically significant difference in the interpretation of the curriculum as intended versus the curriculum as achieved. The curriculum as achieved, the between-groups sum of squares was 1538.83 with 2 degrees of freedom, and the within-groups sum of squares was 2138.97 with 177 degrees of freedom. This resulted in mean squares of 102.59 for between groups and 164.54 for within groups. The calculated F-value for this analysis was 0.62, with significance (p-value) of 0.81. Given that the p-value $F(15, 13) = 0.62$, $p > 0.05$, which is well above the common significance threshold of 0.05, we fail to reject the null hypothesis.

The first hypothesis examined the impact of the intended curriculum on the translated curriculum. The ANOVA results showed a non-significant difference between the intended and translated curriculum ($F(13, 15) = 2.44$, $p < 0.02$), indicating that the intended curriculum did not significantly affect the translation of the curriculum by instructors. This result suggests that, while the curriculum content may be well-defined, factors such as teacher interpretation, contextual adaptation, and the available resources might limit the alignment between the intended and the taught curriculum.

This finding resonates with the literature, such as Omowaye et al. (2023), who suggested that the translation of curriculum into practice is often influenced by contextual factors like teacher expertise and available resources. Okeke and Umeh (2023) also argue that systemic issues, such as overcrowded classrooms and inadequate teaching resources, can prevent the full realization of the intended curriculum. Despite the robust design of the curriculum, these practical barriers can hinder its effective translation into classroom activities.

In contrast, Adejumo and Olagoke (2022), in their evaluation of science curricula in Nigerian tertiary institutions, emphasized that the alignment of curriculum content with academic and industry demands enhances students' preparedness for future challenges. However, the non-significant finding in this study suggests that aligning the content alone is insufficient if teachers face challenges in interpreting and delivering it effectively. These differences between studies highlight the need to consider the broader systemic issues that influence curriculum implementation, as well as the importance of teacher preparation in ensuring that the curriculum is translated accurately.

The second hypothesis examined the impact of the intended curriculum on the translated curriculum in Colleges of Education. The ANOVA results revealed no significant difference ($F(13, 15) = 1.11$, $p > 0.05$), further supporting the conclusion that the intended curriculum does not significantly impact its translation into

classroom practice. This finding suggests that, while the content of the intended curriculum is important, its actual implementation may be compromised by factors such as a mismatch between curriculum design and available teaching resources or inadequate teacher preparation.

This result is consistent with Omowaye et al. (2023) and Okeke and Umeh (2023), who highlighted that despite a well-designed curriculum, systemic barriers such as insufficient teacher training and limited resources can prevent effective curriculum translation. Yusuf and Adebayo (2022) also emphasize that teacher interpretation plays a critical role in the effectiveness of curriculum translation. Their study found that using appropriate teaching strategies and aligning instruction with assessments significantly enhanced students' academic outcomes. This supports the idea that the success of curriculum translation depends heavily on teacher capacity and instructional methods.

However, the present study's lack of significant findings in this area suggests that while well-defined curriculum objectives are crucial, the translation process is often hindered by factors such as inadequate teacher preparation and misalignment between the curriculum design and classroom realities. This divergence with the literature could be attributed to the study's focus on curriculum content and design, rather than on addressing the external challenges related to teacher training and resources.

The third hypothesis sought to determine the impact of the intended curriculum on the achieved curriculum in terms of students' academic outcomes. The ANOVA results ($F(15, 13) = 0.62, p > 0.05$) indicated no statistically significant difference between the intended and achieved curriculum. This suggests that the intended curriculum does not directly translate into the achieved curriculum, despite the presence of well-defined curriculum objectives and relevant content.

This finding echoes the work of Omowaye et al. (2023), who found that curriculum design alone is insufficient to guarantee academic success if systemic issues such as inadequate resources and poor teacher training are not addressed. Similarly, Eze and Nwachukwu (2024) found that, even when the curriculum aligns with academic goals, external factors like large class sizes, inadequate resources, and lack of teacher professional development can impede the full realization of the curriculum's potential. This supports the notion that the achievement of academic outcomes is not solely dependent on curriculum content but is also significantly influenced by the broader institutional context. The study by Adejumo & Olagoke (2022), which emphasizes the importance of curriculum alignment with industry standards, suggests that when the curriculum is aligned with current academic and industry demands, it better prepares students for future challenges. However, the present study's finding suggests that these benefits may not be fully realized in the absence of effective curriculum implementation.

The findings of this study align with several aspects of the literature, particularly the importance of well-structured curricula with clear objectives and alignment with academic and real-world needs. The studies by Adejumo and Olagoke (2022),

Yusuf and Adebayo (2022), and others emphasize that the quality of curriculum design, the alignment with students' academic needs, and the use of effective instructional strategies contribute to academic success. However, the study also diverges from literature that emphasizes the practical challenges of curriculum translation, as highlighted by Omowaye et al. (2023) and Okeke and Umeh (2023), who stress that systemic issues such as teacher preparation, resources, and infrastructure can significantly undermine the impact of even a well-designed curriculum.

These discrepancies may stem from the study's limited focus on the role of curriculum design and its direct impact on academic achievement, with less attention to the broader implementation challenges that other studies have highlighted. Future research should explore how to bridge the gap between curriculum design and successful implementation by addressing both teacher training and resource allocation to maximize the intended curriculum's potential. The literature offers a comprehensive view of the challenges and successes related to curriculum implementation and its impact on academic achievement. While this study agrees with much of the literature on the importance of curriculum design, alignment with industry standards, and teacher instructional strategies, it also highlights that external systemic factors, such as resources and teacher training, can limit the intended curriculum's impact. Addressing these systemic challenges, as emphasized by Omowaye et al. (2023) and Okeke & Umeh (2023), is essential for ensuring that the intended curriculum leads to meaningful academic achievement. Therefore, future studies should explore how to address both the design of the curriculum and the broader implementation challenges to maximize academic success in Nigerian Colleges of Education.

We could deduce from the ongoing discussion that, while the intended curriculum is crucial for academic success, its impact on the translated and achieved curriculum is not always significant. This suggests that the curriculum, despite being well-defined, may not be consistently interpreted and implemented as intended due to factors such as teacher expertise, contextual adaptation, and the availability of resources. Similarly, the second hypothesis, which tested the impact of the intended curriculum on curriculum translation in Colleges of Education, revealed no significant difference, further supporting the notion that systemic challenges like inadequate teacher training and resource limitations hinder effective curriculum implementation.

The study suggests that, despite the presence of a well-designed curriculum, factors such as ineffective teaching practices, lack of resources, and limited teacher capacity prevent the intended curriculum from translating into measurable academic outcomes. These findings align with existing literature that highlights the role of systemic factors—such as infrastructure, teacher training, and resources—in determining the success of curriculum implementation. Studies by Omowaye et al. (2023) and Okeke and Umeh (2023) provide further support for these findings, as they emphasize the challenges posed by external factors to the successful realization of the intended curriculum.

However, the study also supports the argument that a well-structured curriculum with clearly defined objectives, relevant content, and alignment with academic needs is crucial for enhancing academic achievement. The research by Adejumo and Olagoke (2022) underscores the importance of aligning curriculum content with industry standards, a concept which was also reflected in this study's findings. The study highlights the importance of contemporary and industry-relevant curriculum content in preparing students for future challenges.

In conclusion, while the study reaffirms the critical role of the intended curriculum in shaping academic outcomes, it also underscores the significant barriers to its effective implementation. To bridge the gap between curriculum design and successful implementation, it is essential to address systemic challenges such as inadequate teacher preparation, resource shortages, and infrastructure limitations. Further research is needed to explore how these external factors can be mitigated to maximize the intended curriculum's positive impact on students' academic achievement. The findings of this study contribute to the growing body of literature on curriculum evaluation and implementation, providing valuable insights for policymakers, educators, and curriculum designers striving to improve educational outcomes in Colleges of Education.

The findings of this study have significant implications for educational practice in Colleges of Education. It highlights the crucial need to not only design a well-structured curriculum but also to ensure its effective implementation through adequate teacher training, resource provision, and consistent alignment with real-world needs. Educational institutions should prioritize enhancing the teaching environment by providing sufficient resources such as up-to-date textbooks, teaching aids, laboratory facilities, and technology. Furthermore, it is essential to offer ongoing professional development opportunities for educators, ensuring they are equipped with the necessary skills and tools to effectively translate the intended curriculum into classroom practice.

The study also emphasizes the importance of alignment between curriculum content, instructional practices, and assessment methods. Educational administrators must ensure that assessment tools accurately reflect the skills and knowledge that the curriculum aims to impart. This will not only improve the translation of the curriculum into effective teaching but also help in monitoring students' academic progress in a meaningful way. In addition, institutions should focus on providing an environment that fosters active student engagement. Encouraging participatory learning strategies and critical thinking skills through active learning and collaborative activities will ensure that students are not passive recipients but active contributors to their educational experience.

4. Conclusion

This study provides valuable insights into the relationship between the intended, translated, and achieved curricula in Colleges of Education in Lagos State, Nigeria. The findings affirm that the intended curriculum, when well-designed and aligned

with academic and industry standards, plays a crucial role in shaping students' academic achievement. However, the study also highlights that the successful translation and realization of the intended curriculum depend on multiple factors, including teacher capacity, resource availability, and contextual factors. Despite having a well-structured curriculum, implementation challenges can hinder the full achievement of educational objectives.

The results underscore the need for educational institutions to pay equal attention to both the design and execution phases of curriculum development. Successful curriculum implementation requires a systematic and coherent approach across all levels—intentional curriculum design, effective teaching methods, and the provision of resources—to ensure that students are prepared for both academic success and future professional challenges.

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