

# Determinants of Learning Outcomes in Nursing Education: An Institutional Analysis at the College of Nursing Sciences, Calabar, Nigeria

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## Abstract

## Original Research Article

Academic success in nursing education depends not only on knowledge but also on study habits, class attendance, and access to learning resources that shape students' learning experiences. This study explored these key factors among 204 National Diploma nursing students at the College of Nursing Sciences, Calabar. Using a descriptive cross-sectional design, data on study habits, class attendance, access to learning resources, and academic outcomes were collected via questionnaires and academic records. Analysis revealed that students with good study habits had significantly higher CGPAs ( $3.45 \pm 0.35$ ) than those with poor habits ( $2.89 \pm 0.42$ ), with a moderate positive correlation ( $r = 0.46$ ,  $p < 0.001$ ). Similarly, students attending at least 80% of classes scored higher ( $3.52 \pm 0.37$ ) than those with lower attendance ( $2.95 \pm 0.40$ ,  $p < 0.001$ ). Access to adequate learning resources was also linked to better clinical competence scores ( $78.4\% \pm 7.5$  versus  $68.7\% \pm 9.2$ ,  $p < 0.001$ ). Multiple regression identified study habits ( $\beta = 0.38$ ), class attendance ( $\beta = 0.34$ ), and access to resources ( $\beta = 0.28$ ) as significant predictors of academic success. These findings highlight that both personal behaviors and institutional support critically shape nursing students' learning outcomes. The study recommends targeted interventions to enhance study skills, encourage attendance, and improve resource availability to foster academic excellence (Word count: 213).

**Keywords:** Nursing education, academic performance, study habits, class attendance, learning resources, nursing students, academic success, institutional support, learning outcomes.

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## 1. INTRODUCTION

### 1.1 Background

Nursing education forms the bedrock of healthcare delivery and the overall performance of health systems. Nurses represent the largest group of healthcare professionals globally and are at the forefront of providing most direct patient care (World Health Organization [WHO], 2024). Globally, nursing education is recognized as a critical driver of health workforce quality, influencing service delivery, patient safety, and population health outcomes (WHO, 2024). Research shows that learning outcomes in nursing are influenced by a complex interplay of factors, including student behaviors (study habits, class attendance), institutional inputs (textbooks, e-resources, simulation laboratories), and faculty capacity (pedagogic skills, assessment quality) (García-Peñalvo, *et al.*, 2024; Berg & Lepp, 2023; Houghton *et al.*, 2022).

The Health Belief Model (HBM) provides a useful

framework for this study by explaining how students' perceptions and motivations affect their learning behaviors. It suggests that students are more likely to adopt positive habits, like regular studying and attendance, when they see clear benefits, acknowledge obstacles, and feel confident in their success (Rosenstock, 1974). This model helps in understanding how personal and environmental factors together influence academic performance.

Evidence from systematic reviews indicates that student-centered and active learning approaches, such as flipped classrooms and blended learning, enhance knowledge, skills, and satisfaction in nursing education when adequate resources and trained educators are available (Berg & Lepp, 2023). However, in Sub-Saharan Africa, the benefits of such reforms are often blunted by persistent constraints—limited clinical placements, shortages of essential learning materials, and a lack of qualified nurse educators (Human Resources for Health Rapid Assessments, 2024).



## 1.2 Nigerian context

In Nigeria, the Nursing and Midwifery Council of Nigeria (NMCN) provides regulatory oversight and has implemented curriculum reforms to improve graduate readiness, including updates to competency frameworks and minimum training requirements (NMCN, 2023). Despite these measures, performance outcomes remain uneven across institutions. For example, aggregated professional examination pass rates in 2022–2023 varied significantly, according to publicly available summaries (NMCN, 2023; Medical World Nigeria, 2023).

At the policy level, initiatives such as the Basic Health Care Provision Fund (BHCPF) and the Primary Health Care Under One Roof (PHCUOR) aim to enhance primary healthcare capacity and expand practice sites for nursing students (Federal Ministry of Health, 2020; National Primary Health Care Development Agency [NPHCDA], 2016; Adeleke *et al.*, 2024). However, uneven implementation across states has limited their effectiveness. In Cross River State, for instance, rising enrolments at the College of Nursing Sciences, Calabar, have not been matched by proportional increases in library holdings, simulation facilities, or e-learning infrastructure (College of Nursing Sciences, Calabar, 2024).

## 1.3 Statement of the problem

The ability to train and graduate competent, practice-ready nurses is key to strengthening Nigeria's health system. At the College of Nursing Sciences, Calabar, challenges like limited resources, lack of regular faculty training, and low student participation are affecting the quality of training. Reports and internal reviews show that student numbers are growing faster than available teaching resources, raising concerns about learning outcomes. Over the years, several initiatives have been introduced to improve the situation, such as promoting better study habits, encouraging time management, and adopting competency-based assessments to strengthen both academic performance and practical skills. In Cross River State, Ella *et al.* (2015) studied undergraduate nursing students at the University of Calabar and found that good study habits, like regular reading and time management, were linked to better academic performance. More recently, Ibor *et al.* (2025) at the College of Nursing Sciences, Calabar, discovered that using competency-based assessments helped students perform better academically and gain stronger practical skills. Both studies highlight that effective learning habits and fair, skill-focused assessments are important for nursing students' success. However, despite these interventions, the challenges of inadequate resources, inconsistent faculty development, and rising student numbers persist. While earlier studies have addressed related issues, more recent and broader evidence is needed to capture the current realities in the College. Without updated, context-specific data, interventions may be poorly targeted or less effective (Adedoyin & Oladipo, 2021; Musa & Lawal, 2023; Ibor *et al.*, 2025). This study aims to fill that gap and offer practical solutions for both the school and policymakers.

## 1.4 Aim and objectives

### Aim

The aim of this study is to examine the factors influencing the academic performance of nursing students at the College of Nursing Sciences, Calabar.

### Specific objectives

1. To determine the relationship between nursing students' study habits and their academic performance.
2. To assess the influence of class attendance on the academic performance of nursing students.
3. To evaluate the effect of access to learning resources on students' academic performance.
4. To identify institutional and student-related predictors of learning outcomes among nursing students.

## 1.5 Research questions

Based on the stated objectives, the study addressed the following research questions:

1. What is the relationship between nursing students' study habits and their academic performance?
2. How does class attendance influence the academic performance of nursing students?
3. In what ways does access to learning resources affect students' academic performance?
4. What institutional and student-related factors predict learning outcomes among nursing students?

## 1.6 Research hypotheses

The following null hypotheses guided the study:

1. There is no significant relationship between nursing students' study habits and their academic performance.
2. Class attendance has no significant influence on the academic performance of nursing students.
3. Access to learning resources does not significantly affect students' academic performance.
4. Institutional and student-related factors are not significant predictors of learning outcomes among nursing students.

## 2. LITERATURE REVIEW

### 2.1 Study habits and academic performance

Several studies underscore the importance of study habits in shaping nursing students' academic success. Ajayi and Adebayo (2021) conducted a quantitative study among nursing students in Southwestern Nigeria and found that effective study habits such as consistent revision, time management, and



note-taking were positively correlated with higher academic performance. Their findings suggest that disciplined study routines enhance retention and understanding of complex nursing concepts, ultimately leading to improved grades.

Similarly, Ibrahim and Bello (2020) identified self-regulated learning behaviors, including goal setting and self-evaluation, as significant predictors of academic success among nursing students. Their study highlights that students who actively engage in their learning process tend to achieve better outcomes both academically and clinically.

## 2.2 Class attendance and academic performance

Class attendance is another critical factor influencing nursing students' learning outcomes. Ogunleye and Olatunji (2022) analyzed the attendance records and academic performance of undergraduate nursing students across Nigerian universities. Their results demonstrated a strong positive association between regular class attendance and higher examination scores. They argued that physical presence in lectures promotes better understanding through direct interaction with instructors and peers, facilitating clarification of difficult concepts.

## 2.3 Access to learning resources and academic outcomes

Access to adequate learning resources significantly affects nursing students' clinical competence and academic achievements. Eze and Okoye (2023) investigated the availability and utilization of learning materials in Nigerian tertiary institutions and found that students with greater access to updated textbooks, e-learning platforms, and simulation laboratories scored higher in clinical competence assessments. Their study emphasizes that resource availability enhances practical skill acquisition, critical for nursing education.

## 2.4 Institutional and student-related predictors of learning outcomes

Institutional and personal factors collectively influence nursing students' academic performance. Ibrahim and Bello (2020) highlighted socioeconomic background and motivation as key student-related predictors that impact learning outcomes. Students with stable financial support and high intrinsic motivation tend to perform better.

More specifically, recent research by Ibor *et al.* (2025) examined the role of competency-based assessment (CBA) at the College of Nursing Sciences, Calabar. Their study found that students exposed to CBA methods, such

as Objective Structured Clinical Examinations (OSCEs) and simulation-based assessments, showed significantly higher academic performance and clinical competence than those assessed by traditional methods. However, the study also identified institutional challenges like inadequate simulation equipment and faculty training gaps that affect CBA's effective implementation.

Supporting these empirical findings, Amadi *et al.* (2023) conducted a narrative review of predictors of academic performance in nursing. They synthesized evidence pointing to the interplay between individual behaviors (study habits, motivation), institutional support (learning resources, faculty capacity), and assessment strategies (competency-based methods) as fundamental determinants of student success. Their review also highlighted the need for continuous faculty development and infrastructure investment to sustain improvements in nursing education.

## 3. METHODOLOGY

**3.1 Study design:** This study employed a descriptive cross-sectional design to assess factors influencing learning outcomes among nursing students.

**3.2 Study setting:** The research was conducted at the College of Nursing Sciences, Calabar.

**3.3 Study population:** The population comprised all National Diploma students in their first and second years (ND 1 and ND 2), totaling 413 students as provided by the college registry.

**3.4 Sample size and sampling:** A sample size of 204 students was calculated using the Taro Yamane formula at a 5% margin of error (Yamane, 1967). Participants were then selected through stratified random sampling to ensure proportional representation from both ND levels.

**3.5 Data collection instruments:** Validity of the instrument was confirmed with a Content Validity Index (CVI) of 0.90, while reliability was established through a Cronbach's alpha coefficient of 0.79. Academic records including CGPAs and clinical assessment scores were sourced from the College's examination office.

**3.6 Data collection procedure:** Questionnaires were administered during scheduled lecture periods. Academic performance data were retrieved with official authorization from the college registry.

**3.7 Data analysis:** Statistical analysis was performed using SPSS version 25, utilizing descriptive statistics, Pearson's correlation, independent samples t-tests, and multiple regression analyses to examine relationships and predictors of academic success.

**3.8 Ethical approval:** Ethical clearance was granted by the Cross River State Health Research Ethics Committee (CRSMOH/RP/REC/2024/141). Informed consent was obtained from all participants prior to data collection.

## 4. RESULTS

### 4.1 Demographic characteristics of respondents

Table 1 Demographic profile of the 204 National Diploma nursing students who participated in the study.

Variable	Frequency (n)	Percentage (%)
Year of study		
ND 1	110	54.0
ND 2	94	46.0
Gender		
Female	160	78.4
Male	44	21.6

As shown in table 1 above, a total of 204 National Diploma nursing students took part in the study. Just over half of them, 110 students (54%), were in their first year, while the remaining 94 students (46%) were in their second year. On average, the students were about 21

years old, with most falling between 19 and 23 years. The majority of participants were female, making up nearly four out of five students (78.4%), while males made up just over one-fifth (21.6%). This reflects the typical gender balance seen in nursing programs.

### 4.2 Factors influencing academic performance

Table 2: Summary of key results addressing research questions. (N = 204)

Variable	Group/measure	Mean ( $\pm$ SD) or $\beta$	Test statistic (t or r)	p-value
Study habits	Good study habits	3.45 $\pm$ 0.35 (CGPA)	t = 6.32	<0.001
	Poor study habits	2.89 $\pm$ 0.42 (CGPA)		
	Correlation with CGPA	r = 0.46		<0.001
Class attendance	$\geq$ 80% attendance	3.52 $\pm$ 0.37 (CGPA)	t = 5.87	<0.001
	< 80% attendance	2.95 $\pm$ 0.40 (CGPA)		
Access to learning resources	Adequate access	78.4 $\pm$ 7.5 (%)	t = 5.12	<0.001
	Limited access	68.7 $\pm$ 9.2 (%)		
Predictors of academic performance	Study habits	$\beta$ = 0.38	t = 6.12	<0.001
	Class attendance	$\beta$ = 0.34	t = 5.54	<0.001
	Access to resources	$\beta$ = 0.28	t = 3.12	0.002

**Note:** CGPA = Cumulative Grade Point Average;  $\beta$  = Standardized regression coefficient

**Research question 1:** What is the relationship between nursing students' study habits and their academic performance?

Students who exhibited good study habits had a significantly higher mean CGPA of 3.45  $\pm$  0.35 compared to those with poor study habits who scored 2.89  $\pm$  0.42. The difference is statistically significant (t = 6.32, p < 0.001). Furthermore, there was a moderate positive correlation between study habits and CGPA (r =

0.46, p < 0.001), indicating that better study habits are associated with improved academic outcomes.

**Research question 2:** How does class attendance influence the academic performance of nursing students?

Students with class attendance of 80% or higher achieved a significantly higher mean CGPA (3.52  $\pm$  0.37) than those with less than 80% attendance (2.95  $\pm$  0.40). This difference was statistically significant (t = 5.87, p < 0.001), demonstrating that regular attendance is



positively linked to academic success.

**Research question 3:** In what ways does access to learning resources affect students' academic performance?

Participants who reported adequate access to learning resources scored higher in clinical competence assessments, with a mean of  $78.4\% \pm 7.5$ , compared to  $68.7\% \pm 9.2$  among those with limited access. The significant difference ( $t = 5.12, p < 0.001$ ) highlights the importance of resource availability in enhancing practical skills and academic performance.

**Research question 4:** What institutional and student-related factors predict learning outcomes among nursing students?

Multiple regression analysis identified study habits ( $\beta = 0.38, t = 6.12, p < 0.001$ ), class attendance ( $\beta = 0.34, t = 5.54, p < 0.001$ ), and access to learning resources ( $\beta = 0.28, t = 3.12, p = 0.002$ ) as significant independent predictors of academic performance. This suggests that all these factors play crucial roles in influencing students' learning outcomes, with study habits exerting the strongest effect.

This study shows that how nursing students study, how often they attend classes, and how easily they can access learning materials all play important roles in shaping their academic success. Among these factors, developing good study habits makes the biggest difference, but consistent attendance and having the right resources are also key contributors. These findings highlight that for nursing students to thrive, it is not just about what happens in the classroom it is also about building strong personal routines and ensuring the school provides the tools and support they need. Focusing on these areas can help create an environment where students are more likely to succeed both academically and clinically.

#### 4.3 Test of hypotheses

The study tested four null hypotheses to examine the relationships between study habits, class attendance, access to learning resources, and academic performance among nursing students.

**Hypothesis 1:** There is no significant relationship between nursing students' study habits and their academic performance.

This hypothesis was rejected because students who had good study habits, things like regular revision and proper time management had noticeably better grades, with a higher average CGPA of 3.45 compared to 2.89 for those with poor study habits. The link between good study habits and better academic results was strong and significant.

**Hypothesis 2:** Class attendance has no significant influence on the academic performance of nursing students. This hypothesis was also disproved as students who came to at least 80% of their classes scored better, with an average CGPA of 3.52, while those who attended less scored 2.95 on average. This shows that being present in class really helps students understand their lessons and perform better.

**Hypothesis 3:** Access to learning resources does not significantly affect students' academic performance. Again, this was rejected. Students who had good access to textbooks, e-learning platforms, and other study materials did better in their clinical assessments, ( $78.4\% \pm 7.5$ ) compared to those with limited access ( $68.7\% \pm 9.2$ ) ( $t = 5.12, p < 0.001$ ). It was clear that having the right tools makes a big difference.

**Hypothesis 4:** Institutional and student-related factors are not significant predictors of learning outcomes among nursing students. This hypothesis was rejected as multiple regression analysis showed that study habits ( $\beta = 0.38, p < 0.001$ ), class attendance ( $\beta = 0.34, p < 0.001$ ), and access to learning resources ( $\beta = 0.28, p = 0.002$ ) were all significant predictors of academic performance. The analysis of these results confirms that study habits, class attendance, and access to learning resources significantly influence academic success, highlighting the vital roles of both personal effort and institutional support in nursing students' achievement.

## 5. DISCUSSION OF FINDINGS

The findings of this study clearly show that good study habits, regular class attendance, and access to learning resources all matter a great deal when it comes to nursing students' academic performance. It is not surprising if students do not study effectively, skip classes, or lack the right materials, it becomes nearly impossible for them to excel.

First, the link between good study habits and higher CGPAs reinforces what many educators and researchers have long argued. Students who make time to revise regularly, manage their study schedules well, and actively engage with the material are simply more prepared. This matches what Ajayi and Adebayo (2021) found in Southwestern Nigeria, where disciplined study routines led to better grades. Ibrahim and Bello (2020) also pointed out that self-motivation and goal-setting play a huge role in academic success, and that rings true here—students who take ownership of their learning tend to do better. So, it is not just about showing up; it is about how you engage with what you're learning.

Second, class attendance proved to be a powerful factor. Students who consistently attended at least 80% of their classes scored significantly better. This confirms what Ogunleye and Olatunji (2022) highlighted about the value of being physically present—listening to lectures, asking questions, and learning from peers cannot be fully replicated through self-study alone. The classroom is more than just a place to get notes; it is where complex ideas become clearer and where students can interact with instructors who can help break down difficult concepts. Missing classes means missing out on these crucial learning moments.

Third, having access to adequate learning resources made a big difference in clinical competence and academic results. When students have updated textbooks, e-learning tools, and simulation labs at their disposal, they perform better. This is not just a coincidence—it is backed up by Eze and Okoye's (2023) study, which



showed that resource availability directly enhances practical skills. In nursing, where hands-on ability is vital, lack of proper resources puts students at a serious disadvantage. Simply put, no matter how motivated a student is, poor access to materials limits what they can achieve.

However, while these findings strongly support the positive impact of good study habits, regular attendance, and access to learning resources, it is important to recognize that not all researchers view these as the sole or most critical factors. Ibrahim and Bello (2020) caution that external influences such as socioeconomic status, mental health, and teaching quality can sometimes overshadow the effects of personal effort and resource availability. They argue that in resource-constrained environments, simply having access to learning materials may not guarantee improved performance if students face financial hardships or lack adequate support systems.

Moreover, some scholars suggest that motivation and the ability to effectively utilize available resources can vary widely among students, implying that access alone is insufficient (Amadi *et al.*, 2023). This means that institutions must not only provide resources but also ensure students are equipped with the necessary skills and encouragement to make the best use of them.

Finally, the combined influence of study habits, attendance, and resources as predictors of academic success underscores an important truth: academic achievement is a two-way street. It is not just about the individual student's effort, but also about the environment and support the institution provides. This agrees with the narrative review by Amadi *et al.* (2023), which argues that student behaviors and institutional backing work hand in hand to shape outcomes. Ibor *et al.* (2025) further emphasized that while competency-based assessments can boost performance, challenges like inadequate facilities can hold students back. This means schools must do their part too.

In sum, if nursing education hopes to produce competent and successful graduates, it must focus not only on encouraging students to develop strong study habits and attend classes regularly but also on ensuring they have the necessary resources and support. Neglecting any of these aspects risks compromising students' learning and future readiness. It is clear from this study and supported by prior research that personal dedication and institutional support are both indispensable in shaping nursing students' success, though broader contextual challenges must also be addressed for the fullest impact.

## 6. CONCLUSION

This study demonstrates that effective study habits, consistent class attendance, and sufficient access to learning resources are significant contributors to the academic performance of nursing students at the College of Nursing Sciences, Calabar. These factors collectively enhance both theoretical knowledge and clinical competence. However, the findings also underscore the importance of addressing broader contextual factors such as socioeconomic challenges and institutional support

systems to fully realize students' academic potential.

For nursing education to effectively prepare competent and confident graduates, a comprehensive approach that integrates individual responsibility with robust institutional support is essential. Investment in both student development and educational infrastructure is critical to fostering improved academic outcomes and equipping future nurses to meet the demands of the healthcare profession.

## 7. IMPLICATIONS FOR NURSING EDUCATION AND PRACTICE

The findings of this study have important implications for nursing education and practice within the context of national and global development goals:

1. Enhancement of study skills programs: Nursing curricula should incorporate structured training on effective study habits and self-regulated learning strategies to improve academic performance, thereby supporting Sustainable Development Goal (SDG) 4: Quality education.
2. Promotion of consistent class attendance: Educational institutions need to implement policies and interventions that encourage and monitor regular class attendance, as this has a direct positive impact on student academic outcomes.
3. Improvement of access to learning resources: Investment in up-to-date textbooks, e-learning platforms, and simulation laboratories is critical to ensuring students gain necessary clinical skills, aligning with SDG 4 to ensure inclusive and equitable quality education.
4. Provision of holistic student support: Nursing programs should address socioeconomic challenges and provide psychological and academic support systems to reduce barriers to learning, contributing to SDG 10: Reduced Inequalities.
5. Alignment of educational outcomes with healthcare needs: Training nursing students to develop both theoretical knowledge and practical competencies is essential for preparing a workforce capable of delivering quality healthcare, advancing SDG 3: Good Health and Well-being.

## 8. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made to enhance academic performance among nursing students:

1. Nursing schools should incorporate workshops and continuous programs that teach effective study habits, time management, and self-regulated learning techniques.



2. Institutions should establish clear attendance requirements and use monitoring systems to encourage consistent class participation.
3. Colleges must invest in and maintain adequate learning resources, including current textbooks, e-learning tools, and simulation labs, to support practical skill development.
4. Educational authorities should develop support services addressing financial, psychological, and academic challenges to reduce barriers faced by students.
5. Continuous training for lecturers on competency-based assessment and innovative teaching methods should be prioritized to improve student engagement and evaluation.

Nursing institutions should collaborate with government agencies, donors, and private partners to secure funding and resources for infrastructural and educational improvements.

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