

A Comparative Analysis of the Academic Performance of Nursing Students in Three Selected Nursing Institutions in Sierra Leone

Christiana Baindu Massally^{1*} and Alhaji Brima Gogra²

¹*Texila American University, Georgetown, Guyana*

²*Port Loko Campus, Ernest Bai Koroma University of Science and Technology, Sierra Leone*

Abstract

As the number of trained and qualified nurses continues to increase in clinical settings, concerns about nursing students' academic performance, which translates into their output in patient care, emerge. Sierra Leone has seen high failure rates among nursing students in state council examinations. This study compares nursing students' academic performance across public, faith-based, and private institutions in Sierra Leone. A descriptive cross-sectional research design using mixed methods was used to evaluate and compare the academic performance of nursing students at the selected nursing institutions in the council exams conducted for first-timers in November 2022. Thematic analysis was also used to explore factors associated with students' performance. In total, 235 candidates were presented to the State Board Examination in November 2022 by the Institutions under review. 125 students from the Faculty of Nursing-(COMAHS), 61 from Tonkolili District College of Health Sciences (TDCHS), and 49 from St John of God - University of Makeni (UNIMAK). From the findings, UNIMAK had a 100% pass rate; COMAHS had a 69.6% pass rate and a 30.4% failure rate; Tonkolili District College Health Sciences (TDCHS) had an 88.5% pass rate and 11.5% failure rate. Factors influencing the Academic Performance of students were large class size, unharmonized Curricula, inappropriate teaching methods, and poor preparation for state council exams. The study concludes that exceptional performance is associated with nursing institutions with smaller class sizes. Factors that affected the students' academic performance were teacher-student and institutional influences.

Keywords: *Academic Performance, Education, Nursing, Students.*

Introduction

Education is a significant issue as it is one of the critical aspects that include essential skills, abilities, and knowledge that help to improve the overall growth, progress, and development of an individual, community, and nations. Education is associated with success and achievement, which are accomplished through desired goals and objectives [1, 2].

Nursing is considered the backbone of the global healthcare system, and nursing education plays a vital role in preparing nurses [3]. Nursing education aims to prepare nursing

students with the appropriate level of competency to subsequently promote the quality of life of individuals, families, and the public by executing their duties in line with the changing needs of people and also within the health system. The World Health Organisation (WHO) has formulated global education standards for professional nurses and midwives. Despite various initiatives to standardize and improve nursing education, discrepancies persist across programs worldwide.

When educating nursing students, they need a balance between the knowledge and theories

that are obtained in the classroom, applying and transferring these theories in the clinical setting, and dealing with real situations [4].

Academic performance is key in education, especially in nursing students, and becoming a registered nurse is a significant milestone marked by passing the state Board Examination. This Academic performance refers to the academic grades attained through various educational instructions in the learning environment. If students achieve good grades, it means they have managed their studies, completed the tasks assigned by teachers within the programme's stipulated duration, and understood the programme's impact on their academic performance [5]. Also, academic performance is a complex student behavior in which students try to remember facts and express what they have learned, either verbally or in writing [6].

The State Board Examination is a comprehensive and standardized exam that covers critical areas of nursing. The goal is to ensure that nursing professionals are ready for the responsibilities that come with the job [7].

According to Tosevski, Milovancevic, and Gajic [8], there are many factors that can affect students' performance, including school-related factors, personal conditions, study habits, home-related, and teacher-related factors. These factors have a strong negative influence on students' performance, and they vary by personality and culture. The school-related factors include the quality and quantity of teachers, the unavailability of needed supplies, while non-school-related factors include Socio-Economic Status, low educational level or illiterate parents, weak students, poor nutritional condition of the students, or even students with health conditions.

In addition, Izuchi Onyekuru [9], also stated that academic motivation, effort required, competition, social power, affiliation, social concern, praise, and previous academic

achievements can influence students' academic achievement.

To achieve in Academia, a series of assessments are planned and prepared by staff and undertaken by students in a well-structured facility to determine the student's ability and capability for the particular programme of studies. This will be implemented through a well-designed and developed curriculum for that particular Programme. The students will be taught to manage their study load effectively using the study material in the curriculum. It also provides an indicator of an engaging curriculum that helps students enjoy their classes. Students' academic success depends on their active involvement in the learning process, achieving the highest degrees, and producing high-quality work in a particular field [10]. Also, academic achievement is defined as the student's subjective assessment of his or her grades, expressed as excellent, very good, good, fair, or poor. In this current study, the academic achievement of students is measured by a student's grade point average [11].

Nursing students need good preparation for the rapid changes and complexity of the health care demands through closing the gap which may arise between the clinical practices and the nursing theory, providing suitable opportunities for performing the required skills effectively, facing any challenges in the nursing work, and well academic preparation [12]. To meet the needs of the population and future demands of this generation and subsequent generations, every nurse must succeed in their education, close the gap between supply and demand, and avoid academic failure [13].

Academic achievement is a critical element in education. It is therefore essential that educational institutions assist students to develop emotionally and academically [14]. This success is crucial because it is strongly linked to positive outcomes: academically successful nursing students are more likely to be employed and to have more opportunities for promotion in the future [15].

Studies have shown the impact of poor academic performance, with adverse outcomes. Low grade point average achievements may lead to further anxiety, anger, and depression, discouragement, absenteeism, and even withdrawal from the college and/or from the profession, impaired role transition, burnout, and poor job performance [16].

Presently, there are no empirical reports on the academic performance of nursing students who take the state board examination in Sierra Leone. Thus, it is necessary to fill the gap related to the assessment of the educational performance of nursing students after this examination, as well as determining the factors affecting their academic performance. The findings of this study will provide valuable guidance for the state board examination and educational institutions in designing future programs to address obstacles and support the development of students' performance. Findings will also guide Training Institutions in modifying their teaching methods, thereby improving their teaching procedures.

Aim of the Study

This study aimed to compare the academic performance of nursing students in the state council examination among selected nursing institutions in Sierra Leone.

Research Objectives

1. To determine the success and failure rates of nursing students in the board examination from the selected institutions.
2. To assess factors influencing the academic performance of the students in the selected institutions

Null Hypotheses

There is no difference in the academic performance at the state council exams in the selected nursing institutions.

Methodology

Research Design

A descriptive cross-sectional research design using mixed methods was used to evaluate the academic performance of nursing students at selected nursing institutions in the council exams conducted in November 2022.

Study Settings

The study was conducted in three selected Nursing institutions in Sierra Leone.

Study Sites

1. Faculty of Nursing and Midwifery, College of Medicine and Allied Health Sciences

The College of Medicine and Allied Health Sciences (COMAHS) is a constituent college of the University of Sierra Leone, and nursing is one of the four faculties offered at COMAHS. A dean heads the Faculty of Nursing and Midwifery. There are also heads of various disciplines: Medical-Surgical, Basic Nursing, Community Health, Pediatric and Neonatal Nursing, Midwifery and Obstetric Education, Nursing Education, and Specialized Nursing. This Faculty has served the nation, especially in secondary health (Hospitals), and its support has been recorded in both public and private hospitals across the country. It offers the following courses: Diploma for the State Registered Nurse (SRN), Bachelor of Science in Nursing (BSc), Mental Health Nursing, Ophthalmic Nursing and the Nurse Educator Training programme.

2. University of Makeni, Saint John of God Campus

The Department of Nursing at the University of Makeni is a faith-based nursing institution. The Catholic Mission owns it; the Hospitaller Brothers of St. John of God Order. The institution was established in 2007 as a School of Nursing and, in October 2022, transformed into the Department of Nursing, Faculty of Nursing and Allied Health Sciences, Unimak. The institution is currently managed by a

provost, with 12 full-time and 7 part-time staff. The campus is equipped with four lecture classrooms, two staff rooms, a computer lab, a nursing skills laboratory, a Research Centre, and internet service to enhance learning. The institution has produced five cohorts of diploma in nursing students.

3. Tonkolili District College of Health Sciences (TDCHS)

Tonkolili District College of Health Sciences (TDCHS) was founded by the Masanga Hospital Rehabilitation Project (MHRP) in September 2012. This institution is accredited by the Sierra Leone Tertiary Education Commission and approved by the Nurses and Midwives Board of Sierra Leone.

It is situated at Masanga Hospital Campus, Masanga Town, Kholifa Rowala Chiefdom, Tonkolili District.

Study Population and Study Sample

The study population consisted of nursing students, who sat for the State Council Examination in November 2022 in three selected nursing institutions: the Faculty of Nursing, the College of Medicine and Allied Health Sciences, the University of Sierra

Leone, the Saint John of God Nursing School, and the Tonkolili District College of Health Sciences.

Sample Selection Technique

The selection of study participants was done at two stages. In the first stage, three nursing institutions were selected purposively to ensure fair comparison:

Faculty of Nursing, College of Medicine and Allied Health Sciences, University of Sierra Leone, is a public institution, University of Makeni, Saint John of God Nursing School is a faith-based institution, and Tonkolili District College of Health Sciences is a private institution.

In the second stage, eligible students were selected. In the first instance, all the candidates (235) who were presented for the State Council Examination from the selected institutions were included in the study for assessment of their results.

Secondly, six (6) to eight (8) students were randomly selected from each of the chosen institutions who were willing to participate in the study.

Table 1. Participants' Background Variables *State Council Re-Sit Exam 2022*

	Gender		Age			Years of previous relevant work experience	
	Male	Female	≤ 20	21-30	31-40	Gen	Post basic
COMAHS	2	6	0	6	2	4	5-10 years
Saint John	1	5	2	3	1	0	0
TDCHS	2	4	1	5	0	0	0

Inclusion and Exclusion Criteria

The inclusion criteria for this study were nursing students who were currently sitting for the State Council Exams at the selected institutions in Sierra Leone. Exclusion criteria included nursing students who did not attempt the State Council Exams at the time of the study or who refused to participate. We also excluded

students who were not in the three selected training institutions.

Study Variables

The study variables included pass and failure rates in the selected institutions, demographic characteristics of nursing students, Institutional factors influencing academic performance (Learning environment, availability of teaching and learning resources, teaching methods), and

student-related factors (sociodemographic characteristics) influencing academic performance.

Data Collection Instrument and Methods

Data was collected using a checklist and a focus group discussion guide. The Checklist consisted of items to determine the academic performance of students from records of the November 2022 State Council results. The focus group guide consisted of items to elicit information on factors influencing the academic performance of students. This was done through focus group discussions held at each selected institution during the study period (March and June 2023). A focus group discussion was held in each institution. A total number of 6 or 8 participants were randomly selected from each institution among the students who were willing to participate in the study (see Figure 1).

Measures to Ensure Trustworthiness

The reliability of the study was ensured in accordance with Lincoln and Guba [17], the determinants of rigor for qualitative studies. These include credibility, transferability, dependability, and conformability. To ensure

credibility and dependability the researchers visited the study sites. A planned two-week visit was organized for both research teams to familiarize themselves with the three universities in which the study was conducted. The researchers visited the study sites twice to build relationships and understand the culture of the study area. Data was collected from the study sites.

To permit transferability, detailed descriptions of the research settings have been provided. Purposive sampling was used to focus on key participants with sufficient experience with the circumstances under investigation. Decisions made throughout the study have been described in detail, together with the data collection methods. This will allow the reader to decide to what extent they can transfer the study to other contexts.

Conformability refers to the objectivity, that is, the potential for congruence between two or more independent people about the data's accuracy, relevance, or meaning [18]. To achieve conformability, the researchers have documented the procedures for rechecking the data and ensure that negative instances that might contradict prior observations are addressed.

Table 2. Background Characteristics of Respondents *State Council Re-Sit Exam 2022*

Attribute	Frequency (N=235)	Percentage (%)
Age of participant (in years)		
15-25	68	29.0
26-36	150	63.8
37-47	17	7.2
Gender of participant		
Male	35	14.9
Female	200	85.1
Marital status		
Married	80	34.0
Not married	155	66.0
Nursing background of participant		
Had Nursing Background and employed	48	20.4
Had nursing background & unemployed	15	6.4

No nursing background & unemployed	172	73.2
------------------------------------	-----	------

The research team were actively involved throughout the study, to be aware of bias and to discuss and address any inconsistencies that arose.

A Pilot study was carried out among six students, two from each of the study subjects. The purpose of the pilot study was to test the applicability, feasibility, and objectivity of the study tools before data collection, and to estimate the time needed to complete the questionnaire, which was excluded from the original sample due to modifications. The pilot study was conducted for two weeks; 30 to 40 minutes was the time needed to complete the discussion.

Data Analysis

Descriptive Analysis

Data was entered and coded using Statistical Package for Social Sciences (SPSS) version 26.0. SPSS was also used for data analysis. Descriptive statistics such as mean, median and standard deviations were used to describe the study population; while for categorical variables, frequencies and percentages were recorded. The data were presented using figures and tables.

To gain deeper insight into the phenomenon, Thematic Analysis (TA) was used to interpret the qualitative findings. The researchers

transcribed the focus group discussions verbatim, manually coded the data, and identified potential themes through repeated readings

Presentation of Results

Background Characteristics of Respondents for The Quantitative Arm of The Study

A total of 235 participants were sampled for this study. In total, most (63.8%) of the participants were between the ages of 26 and 36. Those who were between ages 37 to 47 represented 7.2% and those between ages 15 to 25 were 29.%. The majority (85.1%) of participants were female, and more than half (66%) were single. 20.4% had a certificate-level nursing education and were employed, and 73.2% had no nursing education. *See Table 2 Above.*

Pass and Failure Rates of Students Presented for the November 2022 State Council Examination in the Selected Institutions

In total, 235 candidates from the institutions under review were presented for the state council exams in November 2022. From Figure 1 below, the pass rate at COMAHS was 69.6% and the failure rate was 30.4%, UNIMAK had a 100% pass rate, and at TDCHS, the pass rate was 88.5% while the failure rate was 11.5%

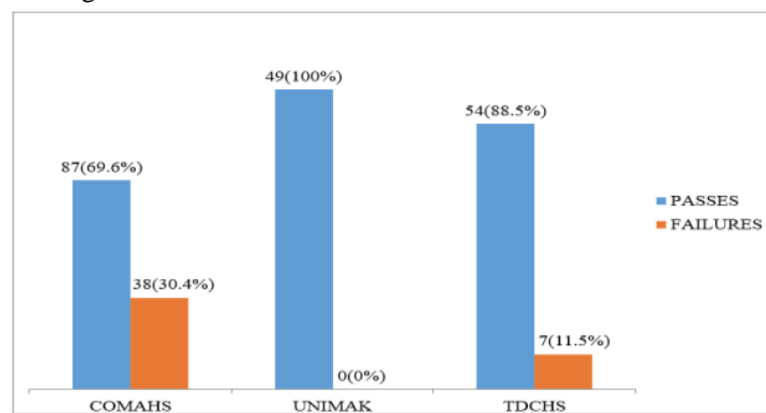


Figure 1. Showing Pass and Failure Rates of Students During the State Council Exams, November 2022 State Council Re-Sit Exam 2022

Distribution of Pass and Failure Rate of Students Per Subject Examined

Table 3 below displays the distribution of success and failure rates for candidates in the State Council Exams, by subject. Students were examined in 5 subjects, namely: Medical Nursing, Surgical Nursing, Pediatric Nursing, Community Health Nursing, and Mental Health Nursing. In Medical Nursing, UNIMAK had a 100% pass rate, TDCHS had over 90.2%, and COMAHS had 88.8%. Out of 125 candidates from COMAHS, 49 candidates from UNIMAK, and 61 candidates from TDCHS,

only one candidate failed at COMAHS with no failure in the other nursing institutions. There is no failure in Community Health Nursing in all the institutions. Mental Health Nursing had 16 candidates who failed at COMAHS, no failures at UNIMAK, and five failures at TDCHS.

Qualitative Results

Focus Group Discussion

The study also conducted three focus group discussions to investigate the factors influencing students' academic performance in state council exams.

Table 3. Distribution of Pass and Failure Rate of Students Per Subject Examined State Council Re-sit Exam 2022

Subject	COMAHS (n=125)		UNIMAK (n=49)		TDCHS (n=61)	
	PASS	FAIL	PASS	FAIL	PASS	FAIL
Medical Nursing	111 (88.8%)	14(11.2%)	49 (100%)	0 (0%)	550 (90.2%)	6 (9.8%)
Surgical Nursing	124 (99.2%)	1 (0.8%)	49 (100%)	0 (0%)	61 (100%)	0 (0%)
Paediatric Nursing	118 (94.4%)	7 (5.6%)	49 (100%)	0 (0%)	60 (98.4%)	1 (1.6%)
Mental Health Nursing	109 (87.2%)	16 (12.8%)	49 (100%)	0 (0%)	56 (91.8%)	5 (8.2%)
Community Health Nursing	125 (100%)	0(0%)	49 (100%)	0 (0%)	61 (100%)	0 (0%)

The analysis revealed three closely related themes for nursing students at COMAHS, Saint John and TDCHS. The three themes were: *large class size, non-harmonization of curricula, and Student' attitude to their learning*. Main themes and sub-themes are outlined in Table 4.

Institutional Factors

Some institutional factors were evident in our data regarding how they influenced academic performance. Two institutional factors that emerged were large class sizes and non-harmonization of curricula among nursing institutions.

Large Class Size

It was revealed that the number of students per class was exceptionally large as reported by students at COMASH compared to the at the UNIMAK and TDCHS. They state that the class size affected their learning, as some of them hardly hear the lecturer during lectures, and it is hard for them to be assigned to a patient to perform procedures in the clinical setting due to the large class size. Participants also said that lecturers seldom give formative assessment or if some do, it is never marked before the summative (final) examination and therefore

feedback are not given on their performance. Furthermore, the students stated that they lack supports from lecturers at school and clinical teachers in the clinical settings.

As stressed by the students “you hardly hear or understand what the lecturer is teaching especially when you are seated at the back and also it is difficult for us to have opportunity to practice on a patient on the wards because we are many in the clinical site”.

Again, we are never given feedback from class tests, in fact some lecturers never give class test, they only give assignments which they don’t mark.

Participants at UNIMAK and TDCHS stated that the classrooms were adequate and conducive for learning and for us, the classrooms are large and spacious. We only occupy the frontage, and we hear the lecturer’s voice clearly. Same for us, the class size is okay, re-echoed by students from TDCHS.

Table 4. Main and Sub Themes

Main theme	Sub-themes
Institutional factors	1.Large class size 2.No harmonization of curricula 3.Inappropriate teaching methods
Students related factors	1.Poor preparation for state council exams

Curricula not harmonized

Findings from the discussions show that all the three institutions implement different curricula for their students because the nursing curricula was not harmonized during their time. The contents, method of instruction and assessment for the modules taught in these institutions may differ in terms of adequacy and quality.

When we interacted with students from other colleges, we realized they had covered topics we had not, especially in modules like medical and mental health nursing. We are also taught modules that are not offered at other nursing colleges.

Inappropriate teaching method

The study also revealed inappropriate teaching method used by some lecturers. They needed the teachers to provide more time to support or listen to them at school and provide clinical learning sessions in the clinical settings. Some lecturers do not give us lecture notes or reading materials; instead, they divide the topics in the module for students to take notes and give a presentation. Yes, I agree with what

you said. We are novice and we should be taught everything. Some lecturers don’t have patience to help students to understand their lectures, That’s true even in the clinical site, the preceptors don’t have time for us, and they are responsible for our academic success.

Students related factors

This talks about the student’s personal attributes that can affect their academic achievements. Poor preparation for state board exams. The participants attested that most of the failures at state exams are because of absenteeism and poor preparation for state council exams. Reasons for absenteeism were transportation issue due to long distance from the institution, and for some, their work schedules clash with lecture hours. Some of us stay far away from the colleges and the costs of transportation are high so sometimes we do not attend classes. Some students are already nurses and are employed. Sometimes lectures are called when we are on duty.

Discussion

The study sought to compare the academic performance of students at state board examination conducted for first timers in November 2022 among students in a public nursing institution, a faith-based nursing institution and a private nursing institution in Sierra Leone.

The study assessed the situation from the perspective of students. The results of a total of 235 students who sat to the state council exams was analyzed. The study also used qualitative methods to assess the opinion of the students on factors influencing their academic performance.

Pass and Failure Rates

Among the 3 institutions examined, UNIMAK had the highest (100%) pass rate followed by TDCHS who took the second position with a pass rate of 88.5%, and COMAHS had the least pass rate with a score of 69.6% and automatically having the highest failure rate. This finding is surprising because COMAHS is regarded as the anthem of excellence for nursing education with a well-established state-of-the-art skills laboratory for nursing practice in the country and a larger number of candidates for council exams. However, UNIMAK being a faith-based institution with fewer candidates had exceptional scores across the nation. This finding is similar to the report of Lehtinen-Vela [19] on the National Council Licensure Examination (NCLEX) in the United States where a state with fewer (New Hampshire) population had the highest NCLEX pass rate of 90% in the United States and states (New York and Florida) with larger population which may translate into the student population had lower scores of pass rates of 74% and 64% respectively.

Another glaring issue of note in our study was that the faith-based and private institutions performed better than the public institution. A contrary finding was reported in an earlier study

by [20], which used multilevel modeling (MLM) to examine the association between the NCLEX-RN First Timer Pass Rate (FTPR) and institutional characteristics, as well as faculty, admission, progression, and program and curricular characteristics. FTPR was associated with public schools ($OR = 1.65$, 95% CI [1.12, 2.43], $p = 0.03$).

Factors Influencing Academic Performance of Students at State Council Examination

In the qualitative arm of the study, the researchers explored the factors influencing academic performance of students.

Findings indicate that institutional and student related factors have major effects on the academic performance of the student. Results further revealed that among these given factors, large class size, diverse curricula for nurse training, and students not owning their learning and poor preparation for state council examination were the most significant factors influencing student academic performance. This further indicates that the participants felt that teaching strategies, student teacher relationship and communication barrier hinder their academic performance.

Previous studies likewise posit that teachers have the greatest influence on the academic performance of students. The study of Teaching methods and students' performance [21] emphasizes that teachers should create an atmosphere conducive to learning to enhance students' learning experiences. According to Pinehas L.N, Mulenga E., Amadhila J., [22], in a study conducted in Oshana, Namibia, participants found that poor teaching strategies, poor student-teacher relationships, and communication.

Participants in our study also reported that inadequate support from lecturers affected their performance. Lecturers must make time for tutorials to support weak students because some of them find it difficult to understand complex lectures in a large sized class [23], also reported

similar findings that lack of remedial classes to support students who did not understand the content contributed to failure. To affirm this, as in the study by [24], which found that students' performance improved when they participated in after-class sessions on academic concepts and general academic and writing skills and were provided with feedback on assignments. Also, in their study [25], reported that students gave positive feedback, and described individual class sessions as one of the most useful aspects of the programme.

Participants in this current study believed the lecturers are responsible for their academic success. This assertion may hinder the enquiry aspect of learning. It is worth noting that students who do their own reading and research at lower levels of learning are better prepared for a better understanding of nursing concepts and are more ready and confident to pursue independence in their own research at higher levels of education. Ownership of learning is an essential element of knowledge construction. Also, student motivation to learn increases when they take ownership and responsibility of their learning

A common finding across all institutions was the use of different curricula for nursing education. This may be responsible for the poor performance of some schools of nursing as these students can be disadvantaged. Ongoing curricular renewal or harmonization is a necessary phenomenon in nursing education to align learning with ever-changing professional practice demands. Curricula enhance planned instruction and efficient assessment of student learning.

Conclusion

Curriculum renewal can serve as a starting point for educational research. Indeed, all curriculum renewal should be carefully evaluated. A tailored, detailed educational study can provide one aspect of overall program evaluation, leading to a full circle of the scholarship of teaching and learning: using results of the research for constant quality improvement in nursing education

Recommendation

The Researcher put forward the following recommendations:

1. That stipulated class enrollments by the Nurses and Midwives Board should be adhered to henceforth.
2. That curriculum for the Registered Nursing programme is harmonized.
3. That the board is strengthened to monitor training institutions.
4. That capacity building opportunities are opened to Nursing educators regularly.

Conflict of Interest

The author declares no conflict of interest.

Acknowledgement

To God Be the Glory. To my Supervisor, Professor Alhaji Brima Gogra, for all his guidance.

Mrs. Rebecca Amara and Mr. James Koroma.

Ethical Considerations

Ethical approval was granted by Sierra Leone's Ethics and Scientific Review Committee, and permission was obtained from the selected institutions. Informed consent was obtained from each participant, and confidentiality of the data was ensured by using anonymous questionnaires and secure data storage.

References

- [1]. Dube, M. B., & Mlotshwa, P. R., 2018, Factors influencing enrolled nursing students' academic performance at a selected private nursing education institution in KwaZulu-Natal. *Curationis*, 41(1), a1850–a1857.
- [2]. Kapur, R., 2019, Factors influencing the students' academic performance in secondary schools in India. *Open Journal of Social Sciences*, 7(11).
- [3]. Papay, J. P., & Kraft, M. A., 2017, Developing workplaces where teachers stay, improve, and succeed. In E. Quintero (Ed.), *Teaching in Context: How Social Aspects of School and School Systems Shape Teachers' Development and Effectiveness* (pp. 15–35), *Harvard Education Press*.
- [4]. Bifttu, B. B., Dachew, B. A., Tiruneh, B. T., Ashenafie, T. D., Tegegne, E. T., & Worku, W. Z., 2018, Effective clinical teaching behaviors: Views of nursing students and nurse educators at University of Gondar, Northwest Ethiopia. *Journal of Caring Sciences*, 7(3), 119.
- [5]. Khatun, M. T., Khatun, F., & Akter, M. K., 2020, Factor's related to academic performance among undergraduate nursing students in Bangladesh. *IOSR Journal of Nursing and Health Science*, 9(1), 14–23.
- [6]. Silverrajoo, P., & Hassan, A., 2018, Relationship between study habits and academic achievement among health science students. *International Journal of Academic Research in Business and Social Sciences*, 8(7), 763–780.
- [7]. Lehtinen-Vela, A., 2023, Comparing nursing school pass rates across the US. <https://study.com/resources/nursing-school-pass-rates.html>
- [8]. Tosevski, D. L., Milovancevic, M. P., & Gajic, S. D., 2010, Personality and psychopathology of university students. *Current Opinion in Psychiatry*, 23(1), 48–52.
- [9]. Alos, S. B., Caranto, L. C., & David, J. J. T., 2015, Factors affecting the academic performance of the student nurses of BSU. *International Journal of Nursing Science*, 5(2), 60–65.
- [10]. Izuchi, M. N., & Onyekuru, B. U., 2017, Relationships among academic self-concept, academic motivation and academic achievement among college students. *European Journal of Research and Reflection in Educational Sciences*, 5(2).
- [11]. York, T. T., Gibson, C., & Rankin, S., 2015, Defining and measuring academic success. *Practical Assessment, Research, and Evaluation*, 20(1), 5.
- [12]. Malik, M., & Parveen, N., 2019, Self-regulation and academic achievement: A comparative analysis of high and low academic achievers. *Journal of Behavioural Sciences*, 29(2), 56.
- [13]. Kapucu, S., 2017, The effect of using simulation in nursing education: A thorax trauma case scenario. *International Journal of Caring Sciences*, 10(2), 1069–1074.
- [14]. Schreiner, L. A., 2010, The “thriving quotient”: A new vision for student success. *About Campus*, 15(2), 2–10.
- [15]. Mashayekhi, F., Rafati, S., Mashayekhi, M., Rafati, F., Mohamadisardoo, M. R., & Yahagh, E., 2014, The relationship between the study habits and the academic achievement of students in Islamic Azad University of Jiroft Branch. *International Journal of Current Research and Academic Review*, 2(6), 182–187.
- [16]. Khatun, M. T., Khatun, F., & Akter, M. K., 2020, Factor's related to academic performance among undergraduate nursing students in Bangladesh. *IOSR Journal of Nursing and Health Science*, 9(1), 14–23.
- [17]. Ahmed, G. M., Afify, A. F., & Taha, N., 2015, Relationship between learning environment and students' satisfaction at Faculty of Nursing in Port Said University. *Port Said Scientific Journal of Nursing*, 2(1), 68–83.
- [18]. Lincoln, Y. S., & Guba, E. G., 1986, But is it rigorous?: Trustworthiness and authenticity in naturalistic evaluation. In D. D. Williams (Ed.), *Naturalistic Evaluation: New Concepts and Educational Applications* (pp. 33–45).
- [19]. Lehtinen-Vela, A., 2023, [Statistic regarding NCLEX RN pass rate in Colorado]. In *Best Nursing Schools in Denver, CO 2025*.

- [20]. Odom-Maryon, T., Bailey, L. A., & Amiri, S., 2018, The influences of nursing school characteristics on NCLEX-RN® pass rates: A national study. *Journal of Nursing Regulation*, 9(3), 59–69.
- [21]. Ganyaupfu, E. M., 2013, Teaching methods and students' performance. *International Journal of Humanities and Social Science Invention*, 2(9), 29–35.
- [22]. Pinehas, L. N., Mulenga, E., & Amadhila, J., 2017, Factors that hinder the academic performance of the nursing students who registered as first year in 2010 at the University of Namibia (UNAM), Oshakati Campus in Oshana, Namibia. *Journal of Nursing Education and Practice*, 7(8), 63–71, <https://doi.org/10.5430/jnep.v7n8p63>
- [23]. Mhlongo, X. L., & Masango, T. E., 2020, Factors contributing to poor performance of student nurses in anatomy and physiology. *African Journal of Health Professions Education*, 12(3), 140–143.
- [24]. Tom, F., Coetzee, I., & Heyns, T., 2014, Factors influencing academic performance in biological sciences among students in a nursing education institution in the Eastern Cape Province of South Africa: An appreciative inquiry approach. *African Journal for Physical, Health Education, Recreation and Dance*, Suppl 3, S102–S115.
- [25]. Tshotsho, B., Mumbembe, L., Cekiso, M., 2015, Language challenges facing students from the Democratic Republic of Congo in a university in South Africa. *International Journal of Educational Sciences*, 8(3), 597–604.