

Institutional Factors Influencing Acquisition of Clinical Competencies Among Nursing Undergraduates in Government and Private Universities in Uganda

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Abstract

Clinical competencies acquisition is one of the core components of nursing education that equips students with the practical knowledge and competencies for effective patient care. In Uganda, both government and private universities offer courses in nursing with the aim of producing skilled professionals to meet the healthcare needs of the population. However, despite the efforts made by educational institutions, students' ability to acquire clinical skills is often influenced by a variety of institutional factors. Therefore, this study explored the institutional factors influencing acquisition of clinical competencies among nursing undergraduates in both government and private universities in Uganda. The research adopted a mixed-method approach, involving 108 final-year students, 8 Heads of Departments (HODs), and 48 clinical supervisors across eight universities in Uganda. Data were collected using a pre-coded self-administered questionnaire and focus group discussions (FGDs). Quantitative data were analyzed using descriptive statistics and chi-square tests, while qualitative data were transcribed and analyzed using thematically. The study

found that institutional factors, such as support from heads of departments, regular feedback from supervisors, and meaningful performance progress reports, were critical in enhancing students' clinical competencies. A strong positive correlation ($r = 0.668$, $p=0.00$) was found between institutional arrangements and the acquisition of clinical skills. Additionally, students expressed a preference for university supervisors due to their approachability and support in clinical settings. The study recommends that in order to strengthen competency acquisition, institutions should be advised to build up faculty leadership, develop the mentorship structures and ensure that there are proper support mechanisms for students in the clinical placements.

Keywords: Institutional factors, nursing education, clinical competencies, acquisition

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Introduction

Nursing education is critical in developing competent and safe healthcare practitioners. According to Jayasekara (2018), clinical learning is an important feature of students' education, involving practical activities along with theoretical reflections. Effective clinical training bridges theoretical knowledge and practical application, thus equipping nursing students with technical, critical thinking, and interpersonal skills to provide care to patients (Inayat et al., 2021). However, the acquisition of clinical

competencies among undergraduate nursing students is a complex process influenced by various institutional factors, including leadership, adequacy of skills lab, good institution collaboration and student supervision among others. These factors are particularly critical in low and middle-income countries like Uganda, where disparities exist between government and private universities in terms of funding, infrastructure, and access to clinical training sites (Nkutire, 2022; Ayiro, Muriithi & Munyao, 2023).

Recent studies have raised concerns about the ability of new nursing graduates to perform essential clinical tasks, pointing out a disconnect between academic learning and practical competency (Hampton, Smeltzer & Ross, 2021; Xia et al., 2023). This gap between theoretical knowledge and clinical application has significant implications for patient care and safety. Employers have expressed dissatisfaction with the readiness of new graduates to meet the demands of real-world clinical practice, indicating that many struggle with basic procedures and decision-making skills despite having completed their academic training (Benner et al., 2010). Research suggests that this disconnect is partly due to inadequacies in clinical training environments, including limited access to clinical placements, lack of qualified mentors and insufficient time spent in hands-on practice (Tambo, Makukula & Nankamba, 2024).

A study conducted in Ethiopia assessed the clinical competency of undergraduate nursing students across eight universities. The findings revealed that 59.9% of the students demonstrated clinical competency. Key factors positively associated with higher competency levels included enrollment in post-basic programs, conducive clinical learning environments, effective staff-student interactions, student satisfaction, and a positive attitude towards clinical practice. These results underscore the importance of supportive institutional structures and environments in fostering clinical skills among nursing students (Terefe et al., 2023). Another study conducted by Alshahrani (2023) examining the influence of the internship year on nursing students' perceived clinical competence found that those enrolled in private universities

reported higher levels of clinical competence compared to their counterparts in public institutions. This suggests that private universities may offer more effective clinical training programs or learning environments that better support the development of clinical skills. According to Mbalinda et al. (2023), factors such as inadequate clinical supervision, limited access to essential learning materials, and suboptimal clinical learning environments have been identified as barriers to effective skill acquisition. These challenges can lead to frustration among students, diminished self-esteem, poor clinical judgment, and potentially compromised patient care and safety. Further research by Walker et al. (2023) has identified several institutional factors that influence nursing students' learning during clinical placements. These include the quality of the clinical learning environment, the effectiveness of clinical facilitators and various student-related human factors. A positive clinical learning environment and competent facilitators are key in enhancing students' clinical learning experiences, thereby improving their competency levels. Similarly, several studies have been conducted in African countries.

Kaliyangile and Ngoma (2020) conducted a study on factors influencing student nurses' clinical learning during their clinical practice at Rusangu University, Monze campus, Zambia. The study reported that factors such as staff shortages, unavailability of ward managers for consultations, and inadequate motivation among students negatively affect clinical learning outcomes in the country. Another empirical experiment involving first-year undergraduate nursing students revealed that preceptors were more effective than

nurse teachers in promoting theoretical knowledge related to their clinical specialty. This finding highlights the importance of selecting appropriate instructional strategies to enhance learning outcomes (Corlett et al., 2003).

The leadership of the educational institution also plays a very important role in clinical skill acquisition. The strategic decisions, policies, and overall vision set by university leaders directly influence the quality of nursing education and the preparedness of students for clinical practice. Good leadership gives a clear vision for nursing education, ensures that actions are aligned with institutional values, and resources are available to support clinical training. University leaders are responsible for allocating resources, setting academic standards, and fostering an environment conducive to learning (Maswanku, 2024). Their commitment to nursing programs can lead to the development of robust curricula, investment in state-of-the-art simulation labs, and the recruitment of qualified faculty. According to Mpuangnan and Roboji, 2024, good leadership that prioritizes resource allocation and collaboration between educational institutions and healthcare facilities can drive improvement in nursing education. The collaboration between academic and healthcare institutions helps bridge the gap between academic learning and clinical practice by exposing students to real patient-care environments. Hence, this study aims to explore the institutional factors influencing acquisition of clinical competencies among nursing undergraduates in both government and private universities in Uganda.

Theoretical Framework

Social Learning Theory (SLT), developed by psychologist Albert Bandura in the 1960s, posits that individuals learn behaviors through observation and imitation, rather than through direct experience alone (Cruz, 2019; Zhou & Brown, 2015; Khadka, 2024). This theory marked a significant departure from traditional behaviorism, pointing out the role of cognitive processes and social context in learning. Bandura's research demonstrated that people, particularly children, could acquire new behaviors by watching others, highlighting the importance of modeling in educational and social environments (Rumjaun & Narod, 2020; Farhan, 2021). This theory emphasizes that individuals can learn not only through direct experience but also by observing the behaviors of others and the outcomes of those behaviors, a process known as observational learning (Bouchrika, 2025). As nursing students observe their peers and mentors demonstrating competence in clinical tasks, their confidence in performing these tasks themselves is likely to grow. This increased self-efficacy can lead to greater engagement in practice and a willingness to tackle complex clinical situations. However, critics argue that SLT may overlook biological and genetic factors that can influence learning and behavior (Khadka, 2024; Eleanor, 2020). Additionally, reliance on observational learning may not always equate to practical competence, as students still require opportunities for hands-on practice to solidify their skills (Maier, 2019). Thus, while SLT can inform teaching strategies, it should be integrated with other educational approaches to ensure a comprehensive skill acquisition framework for nursing students.

Empirical Review

Empirical evidence suggests that institutional factors influencing competency acquisition vary between countries and between universities, reflecting the operation of educational policies and resources and strategies of faculty development. Various studies are found which traced how the nature of the institution influences students' competency acquisition in a different higher education setting. Montero-Ojeda and Nuñez-Herrera (2024) conducted a study on the factors influencing the acquisition of competencies among secondary and middle school students in Colombia. Their findings revealed that low academic performance and high dropout rates were linked to deficiencies in institutional support and resources. These issues, prevalent in resource-constrained learning environments, indicate that inadequate institutional capacity can significantly hinder students' ability to develop necessary skills and knowledge. Similarly, Butt, Mahmood, and Saleem (2022) explored the role of institutional factors and cognitive absorption on student performance. Their research found that institutional support positively impacts student performance, mediated by user satisfaction and task-technology fit. This suggests that when universities provide the appropriate learning resources, technological infrastructure, and academic support, students are more likely to engage deeply with their coursework, thereby enhancing their competency acquisition.

In technical and vocational education and training (TVET), institutional factors such as faculty qualifications, availability of training equipment, and teaching methodologies

are key in students' skill acquisition. Anindo (2016) found that the academic qualifications of teachers, adequacy of training equipment, and the effectiveness of teaching methods significantly impact students' acquisition of practical skills in TVET institutions. This is supported by Binitie-Cassidy (2011), who identified that physical resources, lecturer qualifications, and exposure to professional development programs are critical determinants of skill acquisition in polytechnic institutions. These studies highlight the significance of investing in faculty development and modern training infrastructure to enhance student competencies. Further, Maingi (2019) examined skill development in public training centers in Kenya and found that inadequate instructors, limited financial resources, and outdated tools and equipment were major barriers to vocational skills development. These findings resonate with the challenges faced in nursing education in Uganda, where resource constraints often lead to a reliance on teacher-centered methods of instruction, ultimately affecting the development of critical clinical competencies among nursing undergraduates.

Beyond institutional factors, student characteristics such as cognitive abilities and learning motivation also play a role in competency acquisition. Wai and Tran (2022) conducted a study examining the variance in student outcomes due to institutional versus student-related characteristics. Their findings revealed that while individual student characteristics significantly influence learning outcomes, institutional factors such as teacher quality, curriculum design, and resource availability remain key in determining students' overall success.

This points out the need for a balanced approach, where both institutional support systems and student-centered learning strategies are considered essential for fostering competency acquisition. From the reviewed literature, it is evident that institutional leadership, resource availability, faculty competence and infrastructural support are key determinants of student competency acquisition.

Based on these findings, this study hypothesizes that:

H₀₁: There is no statistically significant relationship between learning institutions and students' acquisition of clinical competencies among undergraduate nursing students in government and private universities in Uganda.

Methodology

The study was conducted in eight universities in Uganda, offering Bachelor of Nursing programs. These included three public universities (Makerere University,

Mbarara University of Science and Technology, and Mountains of the Moon University) and five private universities (Bishop Stuart University, Bugema University, Clarke International University, Kampala International University, and Uganda Christian University). The universities were located in Uganda's central and western regions. The study employed a mixed-method research design, combining qualitative and quantitative methods to enhance the depth and breadth of data collection and analysis. The total target population comprised 150 final-year Bachelor of Nursing students, 8 heads of departments (HODs), and 48 clinical supervisors, amounting to 206 participants. These participants were proportionately distributed across the universities based on student enrollment. The sample size determination followed Krejcie and Morgan's (1970) formula, yielding a sample size of 108 students as indicated in Table 1, with all HODs and supervisors included due to their small population size.

Table 1: Sample size distribution

Participating Universities	Target Population	Sample Size
Bugema University (BU)	16	12
Bishop Stuart University (BSU)	15	11
Clarke International University (CIU)	18	13
Kampala International University (KIU)	16	12
Makerere University (MAK)	19	14
Mbarara University (MUST)	47	33
Mountains of the Moon University (MMU)	5	4
Uganda Christian University (UCU)	14	10
TOTAL	150	108

Source: Researcher 2021

A simple random sampling method was used to select undergraduate nursing students from various universities. Students' admission numbers were

uploaded into a computer randomizer, ensuring anonymity by coding their numbers to protect their identities. The same method was applied across all

participating universities. A pre-coded self-administered questionnaire was developed to collect quantitative data, distributed with the assistance of class representatives. For qualitative data, focus group discussions (FGDs) was employed. Thirty-two students participated in FGDs, conducted in a quiet university setting and facilitated by two male lecturers with qualitative research expertise. In addition, 56 key informants, including preceptors and heads of nursing departments, were purposively selected based on their roles in teaching and supervising students. The questionnaires were validated for content and face validity, ensuring alignment with research objectives. Reliability was tested through a pilot study with 10 nursing students, and feedback was incorporated to refine the instruments.

This study adhered to the ethical principles of autonomy, justice, beneficence and non-maleficence, ensuring participants' rights and confidentiality were respected. Participants voluntarily joined the study after receiving clear information and signing pre-tested consent forms, with the option to withdraw at any time. The research underwent rigorous ethical reviews by Moi University's IREC, the School of Medicine Postgraduate Committee, MHREC, and UNCST to ensure compliance with ethical standards.

Quantitative data was cleaned, coded, and entered into Microsoft Excel, then exported to IBM SPSS for analysis. Descriptive statistics, including the range, mean, and mode, were presented using figures, tables, and text. Chi-square tests assessed associations between variables, with a significance level of $P \leq 0.05$. Qualitative data from audiotaped sessions were transcribed verbatim and analyzed

using direct quotes to ensure clarity and accuracy.

Results and Discussion

Demographic information of the respondents

The study achieved a high overall response rate of 95.1%, with preceptors having the highest response rate (100%), followed by students (94%) and supervisors (87.5%). Most student respondents were from Mbarara University of Science and Technology (24.8%), and the majority (43%) were aged between 21 and 24 years, with a mean age of 22.4 years. Female students accounted for 63.4% of respondents, while 72% of participants were single, and 68.4% had attended more than four clinical placements. Additionally, 65.3% of students enrolled in the program through direct entry while only 34.7% were enrolled through the extension program.

Demographic information of the supervisors

The majority of the supervisors, 71.4% ($n=5$), were female, while 28.6% ($n=2$) were male. More than half of the supervisors were between the ages of 45- and 54, followed by 28.5% ($n=2$) and then 14.3. The majority of the supervisors, 71.4% ($n=5$), were Married, while 28.5% ($n=2$) were single. The majority, 42.8% ($n=3$) of the supervisors, held their current positions for less than five years, while the rest held their positions for 6-8 years. Over half, 57.1% ($n=4$) of the supervisors held similar positions before, while the others, 42.8% ($n=3$), had never held any similar position. Among the seven supervisors, 43% had been lecturers for 0–5 years, while the remaining were evenly split

between 6–15 years and 16–25 years of experience, each comprising 28.5%. Additionally, 57.1% of the supervisors had previously supervised students during their practicum, while 42.9% had not.

The institutional factors on the acquisition of clinical competencies among undergraduate nursing students in government and private Universities in Uganda

The respondents were asked to rate the factors that influence convenience, the presence of adequate and competent nursing staff, the supportive head of the department, and the competency of

supervisors. The responses were measured using a 5-point Likert scale, with 1- strongly disagree and 5 Strongly Agree. The summarize responses are presented in table 2.

Results indicated that various institutional factors contribute to competency acquisition among nursing students. The highest mean score ($M = 4.3$, $SD = 3.3$) was recorded for receiving meaningful performance progress reports, followed closely by frequent supervisor observation of student performance ($M = 4.2$, $SD = 0.9$) and correction of mistakes without belittling students ($M = 4.2$, $SD = 0.9$).

Table 2: Institutional factors influencing the acquisition of clinical competencies among undergraduate nursing students in government and private universities in Uganda

Institutional factors that enable competency acquisition	Frequency	Mean	SD
The head of the department fully supports us in getting the required Skills	101	3.61	1.2
The Head of the department participates in the preparation of students before going for clinical education.	99	3.7	.97
The head of the department creates a conducive environment for learning to take place	100	3.34	1.0
The Head of the department checks on us while on placement and solves some problems that may have cropped up.	101	3.6	1.1
The supervisor prepares and debriefs us on our expectations before beginning clinical practice.	101	3.2	1.2
The supervisor provides us with regular feedback on our progress.	100	3.6	1.1
I have received meaningful performance progress reports.	101	4.3	3.3
The supervisor observed student performance frequently.	101	4.2	0.9
The supervisor corrected mistakes without belittling me.	99	4.2	0.9
The supervisor/s provided support and encouragement.	98	3.7	1.2

Source: Researcher 2021

Additionally, the role of supervisors in preparing and debriefing students before beginning clinical practice had a moderate mean score ($M = 3.2$, $SD = 1.2$). Support from the head of the department, particularly in ensuring students acquire required skills ($M = 3.61$, $SD = 1.2$) and checking on them during placements ($M = 3.6$, $SD = 1.1$), was also noted as an important factor in competency development.

Results indicate that institutional leadership-from the head of the department to supervisors-play a very important role in the acquisition of clinical competencies. The high mean scores for performance progress reports and supervisor observation bear out the idea that structured feedback mechanisms are an important contributor to the development of skills. These findings are supported in earlier studies; for example, Butt et al. (2022) established that regular assessment and feedback increase institutional support, hence heightening the levels of engagement and competency acquisition among the students. Moreover, the supportive role of supervisors in encouraging and correcting them without putting students down further supports the creation of a positive learning environment. This also agrees with the study by Anindo (2016), which indicated that in technical and vocational education, skills development is greatly supported by mentorship and constructive feedback. Al-Hussami et al. (2018), in a study on clinical education in nursing programs, also reported that students who receive timely and constructive feedback from supervisors perform better in clinical settings. The role of the head of the department in creating a conducive learning environment ($M = 3.34$, $SD = 1.0$) and

preparing students before clinical education ($M = 3.7$, $SD = 0.97$) further underscores the importance of institutional leadership in competency acquisition. These findings agree with the work of Binitie-Cassidy (2011), who identified that administrative support, such as faculty leadership and access to resources, greatly influences student skill acquisition in polytechnic institutions. Equally, a study by Maingi (2019) identified that inadequate leadership support and inadequate resources are negatively impacting vocational skills training in public institutions. However, the standard deviations reflect variability in the responses and, thus, though support at an institutional level may be available, its effectiveness could vary between different students. This would also be a reflection of the quality of mentorship, differences in the formulation and implementation of institutional policies, and differences in the utilization by individual students. According to Wai and Tran (2022), while the institutional factors are important in determining the acquisition of competencies, student-specific characteristics like motivation and style of learning come into play in determining the outcomes.

FGD on Institutional factors influencing acquisition of clinical competencies among undergraduate nursing students in government and private universities in Uganda

Students generally preferred their supervisors from their respective universities, as it was more convenient to approach them when facing clinical challenges, especially when uncertain about how health workers in unfamiliar allocations would react. Unlike when

working under preceptors, students emphasized their comfort in asking questions and acquiring diverse skills when their university supervisor or head of the department was present, which significantly facilitated their learning. Quotations from the students include:

"I expect regular visits from our campus supervisors. We know and feel at ease asking questions. In the clinical setting, seeking guidance from preceptors is challenging and intimidating given our unfamiliarity." (Participant in Focus Group Discussion 2).

"I have been anticipating increased visits from the head of the department, fostering a more open environment for addressing issues related to the ward. However, this occurs infrequently." (Participant in Focus Group Discussion 1).

"It is key for supervisors to spend at least a week in the clinical area during our practicum allocation. Additionally, more frequent visits, exceeding the current

three, especially within specific allocations, such as a 4-week surgical nursing period, would provide us with more opportunities to seek guidance and ask questions." (Participant in Focus Group Discussion 3)

Relationship between institutional factors and students' acquisition of clinical competencies among undergraduate nursing students in Government and private Universities in Uganda.

To determine the relationship between institutional factors and students' acquisition of clinical competencies, a Spearman correlation analysis was conducted. The null hypothesis (H_{01}) stated that there is no statistically significant relationship between learning institutions and students' acquisition of clinical competencies among undergraduate nursing students in government and private universities in Uganda. The results are presented in Table 3 below.

Table 3: Spearman correlation between institutional factors and clinical competency acquisition

	Average Competency Score	Average Institutional factors
Spearman's rho Correlation Coefficient	1.000	.668**
Sig. (2-tailed)	.	.000
N	101	101
Correlation Coefficient	.668**	1.000
Sig. (2-tailed)	.000	.
N	101	101

Source: Researcher 2021

The results in Table 3 indicate a strong positive correlation ($r = .668$, $p < 0.01$)

between institutional factors and the acquisition of clinical competencies

among undergraduate nursing students. This implies that improvements in institutional support, such as faculty guidance, supervision, resource availability, and conducive learning environments, are significantly associated with better competency acquisition among nursing students. Given that the p-value ($p = .000$) is less than 0.05, the null hypothesis is rejected, confirming that there is a statistically significant relationship between institutional factors and clinical competency acquisition. The findings are supported by previous research. A study by Butt, Mahmood, and Saleem (2022) found that institutional support, including faculty mentorship, infrastructure, and clinical placements, significantly influences student performance and engagement in skill acquisition. Similarly, Anindo (2016) emphasized that well-structured institutional environments with adequate training resources and competent faculty members enhance students' ability to develop practical skills, particularly in technical and vocational education. Moreover, the strong correlation observed aligns with Al-Hussami et al. (2018), who established that the quality of supervision, mentorship, and institutional policies directly impacts the competency development of nursing students. Institutions that invest in student-centered learning environments, structured mentorship programs, and frequent assessment feedback enhance skill acquisition and professional readiness. The significant correlation found in this study also resonates with findings from Binitie-Cassidy (2011), who noted that institutional leadership, exposure to professional development programs, and access to modern training facilities contribute to effective

competency acquisition in polytechnic institutions. In the context of Uganda's nursing education, these findings highlight the need for universities to strengthen institutional frameworks that support student learning, particularly in clinical practice. Additionally, the results support Maingi (2019), who found that vocational training institutions with inadequate financial resources and outdated clinical equipment struggle to provide students with the necessary competencies for professional practice. Given that competency acquisition in nursing is highly dependent on hands-on training, the presence of strong institutional support systems enhances students' confidence and readiness for clinical roles.

Conclusion and Recommendation

The findings of this study showed that institutional leadership and supervision helps in the development of clinical competency among nursing students. There is positive effect of having structured mentorship, regular feedback, and administrative support on student readiness and performance in the clinical area. Furthermore, the correlation analysis shows that there is a positive and significant relationship between institutional factors and the acquisition of clinical competencies among nursing students in government and private universities in Uganda. In order to strengthen competency acquisition, institutions should be advised to build up faculty leadership, develop the mentorship structures and ensure that there are proper support mechanisms for students in the clinical placements.

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