

ORIGINAL RESEARCH

Facilitating the Development of Clinical Competence in a Low-Resource Setting: Perceptions and Challenges of Nurse Educators



David Abdulai Salifu^{1,2}, Yolande Heymans¹, Christmal Dela Christmals¹

¹Centre for Health Professions Education, Faculty of Health Sciences, North-West University, South Africa

²School of Nursing and Midwifery, University for Development Studies, Tamale, Ghana

Article Info

Article History:
Received: 7 January 2022
Revised: 25 March 2022
Accepted: 28 March 2022
Online: 27 April 2022

Keywords:
Clinical competence; clinical nursing education; low-resource setting; nurse educators; qualitative descriptive

Corresponding Author:
Christmal Dela Christmals
Centre for Health Professions Education, Faculty of Health Sciences, North-West University, South Africa
Email:
christmal.christmals@nwu.ac.za

Abstract

Background: The inability of nursing education institutions, particularly in low-resource settings to train competent nurses has been partly attributed to the challenges faced by nurse educators in the teaching of practical skills and in facilitating the development of clinical competence. Unfortunately, the perceptions and challenges faced by nurse educators in clinical nursing education in diploma nursing education in low-resource settings have not been explored.

Purpose: This study aimed to explore and describe the perceptions and challenges of nurse educators in the teaching of practical skills and in facilitating the development of clinical competence in diploma nursing education in Ghana, a low-resource setting.

Methods: A qualitative descriptive design was used in this study. Nine nurse educators tasked with teaching practical skills and facilitating the development of clinical competence from three accredited diploma-awarding public nursing colleges – one in each of the three geographical zones of Ghana – were purposively sampled and interviewed using a semi-structured interview guide. The data were analysed with the aid of ATLAS.ti software through the thematic framework approach of qualitative data analysis.

Results: Four themes, namely nurse educator and student factors, skills learning environment factors, institutional challenges, and regulatory issues, were identified and described the challenges of practical skills teaching and clinical competence development confronting nurse educators in the study setting.

Conclusion: To address these challenges, policy measures should be implemented to ensure adequate national investment in nursing education and incentives to promote nurse educator development and performance. Nurse educators and their labour union should therefore strongly advocate for this transformation in nursing education.

How to cite: Salifu, D. A., Heymans, Y., & Christmals, C. D. (2022). Facilitating the development of clinical competence in a low-resource setting: Perceptions and challenges of nurse educators. *Nurse Media Journal of Nursing*, 12(1), 42-60. <https://doi.org/10.14710/nmjn.v12i1.43995>

1. Introduction

Meeting the demands of various patient populations and promoting global health requires a competent nursing workforce. This is particularly important because nurses make up the majority of the global healthcare workforce and play critical roles in providing universal health coverage (UHC) (Christmals et al., 2021; World Health Organization, 2018). Given the crucial role that nurses play in the health delivery system, nursing education is expected to produce competent nurses to meet the ever-changing challenges of the health care environment in terms of disease burden and technological advancements. However, current approaches to nursing education in low-resource settings promote knowledge acquisition rather than equipping nurses with the necessary clinical competence to function independently in the complex health care environment (Salifu et al., 2019; Salifu et al., 2022). In addition, insufficient orientation programmes for integrating newly qualified nurses into the health care environment complicates their transition into independent professionals upon graduation (Cook et al., 2012; Jeffries, 2005). The lack of clinical competence exhibited by post-registration nurses lends credence to this assertion (Hussein & Osuji, 2016; Inayat et al., 2020; Jamshidi et al., 2016; Nehrir et al., 2016; Salifu et al., 2019; Voldbjerg et al., 2016). These challenges are attributed to sustained resource inadequacies, especially in low-resource countries.

Training nurses with the basic requisite clinical competence and capacity to seamlessly transition into the clinical environment has, therefore, become a necessity for nurse educators, particularly because the quality of nursing education has a direct correlation with the quality of nursing care provided to individuals and populations (World Health Organisation, 2012). As a result, nursing education institutions (NEIs) have been urged to come up with new strategies to help nurses develop clinical competence in readiness for practice upon graduation. A well-developed competency-based curriculum with simulation-based clinical education promises to be an effective strategy to train nurses with the needed competence to respond to the demands of the practice setting effectively (Pirie et al., 2016). Simulation pedagogy, defined as the use of role play, manikins, and task trainers to act out scenarios to mirror real clinical situations in a nonthreatening manner, has been described as instrumental in assisting students building their confidence and clinical competence (Agha et al., 2015; Bvumbwe & Mtshali, 2018a; Farzi et al., 2018; J. Kim et al., 2016).

Although many first-world countries have embraced competency-based curricula with simulation-based clinical education as a major component (Benton, 2012; Frenk et al., 2010; Hill & Williams, 2017; Spitzer & Perrenoud, 2006), the design and implementation of competency-based curriculum and simulation programmes in low-resource settings is challenging (Bvumbwe & Mtshali, 2018a; Bvumbwe & Mtshali, 2018b). The inability of nurse educators to use interactive and student-centred teaching and learning strategies in promoting learning, and the lack of a context-appropriate framework to guide the design, implementation, and evaluation of simulation pedagogy appear to be the major barriers to its utilisation in low-resource settings (World Health Organisation, 2016). Nurse educators have been criticised for not having the appropriate qualifications and competence to teach in NEIs, particularly in low-resource settings (Munangatire & Naidoo, 2017; Salifu et al., 2019; Watson et al., 2021; Younas et al., 2019). Seemingly, the majority of nurse educators in NEIs of low-resource settings, notably in accredited diploma-awarding nursing colleges, hold a bachelor's degree and might have no teaching nor clinical experience at the time of recruitment. Consequently, meeting the World Health Organisation's (WHO's) nurse educator core competencies (World Health Organisation, 2016) may be difficult for these nurse educators, who appear to face challenges in their efforts to facilitate student learning and clinical competence development. Moreover, nurse educators in low-resource settings have been reported to encounter contextual challenges in their effort to ensure effective nursing education and the development of clinical competence (Dahlke et al., 2016; S. Kim et al., 2016; Papathanasiou et al., 2014). For example, amidst the general lack of infrastructure and resources in both educational and clinical settings, opportunities for professional growth and development such as refresher courses or workshops, and incentives for continuing education are also limited for nurse educators in low-resource settings (Salifu et al., 2019; Talley, 2006; Younas et al., 2019).

Unfortunately, previous research appears more focused on exploring the challenges of nurse educators in the fulfilment of their teaching roles in baccalaureate programmes (Bvumbwe & Mtshali, 2018b; Eta et al., 2011; Wongpimoln et al., 2021; Younas et al., 2019). None of the studies have explored the perceptions and challenges encountered by nurse educators in their efforts to facilitate the development of clinical competence among diploma nursing students in a low-resource setting. Without such contextually relevant data, recommendations and strategies to enhance effective diploma nursing education in low-resource settings might be difficult. Despite the recommendation to make undergraduate nursing programmes an entry requirement for nursing, the majority of Ghana's professional nurse workforce is made up of diploma nurses trained by nursing colleges (Asamani et al., 2020; Bell et al., 2013; World Health Organisation, 2009). It is therefore imperative to explore and describe the perceptions and challenges that nurse educators encounter in the teaching of practical skills and facilitating the development of clinical competence in diploma nursing education in low-resource settings. This study therefore aims to explore and describe the perceptions and challenges of nurse educators in the teaching of practical skills and in facilitating the development of clinical competence in diploma nursing education in Ghana, a low-resource setting.

2. Methods

2.1 Research design

In order to drive policy changes aimed at improving nursing education, this study employed

a qualitative descriptive design to explore and describe the perceptions and challenges of nurse educators in the teaching of practical skills and in facilitating the development of clinical competence in diploma nursing education in Ghana, a low-resource setting (Sandelowski, 2000). The approach allowed for the phenomenon to be described in terms that reflected the everyday accounts of the event from the view points of the participants.

2.2 Setting and participants

The study was conducted in three purposefully selected accredited diploma-awarding public nursing colleges (NCs) from three geographical zones of Ghana: Northern, Middle, and Southern Ghana. These NCs were selected because they are regarded as model schools in the three zones of Ghana, producing a significant number of nurses. The target population of 15 included all nurse educators with the responsibility of teaching practical skills. A purposive sample of nine nurse educators (three from each geographical area) were recruited to participate in the study. The recruitment of participants was stopped for all the three zones after the ninth participant, when no new information emerged, indicating data saturation. The use of a purposive sampling technique enabled the recruitment of participants with a wide range of experiences in the teaching of practical skills and clinical competence development (Palinkas et al., 2015). To aid in the research process and the recruitment of participants for the study, focal persons were recruited from each of the study sites. An invitation to participate in the research was addressed to the heads of the NCs, together with a brief description of the study's goal and inclusion criteria, and shared with eligible participants through the research focal persons. The inclusion criteria included: (1) nurse educators with full appointment and working in an accredited diploma-awarding public nursing college, (2) nurse educators with full appointment in an accredited diploma-awarding public nursing college with the responsibility of teaching practical skills and facilitating clinical competence development, (3) nurse educators with full appointment in an accredited diploma-awarding public nursing college with at least three years working experience in the teaching of practical skills, (4) nurse educators with full appointment in an accredited diploma-awarding public nursing college who are fluent in English, and (5) were willing to participate in the study. Four weeks later, an information session was held via an online Zoom session with the prospective research participants, during which the goal of the research was presented in further detail and all concerns were addressed.

2.3 Data collection

In order to better understand the perceptions and challenges of nurse educators in facilitating the development of clinical competence, this study used semi-structured interviews (Adams, 2015). An interview guide was developed to maintain consistency in the interviews. The interview guide was developed after a review of the literature and with assistance from experienced qualitative nurse researchers, was pre-tested with nurse educators from an analogous institution. The results of the pre-test and feedback from the nurse researchers were incorporated into the final interview guide, which consisted of six open-ended questions with probes. The main questions of the interview guide included; "Tell me about your work as a nurse educator in this school", "How do you assist students to develop clinical competence in readiness for practice?", "Describe the pedagogical strategies you use in assisting students to develop clinical competence in readiness for practice", "What challenges (if any) do you encounter in your effort to facilitate student learning and the development of clinical competence?", "Tell me what other roles you play in the school besides the teaching of practical skills and how that affects your delivery", and "Describe ways in which you think nurse educators could be supported to effectively teach practical skills and facilitate the development of clinical competence in diploma nursing education".

Due to the COVID-19 pandemic, the first author (D.A.S) facilitated the interviews over the phone, with the support of a research assistant. The use of phone calls was preferred over other media, such as Google Meet or Zoom, because of the erratic internet service in the setting. Moreover, the erratic internet service is unable to support video over media, such as Google Meet or Zoom. Sub-questions were re-asked based on the responses of participants to facilitate clear communication and ensure a thorough exploration of the perceptions and challenges of nurse educators in facilitating the development clinical competence. The research assistant served as a note-taker, recording crucial points that emerged during each interview with the nine

participants, as well as a timekeeper. Each interview lasted between 45 and 60 minutes and was conducted in English. A second round of interviews, lasting 45 to 60 minutes, was done with three of the participants to obtain additional information and clarification on issues raised during the first round of interviews. The data collection was stopped for all the three zones after the ninth participant, when no new information emerged, indicating data saturation. With the consent of the participants, the interviews were audio recorded and transcribed verbatim by the first author. The data were collected between 26 January and 31 May 2021.

2.4 Data analysis

The data was analysed using the framework approach of thematic analysis with the aid of ATLAS.ti. The process commenced with the researcher immersing himself in the raw data by actively listening to recorded audios, reading transcripts, and studying notes to become familiar with the data (Pope et al., 2000). This step enabled the researchers to identify key issues and concepts based on the study objective, which were then used to generate a thematic framework. The thematic framework would guide the coding and identification of themes and sub-themes to describe the perceptions and challenges of nurse educators in facilitating the development of clinical competence in a low-resource setting. The first and second authors independently developed a thematic framework, codes, themes, and sub-themes, which were compared to reach consensus. In situations where the first and second authors could not agree, the third author acted as an arbitrator.

2.5 Trustworthiness

Trustworthiness is the adoption of techniques to guarantee the accuracy of findings in qualitative study (Brink et al., 2017). Central to ensuring the trustworthiness of qualitative studies include credibility, confirmability, dependability, and transferability (Polit & Beck, 2006). These were all addressed in this study, as follows: (1) Credibility: The first author (D.A.S) transcribed all of the audio recordings verbatim, and the transcripts and audio recordings were compared to checked for accuracy by the second author (C.D.C). The second author confirmed that the transcripts were a true reflection of the recordings; thus, there was no need for revision. (2) Confirmability: Participants were also given the results of the study to certify that they were accurate reflections of their responses (member checking). The data collection and analysis occurred concurrently, the analysis was done by D.A.S and C.D.C by independently coding two of the transcripts and comparing codes to reach agreement, which was then used by D.A.S to code all the transcripts. The third author (Y.H.) then reviewed all the codes, themes, and sub-themes to ensure accuracy. (3) Dependability: The researchers used audio recordings, field notes, and demographic data collection forms to ensure all necessary data was collected. An audit trail was maintained throughout the entire research process. (4) Transferability: Despite the inclusion of all data in the analysis, findings of this study may not be transferable. However, a thorough description of the study setting, methodology, and study participants were provided to determine use of the findings in similar circumstances.

2.6 Ethical considerations

The Health Research Ethics Committee of North-West University (NWU-00431-20-A1) and the Health Service Ethics Review Committee of Ghana (GHS-ERCo19/08/20) both gave their approval for this study. Individual consent forms for participation in the study were administered and supervised by the research focal persons in strict accordance with the guidelines of the NWU and GHS ethics committees. The informed consent forms were emailed to the research focal persons. Each research focal person then printed out the forms and administered to the purposefully selected participants who met with them in selected offices within the study settings for signing. The research focal persons and participants wore facemask, and adhered to social distancing and the use of alcohol hand rub during the process. After the signing, the informed consent forms were enveloped and posted to the first author (D.A.S) by the focal persons to sign his portion. Each participant was assigned a unique code in order to preserve their privacy and confidentiality. The participants in the study were not manipulated in any manner, and there was no risk of injury to them. Participants were informed ahead of time that participation in the study was entirely voluntary and that they might withdraw at any moment with no consequences.

3. Results

3.1 Demographic information of participants

This study included nine nurse educators (seven females and two males). Participants ranged in age between 26 and 55 years. Table 1 illustrates the demographic characteristics of the participants.

Table 1. Demographic characteristics of participants

Participant	Gender	Age (years)	Academic qualification	Professional qualification (teaching)	Teaching experience (years)
Nurse educator 1	F	36	Master's degree	Bachelor of Education Health Sciences	7
Nurse educator 2	F	35	Bachelor's degree	Bachelor of Education Health Sciences	2
Nurse educator 3	F	40	Bachelor's degree	Bachelor of Education Health Sciences	8
Nurse educator 4	F	30	Bachelor's degree	Post-graduate diploma in education (PGDE)	4
Nurse educator 5	M	39	Master's degree	None	6
Nurse educator 6	M	42	Master's degree	Masters in Nursing education	6
Nurse educator 7	F	42	Master's degree	Bachelor of Education Health Sciences	5
Nurse educator 8	F	40	Master's degree	Master of Education	3
Nurse educator 9	F	55	MPhil	Diploma in Education	20

Four themes, namely nurse educator and student factors, skills learning environment factors, institutional challenges, and regulatory issues are identified and described in Figure 1.

3.2 Theme 1: Nurse educator and student factors

Factors such as pedagogical strategies adopted in the teaching of practical skills, heavy workload of nurse educators, and student attitude were perceived to have a direct influence in the development of clinical competence.

3.2.1 Pedagogical strategies

Demonstration and return demonstration, lectures, dummies, student demonstrations, smaller group teaching, and deliberate practice were identified as the teaching and learning strategies that nurse educators and students use to facilitate the development of clinical competence. However, the use of lectures and demonstrations were perceived by some nurse educators to be ineffective in facilitating the development of clinical competence. Some participants believed the use of the strategies only promoted a mastery of procedural steps. As a result, some participants with prior experience in simulation pedagogy recommended the use of simulation as a superior alternative to the didactic approach in practical skills teaching. The participants hold the view that if simulation pedagogy was well designed and implemented, with well-trained nurse educators and guidelines to support it, it would better facilitate the teaching of practical skills and the development of clinical competence.

“... whilst I’m teaching, I’m demonstrating at the same time for them, so just after the first demonstration, I give them the chance or the opportunity to also come and practice before I move on to the next one.” Nurse Educator 4

“Our current approaches, in fact it promotes rote learning, students have to cram everything and when they forget one thing that's all...” Nurse Educator 5

“So, if all clinicians, all teachers are involved in training on simulation-based approach to teaching, there are guidelines, everybody knows how to approach these topics, it would help.” Nurse Educator 6

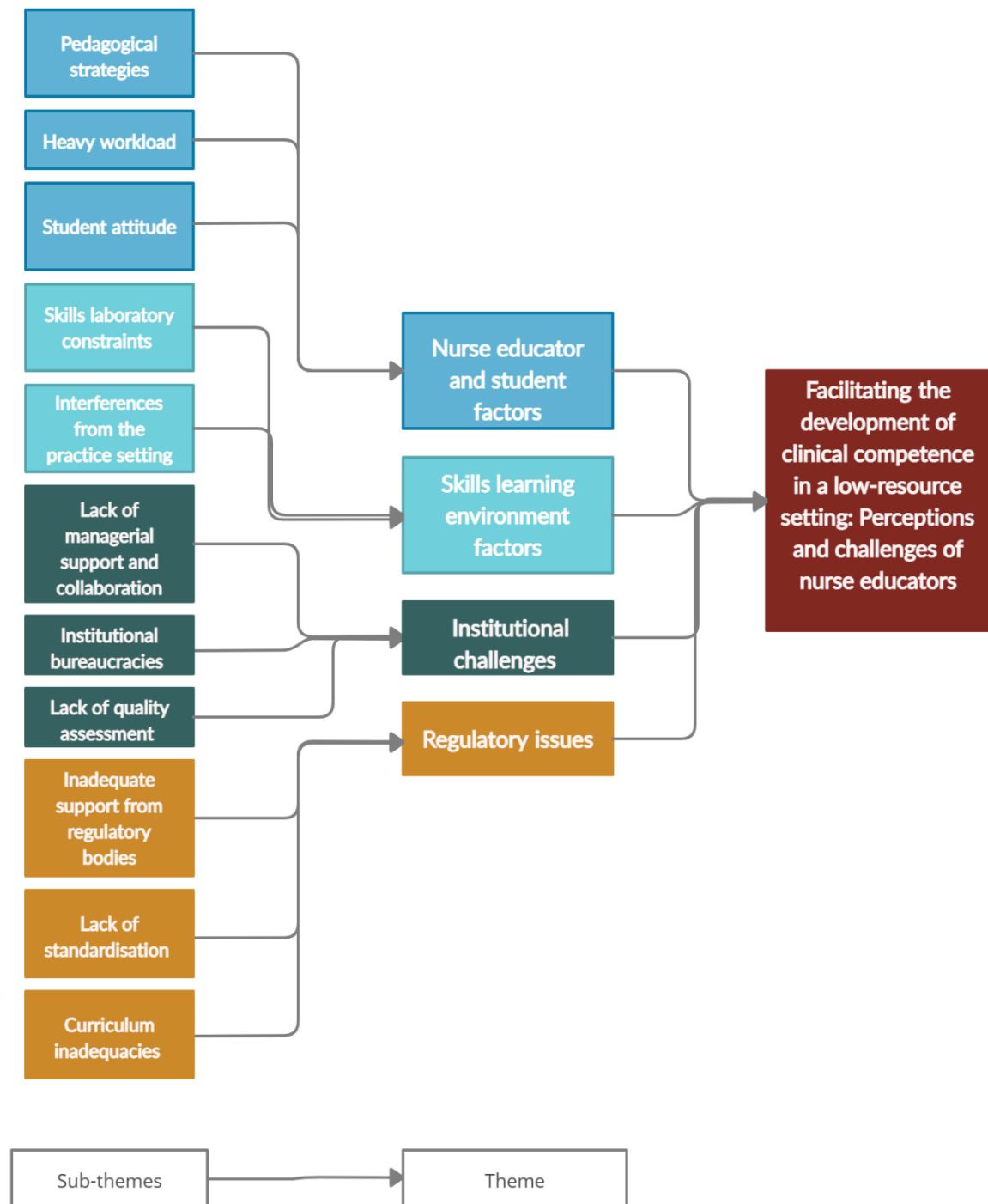


Figure 1. The themes and sub-themes that emerged from the data

3.2.2 Heavy workload

The role and responsibilities of nurse educators in NEIs are directly influenced by local contextual factors. Furthermore, the ability to assist in student learning and the development of clinical competence was directly influenced by the heavy workload of nurse educators. Nurse educators' workload was mostly dictated by the poor nurse educator-to-student ratio. Nurse educators viewed the fulfilling of teaching roles, extra-academic activities such as supervising students on clinical placement, patient/family care study, and research work as heavy workload and a significant source of work pressure that hampered their capacity to facilitate effective practical skills teaching and the development of clinical competence. Also, nurse educators in

charge of teaching practical skills were frequently allocated extra courses and preparation of final year students for licensing examination that competed with their practical education roles for time.

“Apart from teaching, I am a member of the clinical committee, so sometimes you have a lot of work to do even though whatever you are doing it’s for the benefit of the students, but it also affects your lecture time because I had to lecture at 9:30 am today but I had to also go to Tamale Teaching Hospital to supervise students (TTH).” Nurse Educator 1

“In addition to practical skills teaching, I also teach nutrition and dietetics, I also need to do revision for basic nursing, that is where sometimes the pressure mounts up.” Nurse Educator 2

The absence of skills laboratory coordinators or clinical instructors assigned to and stationed in the skills laboratories to assist with practical skills teaching added to nurse educators' workload and made the accomplishment of their role challenging. Nurse educators had to teach theory and practical skills while also planning and setting up the skills laboratory for practice sessions as a result of the lack of skills laboratory coordinators or instructors.

“You have to find time to go the skills laboratory, teach them, help them to practice and also watch them practice. So, it’s quite challenging and because of that a lot of tutors shy away from teaching such courses.” Nurse Educator 1

The heavy workload of nurse educators and the pressure associated with teaching practical courses, increases nurse educator's stress and work pressure, resulting in some nurse educators developing a lack of interest in the teaching of practical related courses. Notwithstanding these challenges associated with the teaching of practical courses as expressed by some participants, some nurse educators were enthusiastic about teaching practical skills. These nurse educators stated that their willingness to teach and see students practising in the skills laboratory was motivated by their passion for teaching and the desire for the students to succeed.

“The tedious nature of teaching practical skills makes nurse educators not interested in teaching courses that have to do with skills training.” Nurse Educator 1

“I have always loved to teach. So far, I think it is good, it has been a nice experience because you are able to interact with the students in so many ways not just the classroom but outside the classroom and it helps me myself as a nurse educator to learn a lot.” Nurse Educator 5

3.2.3 Student attitude

Participants described the negative attitude of students towards the teaching and learning of practical skills as a hindrance to the accomplishment of their goal as nurse educators. Nurse educators perceived students to lack the commitment and seriousness for learning. Most of the students engaged in disruptive classroom behaviour and were often disinterested in deliberate practice. According to some nurse educators, some students only get serious about learning practical skills when it is time to take their licensing exams, a practice they described as inimical to the development of clinical competence. Some participants attributed the negative attitude of students such as disinterest towards the learning of practical skills to academic pressure. They hold the view that, the students were overburdened with enormous academic activities. Nurse educators believed that the students' lack of dedication to learning was attributable to the fact that most of them were pushed to enrol in the programme by their families rather than their own desire to be nurses.

“...what we do, some don’t take it seriously. Sometimes you want people to volunteer to practice, to try their hands on something and nobody shows interest, but getting to the licensing exams they are all serious because now they know they are going to face the exams.” Nurse Educator 1

“I think the students are already overburden with academic activities and the number of courses that we have to do in a semester.” Nurse educator 6

“Is like some of them have been compelled to enter nursing, the person comes and you ask the person why do you want to be a nurse? And surprisingly some will tell you, it’s my father who said I should come to the nursing college.” Nurse Educator 2

3.3 Theme 2: Skills learning environment factors

Aside from nurse educator and student factors, skills laboratory constraints and interferences from the practice setting had a significant impact on nurse educators' ability to facilitate the development of clinical competence.

3.3.1 Skills laboratory constraints

The lack of logistics and equipment in the skills laboratory, according to some nurse educators, was a key problem in the teaching and learning of practical skills. Nurse educators indicated that of the few available items, most were out of date, obsolete, or not ideal for use; however, they were often compelled to use them. Non-reusable consumables were usually not discarded after use but stored and re-used instead. The reuse of non-reusable consumables prevented students from learning the ideals of nursing practice. Improvising for non-available resources became the order of the day in the skills laboratory as reported by nurse educators. Others resorted to the use of videography to get around the logistics and equipment limitations. For example, one nurse educator had this to say about the reuse of non-reusable consumables:

“Sometimes you have to reuse the non-reusable, for instance, cannulas, we don’t discard them because how to even get them is a problem.” Nurse Educator 1

Aside from the logistical and equipment issues, the skills laboratory space was noted as being too small to accommodate the current student numbers. This, coupled with the current increase in student numbers contributed to overcrowding in the skills laboratories, resulting in an uncondusive learning environment with a negative impact on the teaching and learning of students. In this regard, some participants had this to say:

“The skills laboratory is not big enough to take the current numbers that we have so I will say the size of the skills lab is not really the best.” Nurse Educator 7

“They will stand for hours, sometimes before you realise somebody has collapsed then you have to stop the whole teaching process and help with first aid treatment or help send the student to the hospital. It has happened on about two three occasions.” Nurse Educator 8

Nurse educators were also unable to complete practical teaching sessions due to time constraints. The limited time also precluded the division of students into smaller groups in order to mitigate the detrimental effects of overcrowded classes. Thus, time constraint and overcrowding in classes left students with inadequate practise time. Furthermore, the students were unable to access the skills laboratory for self-learning. A key problem was the lack of a trained person stationed in the skills laboratory to ensure accessibility and facilitate student learning. The lack of such persons, according to some nurse educators, hampered deliberate practice because the skills laboratory was mostly locked made inaccessible to the students:

“Sometimes because of time factor, we are unable to complete what we set out to do in a given period, we hardly complete a task before the time elapses, so sometimes we are unable to allow them to practice on that same day.” Nurse Educator 6

“... we are supposed to have somebody manning the skills lab, a tutor manning the skills lab so that if the students want to go there and practice, there is somebody there who would guide the students, we don’t have it.” Nurse Educator 9

3.3.2 Interferences from the practice setting

Some nurse educators identified that nursing students were often not given adequate support during clinical placement. According to nurse educators, students were mostly abandoned in the practice setting with no help to hone their clinical competence. They believed that clinicians' supernumerary roles on the wards prevented them from providing the necessary support for student learning. Nurse educators perceived that the lack of student support during clinical placement had a negative impact on their role in facilitating the development of clinical competence among students.

“Most of the clinicians are not even helping them when they go to the clinical side to build on the knowledge that they have had in the classroom.” Nurse Educator 2

The existence of a theory-practice gap further complicated the issue of interferences from the practice setting. According to participants, there were differences between what nurse educators taught students in the skills laboratories and what clinicians socialised them to during clinical placements. Participant felt the lack of effective collaboration between NEIs and the practice settings, the nonavailability of resources in the practice setting, as well as the absence of a common procedure manual for the teaching of practical skills were partly responsible for the existence of the theory-practice gap. With a sense of frustration, one nurse educator with 20 years' experience in teaching had this to say:

“... it makes it difficult for them to pick some of the procedures because they go to the clinical site and a different thing is being done because they don't have the items available or they are also in a rush to do it, ... so how is the student going to learn.” Nurse Educator 9

The utilisation of students as substitute staff during clinical placement was another concern in relation to interferences from the practice setting. According to nurse educators, students were usually assigned to wards at random, not based on their learning objectives but as stand-ins for professionals. As a result, students assumed the role of qualified employees rather than students with learning needs to be met. One participant, for example, related:

“... sometimes the student come and because of shortage of staff the management may try to put them in areas where they think they need staff, sometimes they may substitute them for the qualified staffs who are not available.” Nurse Educator 6

3.4 Theme 3: Institutional challenges

Institutional challenges within the NCs that also contributed to the difficulties nurse educators faced in their efforts to help students develop clinical competence included lack of managerial support and collaboration, institutional bureaucracies, and lack of quality assessment and enforcement.

3.4.1 Lack of managerial support and collaboration

Poor participants cited a lack of managerial support as well as poor collaboration among nurse educators as contributing factors to the challenges in the teaching and learning of practical skills. Some participants believed that the management of some NCs was not supportive enough in the provision of the necessary logistics to aid in practical skills teaching and learning. This, they believed, contributed to the resource constraints and their ramifications.

Furthermore, some nurse educators were reported to have declined to assist in the teaching of practical skills when their support was needed. Some participants claimed that the failure of some nurse educators to assist with practical skills teaching was due to their own forgetfulness of the skills. Despite some participants' reports of a perceived lack of managerial support, others said they were given the managerial support they required to do their job.

“...there are people that do not teach basic nursing and when I call them to come and assist, they are way too difficult, and some people have even forgotten the skills.” Nurse Educator 3

“Support from management is perfect because with my skills lab, I have almost everything that are needed to teach.” Nurse Educator 4

Poor teamwork between the practice and school settings also hindered the teaching and learning of practical skills, in addition to poor collaboration between NCs and the clinical sites. To counteract the impacts of this challenge, some nurse educators implemented the collaborative teaching approach in a personal capacity, where they would team up with clinicians and send students to the ward to be taught by the clinicians.

“...sometimes you can arrange with the ward then the students go to maybe a particular staff that you think can help them whiles they have the procedure then the person takes them through and they observe.” Nurse Educator 1

3.4.2 Institutional bureaucracies

The pleas of nurse educators for management to supply the required logistics to support practical skills teaching and learning were often met with “no funds syndrome.” Where funding was not an impediment, the failure of school management to procure a user department list of needed items was another challenge that contributed to the skills laboratory's lack of resources. School management often acquired what they thought was needed rather than what user departments sought. Not only was the failure to procure the required items a concern, but so were the bureaucracies and delays in purchasing the necessary logistics. Some participants expressed dissatisfaction with the length of time it took to obtain things that were needed urgently.

“...you complain to management, they will tell you that no funds to purchase those things, so we have to manage.” Nurse Educator 8

“...they procure what they feel is more important but not based on our recommendations.” Nurse Educator 1

“... what I realise is that, when you write for the items, it will be done just that it delays. That makes it a challenge. So, by the time the items come, the students that were supposed to use it might have finished that area.” Nurse Educator 6

Nurse educators had to resort to “begging” for resources and assistance to overcome resource constraints that were the results of management's inability to provide the needed logistics to support practical skills teaching and learning – nurse educators often appealed for support from non-governmental organisations (NGOs) and church groups.

“...we appeal to the students that if they have their church groups or any other denominational activities like donations, they should come and give some to the skills lab so that when they come for practice they wouldn't be standing, but as for the school itself according to them there are no funds.” Nurse Educator 8

3.4.3 Lack of quality assessment

The Institutional issues were exacerbated by a lack of quality assessment and enforcement procedures. Despite the fact that the ministry of health had developed quality assessment guidelines for evaluating nurse educators, they were rarely followed in the accredited diploma-awarding public nursing colleges. As a result, nurse educators were rarely evaluated in the performance of their duties—this seeded uncertainty among nurse educators about their progress in fulfilling their objectives.

“... to me I think that I'm covering what should be covered. But as to whether it is really what it is supposed to be is another thing.” Nurse Educator 8

The NCs also admitted large numbers of students into programmes in the absence of quality assessment and enforcement procedures. Enrolling large numbers of students in programmes without taking into account the curriculum's contextual factors, such as infrastructure and human

resource capacity of the various NCs, have resulted in overcrowding and the overburdening of the few available resources, jeopardising the teaching and learning of practical skills. The large class sizes limited students from having hands-on practice opportunities making the attainment of learning goals difficult. In the absence of quality assessment and enforcement policies, nurse educators appeared helpless in the face of the increasing student enrolments and blamed the situation on management and the regulatory bodies. For example, with a sense of frustration, one participant compared the negative impact of the current large student numbers and opportunities for learning with her time as a student (contained in the second quotation).

“... the increasing numbers, the numbers are too huge and because of that teaching skills and teaching theory becomes difficult.” Nurse Educator 9

“Unlike our time where we were few in number and the resources were there so on closing or when we close from lectures, we have access to the skills lab where we go and then with our partners and practice, with the current numbers, that is not possible.” Nurse Educator 6

Nurse educators appeared to be aware of the standards in terms of how many students to take to the demonstration room at a time; however, the overwhelming number of the students and time constraint did not allow for the students to be divided further into smaller groups. To overcome the negative effect of the large class sizes, some nurse educators often divided the class into two if the class size was larger than 60, although this was often perceived as tedious because the same nurse educator would have to shuttle between the two classes to teach. To this effect, one participant explained:

“...ideally, a skills lab takes not more than, ... in some countries, the skills lab should not take more than 20 students, but then we don't have the luxury of time to divide them in bits like that.” Nurse Educator 7

“... it is quite tedious because you have to do the same thing twice.” Nurse Educator 1

3.5 Theme 4: Regulatory issues

In addition to nurse educator and student factors, skills learning environment factors, and institutional challenges were regulatory issues such as inadequate regulatory body support, lack of standardisation, and curriculum inadequacies, which were also identified as factors interfering with the nurse educator's role.

3.5.1 Inadequate support from regulatory bodies

Nurse educators perceived the support provided by NEI regulatory bodies as inadequate. They reported being recruited as nurse educators from the clinical practice setting (CPS) and assigned courses to teach without any pre-training or orientation on the role. Moreover, opportunities for career advancement and capacity building for nurse educators were limited. In the absence of these opportunities, nurse educators perceived their teaching roles as challenging for both students and nurse educators. When refresher programmes were available, the mode of selecting participants was another matter as some nurse educators perceived the process to be biased and unhelpful. Some participants stated that in some cases, nurse educators who did not have any practical skills teaching role were rather chosen to attend workshops on practical skills teaching. The bias selection of nurse educators to attend workshops or refresher programmes was seen as demotivating by participants. In the absence of regular refresher programmes to update nurse educators in their teaching roles, they have often resorted to past clinical experience or relied on the ward for updates on current happenings in the clinical area to sharpen their practical teaching skills.

“...nothing like that has been done. I don't even remember the last time I went for any workshop.” Nurse Educator 8

“...when it comes to workshops sometimes you don’t know how the selections is done, you the one handling the course wouldn’t be given the opportunity to go and have the needed training. Others rather will be picked.” Nurse Educator 3

“...the expertise or skills we acquired through what we practised at the hospitals, what we see and we practice, that is what we have come with and we are teaching now.” Nurse Educator 7

Apart from the lack of career advancement and capacity building programmes, nurse educators found the lack of adoption of a formal support structure such as preceptorship by the regulatory bodies to assist teaching and learning in the CPS to be problematic. Participants blamed the lack of preceptors in the ward for guiding student learning as contributing to the theory-practice gap.

“... if there were preceptors and you take them through what your students are required to know when the students are in the ward, definitely they would be the ones supervising them and being with them so the students know that what I am doing in school is the same thing they are doing in the ward and so it becomes consistent, unfortunately, that is not the case.” Nurse Educator 1

3.5.2 Lack of standardisation

The lack of a common guideline to facilitate practical skills teaching in the NCs negatively impacted the development of clinical competence. Nurse educators were of the view that the lack of common guidelines introduced inconsistency in practical skills teaching thereby causing confusion for students. One participant indicated that the only existing guideline for practical skills teaching was obsolete and has never been revised since its inception several more than two decades ago. In the absence of a standard procedure guideline to facilitate the teaching of practical skills, nurse educators have often resorted to the use of Nursing and Midwifery Council (NMC) licensing practical exams rating scales for practical skills teaching. Nurse educators observed these measures to promote memorisation of the steps rather than mastering the content, which ended up only promoting rote learning. The lack of common guidelines and standardisation has also left much uncertainty and confusion among nurse educators, clinicians, and examiners on matters concerning standard practice, thus further widening the theory-practice gap.

“...in the absence of a common guideline, we have students conflicting in the clinical area that is not to the benefit of the job.” Nurse Educator 5

“Look at the procedure manual that they wrote long time ago and it has never undergone any review. And this thing too we are talking about several time. That since the time that you wrote this book several things have changed.” Nurse Educator 6

“So, most of the time we like to use the NMC component task, this causes the students to memorise the steps.” Nurse Educator 1

“...because there are no guidelines, many teachers are not able to actually impart that knowledge, clinical competence, it is manifested in even anytime we get involved with exams we always find out that there is variety of approaches to even one particular item, not standardized.” Nurse Educator 5

3.5.3 Curriculum inadequacies

Some nurse educators perceived the present NMC curriculum used by the NCs to be inadequate. They found the curriculum to be fraught with, among others, ambiguous competencies, scanty course outlines, overloaded course content, poor alignment of course contents, too much theory, absence of practical teaching strategies, and bad referencing. Some participants reported that some of the references provided under the courses in the curriculum were outdated, while others were difficult to come by since they were not available in the country.

“And there is a time you will see according to the given curriculum looking at the content, students have to do this but sometimes the statements are vague not specific. There are very vague.” Nurse Educator 6

“I have a problem with the curriculum because, one, when you consider the curriculum and the other nursing institutions outside Ghana, you realise that for the objectives and the specific area and the specific resources that you need are often stated in the curriculum, over here they give you especially the literature resources, the books and you can’t even find them here in Ghana. What kind of thing is that? Those books are not even available. There are certain books that they recommend, you can’t even find them here in Ghana. Is not as if they are books that have been written now, they are old, very old.” Nurse Educator 7

Some participants said the curriculum did not indicate which practical teaching methodologies to use in facilitating practical skills teaching. One participant, one participant mentioned that practical teaching strategies were provided in the curriculum, but without much depth or recommended frameworks to support their usage.

“...it doesn’t specify anything of that sort, it does not at all. It only gives you content, if I have mine here, I would have read to you for us to see. I don’t have them here. It doesn’t at all. It doesn’t make mention of any approaches to use.” Nurse Educator 6

4. Discussion

This study sought to explore and describe the perceptions and challenges of nurse educators in the teaching of practical skills and in facilitating the development of clinical competence among diploma nursing students in Ghana, a low-resource setting. The study’s findings revealed challenges experienced by nurse educators that hinder them from teaching practical skills effectively and facilitating the development of clinical competence. The findings centred on regulatory and institutional issues, nurse educator, student and skills learning environment factors.

Notwithstanding the efforts by the central government to provide basic infrastructure and equipment for NEIs in Ghana, findings from this study reveal poor infrastructure and inadequate basic equipment, including medical and surgical logistics in skills laboratories of NCs. Moreover, opportunities to enhance the competence of nurse educators through incentives for career advancement and professional development appear limited. In the absence of these opportunities, nurse educators tend to rely overly on lectures and demonstrations in the teaching of practical skills and clinical competence development, which some participants described as ineffective in facilitating the development of clinical competence. Despite the NMC’s effort to ensure the development of what is thought of as a competency-based curriculum, some participants felt that the curriculum is fraught with inadequacies that make it fall short of being described as a competency-based curriculum. The challenges confronting nurse educators in this study’s setting appear to have nurse educators confused about which strategies best to adopt in the teaching of practical skills and in facilitating the development of clinical competence in the setting.

4.1 Nurse educator and student factors

Previous studies appear to corroborate most of the findings of this study. Some authors argue that the use of traditional practical skills teaching methods such as demonstration and return demonstration, and lectures, encourage rote learning and mastery of procedural steps rather than promote critical thinking, clinical reasoning, and sound clinical judgment (Agha et al., 2015; Aqel & Ahmad, 2014). In supporting the point, Benner et al. (2010) cautioned that students were mostly disengaged when the lecture approach was adopted in practical skills teaching. When compared to traditional practical skills teaching strategies such as demonstration and return demonstration, immersive student-centred, and experiential teaching and learning strategies such as simulation have shown to be more effective in helping boost students’ confidence and clinical competence (Agha et al., 2015; Aqel & Ahmad, 2014; Farzi et al., 2018; J. Kim et al., 2016; Shin & Kim, 2013). Nurse educators in this study appear to be aware of the benefits associated with the use of simulation-based clinical nursing education. However, as it may appear, the

underutilisation of simulation pedagogy in nursing education in the study setting may be due to the lack of knowledge and capacity of nurse educators to design, implement, and evaluate the concept/pedagogical strategy. In lending credence to this assertion, a qualitative study by Munangatire and Naidoo (2017) exploring the experiences and perceptions of nurse educators on high-fidelity simulation in a resource-limited setting identified a lack of knowledge and capacity of nurse educators as a barrier to the implementation of simulation. Pragmatic interventions directed at promoting innovative practical skills teaching strategies that are more immersive and student-centred may help boost the confidence and critical thinking skills of nursing students in the setting and help enhance the development of clinical competence.

The inability of nurse educators to adopt contemporary practical skills teaching strategies such as simulation was further compounded by the lack of opportunities for career advancement and professional development. The lack of important educational resources, opportunities for career advancement, and professional development for nurse educators in low-resource settings has previously been noted as a factor affecting clinical competence development (Eta et al., 2011; Munangatire & Naidoo, 2017; Younas et al., 2019). Despite the WHO's objective of developing the core nurse educator competencies (World Health Organisation, 2016) to ensure adequate preparation of nurse educators who are able to contribute to improved nursing education, most of the nurse educators in this study were recruited from the clinical setting without any prior training or orientation in teaching or communication – being knowledgeable and clinically competent does not often guarantee effective teaching (Wongpimoln et al., 2021; World Health Organisation, 2013). Rather, to be efficient on the job role as a nurse educator, formal training and orientation are required to equip nurses with knowledge in communication and varied teaching methods to adopt in practical skills teaching (Inayat et al., 2020). Without adequate training, nurse educators often remain fixed on the use of didactic methods in practical skills teaching (Benner et al., 2010). The use of lectures and demonstrations in the teaching of practical skills in this study setting may not have been a surprise finding after all. For the realisation of effective nursing education and the training of competent nurses, major transformations in nursing education were undertaken in some regions of the world (Benner et al., 2010; Frehywot et al., 2013; Frenk et al., 2010). One of the most significant reforms was massive investment in nursing education to provide the necessary infrastructure and educational resources and build the capacity of nurse educators (Benner et al., 2010; Frehywot et al., 2013).

Evidence from the literature indicates that nurse educators' workload in low-resource settings may be daunting and stressful, reducing their ability to teach practical skills successfully (Eta et al., 2011; Younas et al., 2019). Clearly, as the findings of this study suggest, the supernumerary role assumed by nurse educators with the responsibility of teaching practical skills appears to increase their workload, which is directly related to their ability to effectively facilitate the development of clinical competence. Such increased workloads could be detrimental to the mental health of nurse educators, causing stress, fatigue, and feelings of dissatisfaction (Younas et al., 2019). Although research has been conducted on stress in nursing, it appears concentrated on determining the stress of nurses and nursing students (Baye et al., 2020; Rafati et al., 2017). Little emphasis is placed on exploring the effect of stress and burnout on nurse educators. Given this research gap, future research should be directed at exploring the impact of increased workload with its resultant effect on stress and burnout on nurse educators, especially in low-resource settings.

4.2 Skills learning environment factors

The workload of nurse educators is further compounded by interferences from the practice setting, such as the lack of support for students, the existence of theory-practice gap, and using students as substitute staff. In other parts of the world, support for student learning and newly qualified nurses in the CPS is provided for through the use of the preceptorship model (Begley, 2007). Unfortunately, a lack of support for students' learning during clinical practicum was reported by nurse educators in this study. While students did not always receive any formal support in the CPS, nurse educators in this study noted that students were often used as substitute staff and assumed full professional responsibilities when wards were understaffed. Mirroring these findings, Begley (2007), Salifu et al. (2019), and Salifu et al. (2022) confirmed the lack of support and the utilisation of students as an additional pair of hands in the CPS. These perceived challenges confronting students in the CPS, particularly in low-resource settings interfere directly

with the duties and responsibilities of nurse educators, increasing their workload and burden as they are now required to supervise a large number of students in a variety of clinical settings.

In order to effectively develop clinical competence in nursing education, theory and practice must be synchronised. However, consistent with the findings of Salifu et al., (2019) and Younas et al., (2019), the theory-practice gap was identified as a major issue confronting nursing education in this study setting. The lack of a common procedure manual and standard guidelines to streamline the teaching of practical skills and activities of nurse educators and clinical instructors are inextricably linked to the continued existence of the theory-practice gap in the setting (Salifu et al., 2022). At the time of writing this research report, the only procedure manual designed to facilitate practical skills teaching by the NMC was introduced in 1995 and has never been reviewed since (Anim-boamah et al., 2021). Seemingly, the use of such obsolete academic material does not promote evidence-based practice and the development of clinical competence. The call for the standardisation of practical skills teaching is largely a strategy to maintain uniformity in nursing education across countries while taking into consideration peculiar contextual relativities. Future research must be directed at exploring strategies to bridge the theory-practice gap in low-resource settings.

4.3 Institutional challenges

In spite of the obvious lack of investment in nursing education, this study found that large number of students were admitted into NEIs in low-resource settings. Benner et al., (2010), cautioned against increasing student enrolments without a strong nurse educator workforce and accompanying infrastructure and resources. The issue of large student numbers limiting nursing education quality in low-resource settings has been discussed in the literature (Jamshidi et al., 2016; Salifu et al., 2019; Salifu et al., 2022; Younas et al., 2019). Globally, NEIs are impacted by budgetary constraints as funding and investments in higher education fluctuates (Bvumbwe & Mtshali, 2018a; GANES, 2011). When financial resources become scarce, higher educational institutions in other regions of the world have shown that they are more motivated to increase student enrolment (Spitzer & Perrenoud, 2006). However, in other low-resource settings, expansion in infrastructure, the development of nurse educator capacity, and improvement in the provision of academic materials, including investments in electronic learning informed the increase in student enrolment into nursing and medical programmes to ensure quality education (Frehywot et al., 2013; Frenk et al., 2010).

4.4 Regulatory issues

Curriculum developers often find it a challenge to adequately align learning objectives, content areas, teaching and learning activities with programme outcomes to ensure the effective development of clinical competence (Clapper, 2011). More interestingly, despite their best intentions, curriculum developers may not be incorporating teaching and learning activities that match the students' learning needs and styles (Clapper, 2011). Still further, developing a competency-based curriculum is even more difficult in a low-resource setting (Bvumbwe & Mtshali, 2018a; Bvumbwe & Mtshali, 2018b), probably because the right people with the expertise in curriculum development in nursing education are often not hired. Corroboratively, in this study, nurse educators felt that the curriculum designed by the NMC and used to guide the training of diploma nurses was not designed to promote the development of clinical competence. In an attempt to overcome this challenge, nurse educators often resorted to the use of varied teaching and learning activities that participants have described as bothersome and ineffective. The issue of curriculum inadequacy in the study setting appears manifest presumably because those hired and charged by the NMC to develop and revise the curriculum for NCs may lack the necessary expertise or training in curriculum development in nursing education. In other countries, experts in nursing education with experience, knowledge, and training in curriculum development in nursing education often spearhead curriculum development processes (Bokonji et al., 2019).

5. Implications and limitations

This study provides intriguing findings in relation to the experiences and perceptions of nurse educators in the teaching of practical skills and clinical competence development in Ghana. Given the challenges that nurse educators face in the teaching of practical skills and clinical competence

development, aggressive policy directives are needed to provide NEIs and nurse educators with the necessary resources and facilities for career advancement and professional development in order for them to be effective in their role.

There are limitations to this study. The study purposefully selected only three model schools from the three geographical zones of the study setting out of about 73 accredited diploma-awarding public nursing colleges. Therefore, it cannot be guaranteed that the findings of the study are representative of the other colleges that were not considered model schools, thereby, limiting the generalisability of the findings of the study even within the same geographic region. However, because all of the NEIs in the setting are regulated by the same bodies and operate under the same guidelines, there are similarities in their operations and available opportunities for growth and development. With the challenges experienced by these model schools, it is believed that other NEIs not included in this study may have more challenging issues than, if not similar to, the findings of the present study concerning the facilitation of clinical competence development.

6. Conclusion

The lack of major educational resources and incentives for nurse educators' career advancement and professional development were found to significantly contribute to the challenges of practical skills teaching and clinical competence development. To address these challenges, policy measures should be implemented to ensure adequate national investment in nursing education and incentives to promote nurse educator development and performance. Nurse educators and their labour union should therefore strongly advocate for this transformation in nursing education. Moreover, more research may have to be done to establish collaborative policies to help deal with these issues. Effective collaboration at the national level may help in the identification of financial sources to support the provision of infrastructure and support the career advancement and professional development of nurse educators to guarantee effective nursing education.

Acknowledgment

We appreciate Mr. Salifu Mohammed Awal of Nursing Training College Damongo, for assisting with data collection and review of the manuscript. We are grateful to Professor Gerda Marie Reitsma who was a co-promotor of the study until her departure from North-west University. We express our gratitude to Cecilia Amaakabeh Afribeh of SDD-UBIDS Hospital, Wa-Ghana, for her unwavering support. All of the individuals listed above have given their permission to be mentioned and acknowledged in the manuscript. We would also like to express our gratitude to all of the study participants for taking the time to participate in the study.

Author contribution

Conception and design of the study: D.A.S.; Supervision: C.D.C. and H.Y.; Data collection: D.A.S with the aid of a research assistant; Data analysis: D.A.S analyzed the data which was confirmed by C.D.C., and Y.H. for accuracy; Drafting of manuscript: D.A.S. drafted the manuscript; Review and editing of the manuscript: D.A.S, C.D.C. and Y.H. All the authors are in agreement of the final version of the manuscript.

Conflict of interest

None declared

Funding information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The study is part of a larger study which is self-funded by the lead author (D.A.S).

References

Adams, W. C. (2015). Conducting semi-structured interviews. In: Wholey, J. S., Hartry, H. P. and Newcomer, K. E., (Eds.), *Handbook of practical program evaluation* (pp.492-505). Jossey-Bass, San Francisco. <https://doi.org/10.1002/9781119171386.ch19>

- Agha, S., Ahamrani, A. Y., & Khan, M. A. (2015). Satisfaction of medical students with simulation-based learning. *Saudi Medical Journal*, 36(6), 731–736. <https://doi.org/10.15537/smj.2015.6.11501>
- Anim-boamah, O., Christmalls, C. Dela, & Armstrong, S. J. (2021). Nursing students' experiences on clinical competency assessment in Ghana. *Nurse Media Journal of Nursing*, 11(3), 278–293. <https://doi.org/https://doi.org/10.14710/nmjn.v11i3.39079>
- Aqel, A. A., & Ahmad, M. M. (2014). High-fidelity stimulation effects on CPR knowledge, skills, acquisition, and retention in nursing students. *Worldviews on Evidence-Based Nursing*, 11(6), 394–400.
- Asamani, J. A., Amertil, N. P., Ismaila, H., & Orem, J. N. (2020). The imperative of evidence-based health workforce planning and implementation: Lessons from nurses and midwives unemployment crisis in Ghana. *Human Resources for Health*, 18(16). <https://doi.org/10.1186/s12960-020-0462-5>
- Baye, Y., Demeke, T., Birhan, N., Semahegn, A., & Birhanu, S. (2020). Nurses' work-related stress and associated factors in governmental hospitals in Harar, Eastern Ethiopia: A cross-sectional study. *PLoS ONE*, 15(8), 1–12. <https://doi.org/10.1371/journal.pone.0236782>
- Begley, T. (2007). Who am I now? The experience of being a post-registration children's student nurse in the first clinical placement. *Nurse Education Today*, 27(5), 375–381. <https://doi.org/10.1016/j.nedt.2006.05.020>
- Bell, S. A., Rominski, S., Bam, V., Donkor, E., & Lori, J. (2013). Analysis of nursing education in Ghana: Priorities for scaling-up the nursing workforce. *Nursing and Health Sciences*, 15(2), 244–249. <https://doi.org/10.1111/nhs.12026>
- Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). *Educating nurses: A call for radical transformation*. Jossey-Bass, San Francisco.
- Benton, D. (2012). Advocating globally to shape policy and strengthen nursing's influence. *The Online Journal of Issues in Nursing*, 17(1). <https://doi.org/10.3912/OJIN.Vol17No01Man05>
- Bokonji, D., Ra, M., Ma, S., Oru, M., Rybarova, L., Vidovi, K., Drieghe, B., Wieren, J. Van, Çurçija, E., & Seiti, L. (2019). Competence-based curriculum development in nursing education: A story from the Western Balkans. *Nursing Education Perspective*, 40(6) 28–30. <https://doi.org/10.1097/01.NEP.0000000000000521>
- Brink, H., Van Der Walt, C., & Van Rensburg, G. (2017). *Fundamentals of research methodology for health care professionals (4th ed.)*. Juta and Company Ltd: Cape Town.
- Bvumbwe, T., & Mtshali, N. G. (2018a). Transforming nursing education to strengthen health system in Malawi: An exploratory study. *Open Nursing Journal*, 12(1), 93–105. <https://doi.org/10.2174/1874434601812010093>
- Bvumbwe, T., & Mtshali, N. (2018b). Nursing education challenges and solutions in Sub Saharan Africa: An integrative review. *BMC Nursing*, 17(3), 1–11. <https://doi.org/10.1186/s12912-018-0272-4>
- Christmalls, C. D., Aziato, L., & Rispel, L. C. (2021). Perceptions of the functioning and effectiveness of nursing regulators in Ghana and South Africa: A cross-sectional study. *BMJ Open*, 11, 50580. <https://doi.org/10.1136/bmjopen-2021-050580>
- Clapper, T. C. (2011). Interference in learning: What curriculum developers need to know. *Clinical Simulation in Nursing*, 7(3), e77–e80. <https://doi.org/10.1016/j.ecns.2010.08.001>
- Cook, D. A., Brydges, R., Hamstra, S. J., Zendejas, B., Wang, A. T., Erwin, P. J., & Hatala, R. (2012). Comparative effectiveness of technology-enhanced simulation versus other instructional methods. *Society for Simulation in Healthcare*, 7(5), 308–320. <https://doi.org/10.1097/SIH.0b013e3182614f95>
- Dahlke, S., O'Connor, M., Hannesson, T., & Cheetham, K. (2016). Understanding clinical nursing education: An exploratory study. *Nurse Education in Practice*, 17, 145–152. <https://doi.org/10.1016/j.nepr.2015.12.004>
- Eta, V. E. A., Atanga, M. B. S., Atashili, J., & D'Cruz, G. (2011). Nurses and challenges faced as clinical educators: A survey of a group of nurses in Cameroon. *Pan African Medical Journal*, 8, 1–8. <https://doi.org/10.4314/pamj.v8i1.71085>
- Farzi, S., Shahriari, M., & Farzi, S. (2018). Exploring the challenges of clinical education in nursing and strategies to improve it: A qualitative study. *Journal of Education and Health Promotion*, 7, 115. https://doi.org/10.4103/jehp.jehp_169_17

- Frehywot, S., Vovides, Y., Talib, Z., Mikhail, N., Ross, H., Wohltjen, H., Bedada, S., Korhumel, K., Koumare, A. K., & Scott, J. (2013). E-learning in medical education in resource constrained low- and middle-income countries. *Human Resources for Health, 11*(1), 1–15. <https://doi.org/10.1186/1478-4491-11-4>
- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., Fineberg, H., Garcia, P., Ke, Y., Kelley, P., Kistnasamy, B., Meleis, A., Naylor, D., Pablos-Mendez, A., Reddy, S., Scrimshaw, S., Sepulveda, J., Serwadda, D., & Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *The Lancet, 376*(9756), 1923–1958. [https://doi.org/10.1016/S0140-6736\(10\)61854-5](https://doi.org/10.1016/S0140-6736(10)61854-5)
- Global Alliance for Leadership in Nursing Education and Science (GANES). (2011). *Investing in nursing education to advance global health*. <http://casn.ca/wp-content/uploads/2014/12/GANESPositionFinal5.26.11.pdf>
- Hill, L., & Williams, E. P. (2017). *Contemporary models for clinical nursing education*. Hattiesburg, Mississippi, USA: Sigma Repository <http://hdl.handle.net/10755/623704>
- Hussein, M. T. E., & Osuji, J. (2016). Bridging the theory-practice dichotomy in nursing: The role of nurse educators. *Journal of Nursing Education and Practice, 7*(3), 20–25. <https://doi.org/10.5430/jnep.v7n3p20>
- Inayat, S., Younas, A., Sundus, A., & Khan, F. H. (2020). Nursing students' preparedness and practice in critical care settings: A scoping review. *Journal of Professional Nursing, 37*(1). <https://doi.org/10.1016/j.profnurs.2020.06.007>
- Jamshidi, N., Molazem, Z., Sharif, F., Torabizadeh, C., & Kalyani, M. N. (2016). The challenges of nursing students in the clinical learning environment: A Qualitative study. *The Scientific World Journal, 2016*, 1846178. <https://doi.org/org/10.1155/2016/1846178>
- Jeffries, P. R. (2005). A framework for designing, implementing, and evaluating: Simulations used as teaching strategies in nursing. *Nursing Education Perspectives, 6*(2), 96–103. [https://doi.org/10.1043/1536-5026\(2005\)026<0096:AFWFDI>2.0.CO;2](https://doi.org/10.1043/1536-5026(2005)026<0096:AFWFDI>2.0.CO;2)
- Jeffries, P. R. (2016). *The NLN Jeffries simulation theory* (1st Ed). Wolters Kluwer Health.
- Kim, J., Park, J., & Shin, S. (2016). Effectiveness of simulation-based nursing education depending on fidelity: A meta- analysis. *BMC Medical Education, 16*, 1–8. <https://doi.org/10.1186/s12909-016-0672-7>
- Kim, S. J., Kim, S., Kang, K.-A., Oh, J., & Lee, M.-N. (2016). Development of a simulation evaluation tool for assessing nursing students' clinical judgment in caring for children with dehydration. *Nurse Education Today, 37*, 45–52. <https://doi.org/10.1016/j.nedt.2015.11.011>
- Munangatire, T., & Naidoo, N. (2017). Exploration of high-fidelity simulation: Nurse educators' perceptions and experiences at a school of nursing in a resource-limited setting. *African Journal of Health Professions Education, 9*(1), 44–47. <https://doi.org/10.7196/AJHPE.2017.v9i1.739>
- Nehrir, B., Vanaki, Z., Mokhtari Nouri, J., Khademolhosseini, S. M., & Ebadi, A. (2016). Competency in nursing students: A systematic review. *International Journal of Travel Medicine and Global Health, 4*(1), 3–11. <https://doi.org/10.20286/ijtmgh-04013>
- Nursing and Midwifery Council (NMC). (2018). *Future nurse: Standards of proficiency for registered nurses*. London, UK: Nursing and Midwifery Council <https://www.nmc.org.uk/globalassets/sitedocuments/standards-of-proficiency/nurses/future-nurse-proficiencies.pdf>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research, 42*(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Papathanasiou, I. V., Tsaras, K., & Sarafis, P. (2014). Views and perceptions of nursing students on their clinical learning environment: Teaching and learning. *Nurse Education Today, 34*(1), 57–60. <https://doi.org/10.1016/j.nedt.2013.02.007>
- Pirie, J., Kappus, L., Sudikoff, S. N., & Bhanji, F. (2016). Simulation curriculum development, competency-based education, and continuing professional development. In: Grant V., Cheng, A. (eds), *Comprehensive healthcare simulation: Pediatrics* (pp. 181-193). Springer, Cham. https://doi.org/10.1007/978-3-319-24187-6_14
- Polit, C. T., & Beck, D. F. (2006). Essentials of nursing research: Methods, appraisal, and utilization. *Nurse Research, 13*(4), 91–92. <https://doi.org/10.7748/nr.13.4.91.s11>

- Pope, C., Ziebland, S., & Mays, N. (2000). Analyzing qualitative data: Qualitative research in health care. *British Medical Journal*, 320, 114–116.
- Rafati, F., Nouhi, E., Sabzevari, S., & Dehghan-Nayeri, N. (2017). Coping strategies of nursing students for dealing with stress in clinical setting: A qualitative study. *Electronic Physician*, 9(12), 6120–6128. <http://dx.doi.org/10.19082/6120>
- Salifu, D.A., Gross, J., Salifu, M. A., & Ninnoni, J. P. K. (2019). Experiences and perceptions of the theory-practice gap in nursing in a resource-constrained setting: A qualitative description study. *Nursing Open*, 6(1), 72–83. <https://doi.org/10.1002/nop2.188>
- Salifu, D. A., Heymans, Y., & Christmalls, C. Dela. (2022). Teaching and learning of clinical competence in Ghana: Experiences of students and post-registration nurses. *Healthcare* 10(3), 538. <https://doi.org/10.3390/HEALTHCARE10030538>
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334–340. [https://doi.org/10.1002/1098-240x\(200008\)23:4<334::aid-nur9>3.0.co;2-g](https://doi.org/10.1002/1098-240x(200008)23:4<334::aid-nur9>3.0.co;2-g)
- Shin, I., & Kim, J. H. (2013). The effect of problem-based learning in nursing education: A meta-analysis. *Advanced Health Science Education Theory Practice*, 18(5), 1103–1120. <https://doi.org/10.1007/s10459-012-9436-2>
- Spitzer, A., & Perrenoud, B. (2006). Reforms in nursing education across Western Europe: Implementation processes and current status. *Journal of Professional Nursing*, 22(3), 162–171. <https://doi.org/10.1016/j.profnurs.2006.03.011>
- Talley, B. (2006). Nurses and nursing education in Ghana: creating collaborative opportunities. *International Nursing Review*, 53(1), 47–51. <https://doi.org/10.1111/j.1466-7657.2006.00431.x>
- Voldbjerg, S. L., Gronkjaer, M., Sorensen, E. E., & Hail, E. O. C. (2016). Newly graduated nurses' use of knowledge sources: A meta-ethnography. *Journal of Advanced Nursing*, 72(8), 1751–1765. <https://doi.org/10.1016/j.nedt.2018.02.008>
- Watson, R., Hayter, M., & Jackson, D. (2021). Is the PhD well for nursing faculty running dry? *Journal of Nursing Management*, 29(6), 1349–1350. <https://doi.org/10.1111/jonm.13308>
- Wongpimoln, B., Pholputta, L., Ngernthaisong, C., & Sarnkhaowkhom, C. (2021). Transitional experiences from clinical nurse experts to novice nurse lecturers in the university for local development in Thailand: A phenomenological study. *Nurse Media Journal of Nursing*, 11(2), 197–209. <https://doi.org/10.14710/NMJN.V11I2.37366>
- World Health Organisation. (2009). *Global standards for the initial education of professional nurses and midwives*. Geneva, Switzerland: World Health Organisation. http://www.who.int/hrh/nursing_midwifery/en/
- World Health Organisation. (2016). *Nurse educator core competencies*. Geneva, Switzerland: World Health Organisation https://www.who.int/hrh/nursing_midwifery/nurse_educator050416.pdf
- World Health Organisation (2012). *Plan of action for scaling up quality nursing and midwifery education and practice for the African region 2012–2022*. Brazzaville: WHO Region Office for Africa
- World Health Organisation (2013). *Transforming and scaling up health professionals' education and training: World Health Organization guidelines 2013*. World Health Organization. www.who.int/iris/bitstream/handle/10665/93635/9789241506502_eng.pdf;jsessionid=87B4A0ECDDA6510BD2F68A5192F78FC9?sequence=1
- World Health Organisation (2018). *World health statistics 2018: Monitoring health for the SDGs, sustainable development goals*. Geneva: World Health Organization <https://www.hst.org.za/publications/NonHST%20Publications/World%20Health%20Statistics%202018.pdf>
- Younas, A., Zeb, H., Aziz, S. B., Sana, S., Albert, J. S., Khan, I. U., Inayat, S., Khan, F. H., & Rasheed, S. P. (2019). Perceived challenges of nurse educators while teaching undergraduate nursing students in Pakistan: An exploratory mixed-methods study. *Nurse Education Today*, 81(2019), 39–48. <https://doi.org/10.1016/j.nedt.2019.07.002>

