The Clinical Nursing Competency Assessment System of Ghana: Perspectives of Key Informants

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Abstract
It is essential to ensure that nurses are well trained and competent enough to provide safe and quality healthcare because of the critical role they play in the health systems globally. It is against this backdrop that Ghana instituted nursing licensing examination which includes clinical competency assessment. This qualitative exploratory descriptive study sought to explore and describe the perspectives of key informants on the clinical nursing competency assessment in Ghana. A total of 20 purposively selected key informants (nurse educators, nurse clinicians, and nurse managers) were interviewed. Data was analyzed using thematic content analysis. Although the intention of the clinical competency examination conducted by the nursing council is to ensure that only competent nurses are licensed to practice in Ghana, there are inherent issues such as manipulation of examiners, poor training of examiners, unstandardized assessment process, and inadequate resource which compromises the intent of the process. The nursing council admitted to not being aware of some of the challenges found in this study and will work towards improving the quality, validity, reliability, and fairness of the examination system. It is essential that the council institute quality improvement processes, including independent research into the examination process, to continually improve on the process because other countries within the sub-region try to benchmark their nursing licensing examination on that of Ghana.

Keywords
nursing, clinical competency assessment, licensing examination, sub-Saharan Africa, Ghana

Introduction
In the State of the world’s nursing 2020 report, the World Health Organization (WHO, 2020) expressed their concerns regarding the poor quality of nursing education globally and recommended investment in nursing education. Investing in the production of nurses is inevitable because nurses are at the core of healthcare delivery and form an indispensable part of national and global strategic plans related to a range of health priorities, including Primary Healthcare (PHC) and Universal Health Coverage (UHC) (Englund et al., 2020; WHO, 2020). When enabled and supported to work to their full scope of practice, nurses can provide effective health services that are instrumental to achieving UHC (WHO, 2020). Hence, it is essential to ensure that nurses are well-trained and competent enough to provide safe and quality healthcare to the population. To ensure quality and competent nurses, many countries had instituted nursing licensing examinations, including clinical competency assessment.

Purpose of the Study
This study sought to explore views of key informants (nurse educators, clinicians, and managers) on the assessment of clinical competency of nursing students who have registered for the national nursing licensing examination.

Nursing Education in Ghana
In Ghana, the training of nurses is under the jurisdiction of the Nursing and Midwifery Council (N&MC). The N&MC is responsible for curriculum design, accreditation, and monitoring of the nursing education institutions. The Council prescribes basic teaching materials, especially for clinical

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compentence. They are also responsible for the accreditation of the clinical facilities for clinical placement for learning and role-taking.

Professional nursing education is provided through a 3-year diploma program at the nursing college level and a 4-year bachelor’s degree program in the universities. After completing a professional program, the student must pass a licensing examination and complete a mandatory one-year clinical internship before she/he can practice independently. Nurses in Ghana provide healthcare services from the highest level of care (quaternary/specialist and teaching hospitals) to the lowest and most peripheral level where medical and allied health practitioners do not commonly practice, making nurses the only professionals available to patients (Asamani et al., 2018; Christmals & Armstrong, 2019).

**Clinical Competency Assessment**

Competency assessment is an ongoing process that seeks to evaluate, track, and maintain or improve the competency of health professionals or students. In Ghana, a summative clinical competency assessment is conducted to determine if the nursing student who has completed training has acquired the minimum competency requirements of the Nursing Council to be licensed to practice. Therefore, it is necessary to ensure that the clinical competency assessment is rigorous because passing an incompetent candidate, or failing a competent student, has negative consequences on the nursing workforce and the health of the population served.

Many models and tools were developed to assess either a single clinical competency (Alquwez et al., 2019; Lai, 2016) or a collection of competencies (Meier et al., 2014; Murray et al., 2016; Oermann et al., 2016; Ossenberg et al., 2016; Zasadny & Bull, 2015). Independent of the model, tool, or methods used in assessing clinical competency, the underlying principle is that the assessment should adhere to some quality criteria: validity, reliability (consistency or reproducibility), equivalence, feasibility, educational effect, catalytic effect, and acceptability (Hudges & Quinn, 2013; Norcini et al., 2011).

First, validity is the extent to which a test measures what it is designed to measure (Adamson et al., 2012). In essence, the tool should be able to discriminate between competent and incompetent candidates. Second, reliability seeks to ensure that the assessment will produce the same results if repeated under the same conditions. Third, equivalence is the criterion that ensures that the assessment has the same results if carried out across different institutions. Fourth, feasibility poses the question, “is the assessment practical, realistic, sensible within the context administered?”.

Fifth regarding the criterion ‘educational effect’, the assessment process must motivate the students and the teachers to prepare in a way that produces educational benefits. Sixth, catalytic effect is the criterion that stipulates that the assessment must provide feedback that can lead to reforms in education and drives future education. Last, acceptability is the criterion that indicates that all stakeholders should accept the examination process and results as credible (Norcini et al., 2011).

Currently, clinical nursing competency assessment in Ghana is conducted using task-based structured observations. The assessment is conducted in a health facility using real patients. Also, these health facilities are sites where students undertake their clinical placement for learning and role taking. The clinical competency assessment may involve the combination of observation and the use of a rating scale to guide the observer (examiner) on grading the students (Hudges & Quinn, 2013). Two examiners observe and rate the candidates independently, using the rating scales. The paper-based, four-point Likert scale, previously used, have been converted into an electronic (tablet-based) rating scale which reduces the amount of paper the examiners had to carry around (Christmals & Gross, 2019). The clinical competency assessment is well defined—there are no confusions regarding the expectations from the students and the examiners. Although students and nurse educators complain about the quality of various aspects of the clinical competency assessment process, an integrative literature review conducted by Christmals et al. (2018) found no empirical studies evaluating the clinical competency assessment system in Ghana. Findings from a study conducted to assess the challenges of the licensing examination by the regulatory body dwelt more on the theoretical component of the licensing examination (Wilmot et al., 2013). The paucity of empirical evidence on clinical competency assessment in Ghana poses a critical challenge as it is not known if the clinical competency assessment process exhibits all the criteria for good assessment as stipulated in the Consensus statement and recommendations from the Ottawa 2010 Conference (Norcini et al., 2011). This study sought to explore the research question, “What are the perspectives of key informants on the clinical nursing competency assessment in Ghana.”

**Materials and Methods**

**Design**

Qualitative research designs aim to establish the meaning of a phenomenon from the views of participants. It relies on the data in texts and images and uses unique data analysis methods and diverse designs (Creswell, 2014). This study utilized qualitative exploratory descriptive design to explore the views and experiences of nurse educators, nurse clinicians, and nurse managers on the clinical competency assessment of nursing students in Ghana.

**Population and Sampling**

The study sites comprising 10 regions were divided into three, already existing, geographic zones. Two regions from
each zone were selected by simple random sampling. Then a simple random sampling methodology was used to choose a public college and a university from each zone. Followed by the addition of a private college and a private university, making eight institutions. Participants were then selected from the eight nursing education institutions and their corresponding clinical practice facilities. A total of 20 key informants were purposively selected for the study. Key informants included nurse educators, nurse clinicians, and nurse managers with a minimum of five years experience in clinical teaching or clinical competency assessment of nursing students in Ghana. Additionally, all the key informants are also assessors of the licensing examination organized by the Nursing and Midwifery Council of Ghana. In this study, clinicians and managers represent the nurses in charge of clinical teaching and assessment in their respective clinical facilities (Table 1).

Data Collection Method

The key informants who consented to the study were interviewed one-on-one using a semi-structured interview guide. All interviews were conducted face-to-face in a convenient room/office in the participants’ workplace. The guiding questions included policies guiding clinical competency assessment, how the assessment is organized, and the outcomes. All the interviews were conducted in English and audio-recorded with the participant’s consent. Each interview took between 30 minutes and one hour to complete. The interviews were conducted in 2019.

Data Analysis

Thematic content analysis was used to analyze the data collected (Hsieh & Shannon, 2005). All the audio-recorded interviews were transcribed verbatim. The scripts were read several times to familiarize ourselves with the scripts. Two transcripts were inductively coded by two authors independently using MaxQDA version 20. A meeting was organized for the three authors to review the initial codes. A consensus was reached on the codes and the coding system. The first author then coded all the scripts using the coding system agreed upon in MaxQDA version 20. Similar codes were categorized under a subtheme supported by verbatim quotes from participants. Related subthemes were then clustered under three themes as presented in Table 2.

Response From the Nursing Council

The results were presented to the Nursing Council for their views and comments to make the discussion of the findings in this paper contextual. Their comments were included in the discussion of the results in section 4.

Results

Three themes emerged from the data, namely: structural issues, process issues, and outcomes of clinical competency assessment. The themes and subthemes were supported by the verbatim quotes from the key informants, as presented in Table 2.

Structural Issues

Structural issues included the policies and procedures guiding the assessment system-how the assessments procedures are designed, the resource availability and the training of the assessors. Subthemes include the design of the assessment system, resource constraints, and organization and training.

Design of assessment system. Six participants (KI20, KI18, KI19, KI16, KI17, and KI10) shared their knowledge of the mandate of the regulatory body in the design of the assessment system. Participants stated that the regulatory body provides students with clinical skills logbooks of skills that the student practised under supervision during clinical practice for role-taking and must be 80% to 85% complete to qualify for the examination.

“We have the regulatory body which is the N&MC who are mandated by law, Act 833 or so, which gives them the mandate to regulate the standard of nursing and midwifery in the country and by extension, they are supposed to assess all students who go through the NMTC and give them the license if they have passed the examinations. So there is a process in place to monitor student progress from when the student enrolls to when the student is has completed. There is a collaboration with the training institutions, as far as I know, there is a regulatory system”—KI20

Table 2. Themes and Subthemes.

| No. | Themes                         | Subthemes                        |
|-----|-------------------------------|----------------------------------|
| 1.  | Structural issues             | Design of assessment system      |
|     |                               | Resource constraints             |
|     |                               | Organization and training        |
| 2.  | Process issues                | Preparing patient care plan      |
|     |                               | Competency skills assessment     |
|     |                               | Marking system                   |
| 3.  | Outcomes of clinical competency assessment | Performance of students and examiners |
|     |                               | Nursing policy and practice      |
“What I know is that with the N&MC is that the logbook and the competencies that are spelt out in it is that each candidate should know at least 80% to 85% of the skills in the logbook, signed by an experienced nurse, before you are qualified to write the licensing exams . . . I think it is a good one”—KI07

Five key informants (KI1, KI15, KI13, KI12, and KI19) explained that the lack of access to assessment rubrics affects nursing candidates’ performance. The key informants stated that the clinical assessment tools (rubrics) are classified documents and therefore not accessible to the nurse educators and clinicians before the examination. Only the examination team is given access to the rubrics for the period of the examination. Additionally, there is no uniformity between the nurse educators and clinicians when teaching student nurses in the schools and the clinical areas, respectively, due to a lack of access to the assessment rubrics. This, therefore, causes a practice gap between what is taught and what is assed. The gap between what is taught and what is assessed is due to the unavailability of an up-to-date standardized clinical education framework or teaching materials. The participants believe that not having access to the examination tools to guide the teaching and learning of clinical competence coupled with the theory-practice gap between the nursing colleges and the clinical practice environment disadvantages the students.

“We have our assessment tools but not from the regulatory body, which is not very different from the regulatory body. We got it from other sources, N&MC did not give it to us”—KI15

“Collaboration (between NEIs and clinical facility) is not that smooth because sometimes we send objectives for which the student is sent there (clinical facility), (but) it looks like there is a gap between what we do and what the students go to the ward to do because when they return, they tell us to stop all we are doing because we are wasting our time. (Because) when they go to the ward it is a different thing that happens there”—KI12

“So far as the nursing process is a concern, if you teach the students the regular way at the skills laboratory, there is a short-cut or a way of doing it at the clinical site, so the students become confused”—KI03

**Resource constraints.** Resource constraints refer to limitations in physical resources, fiscal resources, and the equipment necessary for conducting clinical competency assessment for nursing students. Nursing books for teaching and learning are documented in the curriculum, however, the books are old and are therefore augmented with other books that are available to the educators and students. The manual for clinical practice training developed in 1995 is still being used by some of the lecturers in 2020. Some participants augment the books with information from manuals, handouts, and protocols sourced from different contexts through the internet. This creates inconsistencies in training and assessment, especially when the assessment rubrics are classified documents of the Nursing Council and are inaccessible to the students and the clinical skills instructors. A total of 10 participants (KI02, KI03, KI05, KI09, KI10, KI11, KI12, KI13, KI15, and KI18) touched on the inconsistencies in the books and manuals for teaching nursing competence.

“We do not keep to one particular book; everyone uses the books that are available to them. So I use books that are available to me, and I have a number of them, I think I have more than three, four basic nursing books . . . ”—KI02

“We have one old one that we still refer to but some of the things are no longer in use, so comparing them to the current textbook we make some modifications but it still serves as a guide for us”—KI12

“When you (examiner) go to a school, and they have their way of carrying out some procedures, you may not be privy to that and you are supposed to assess them on the tools that are coming from regulatory body which is often slightly off what they do. So you will end up disadvantaging the students, (although it) is not the fault of the student because that is what he or she has been taught”—KI05

Some nursing competency skills such as the nursing care plan are not practised at most clinical sites. The failure to do this appears to be due to the heavy workload in the wards. This increases the discrepancies between what is taught, practised, and assessed.

“When students go to the clinical area, how many nurses out there can even assess and diagnose one patient in their presence for them to learn from the clinicians at the ward, and even if we take this same rating tools to assess those who are practising right now, how many of our nurses will pass?—KI03

“The students do not understand the care plan because of lack of practice. We are not using the care plan or the nursing process for our patients. This may be due to the workload at the clinical site”—KI13

Secondly, students are financially overburdened by the examination. There is a mandatory registration fee that students pay for the examination. They are also obliged by their institutions to contribute money to buy some consumables for the examination, accommodate, and feed the examiners. This show of gesture could affect the outcome of the examination as the examiners may be biased and pass a student who is not competent, thus putting the population at risk as stated by seven participants (KI6, KI12, KI13, KI15, KI18, KI19, and KI20).

“Licensing examination although it is being organized by the regulatory body, I think it is still funded by the school. When I say the school funds it, I mean the students pay and they pay in the name of the school”—KI18

“You get it, so these are the issues I will do (conduct) an examination and students will have to contribute to buy food for me, my snack, my lunch, my water and you expect me to not to favour the student, I hope you are getting me”—KI6
Thirdly, according to five participants (KI9, KI12, KI3, KI18, and KI20) the proliferation of nursing training colleges, some clinical sites may have more than one school conducting the assessment and this affects the availability of patients for the examination. Participants (examiners) stated that sometimes they have to use one patient several times which may be stressful for the patient. One participant had to move students from one ward to the other to find patients for students to be assessed.

“Always they complain and I don’t think it’s adequate . . . that’s why I say human resources is part. The patients are not there . . . Sometimes during the practical examination, you meet about two schools let’s say the psychiatry people (students) are there already, then general nurses too”—KI19

“There are times that we will go for the examination and there are fewer patients on the ward and that becomes another challenge, and you will end up using one patient repeatedly, and the moment that the patient is used more than once, it means that you are causing nuisance and (the patient) may not respond well”—KI2

**Organization and training.** Key informants (KI1, KI3, KI5, KI8, and KI12) were not aware of the criteria for pairing the examiners into the team but thought that it was purposively done for the team members to support each other. Some participants (KI10, KI12, KI13, KI15, KI16, and KI18) thought that the random pairing of the assessors is fraught with challenges whereby the more experienced assessor may control the scoring of the examination. Additionally, one participant (KI14) complained that novices are assigned as examiners, although there are experienced ones. She advised that the novices should work as invigilators before transitioning to examiners. The key informants (KI1, KI2, KI3, KI4, KI9, KI11, KI10, KI12, KI13, KI14, KI15, KI14, KI16, KI18, and KI20) stated that to ensure that examiners are experienced before they are assigned to students, every nurse educator or clinician must go through the formal examiners’ training by the Council since they may get the opportunity to examine students someday. One participant (KI16) opined that novice examiners are assigned as examiners just because other examiners turn down the invitation and the novices have filled out the application form. Also, some novice examiners may not have been trained before they join the team, so they copy the mistakes of the experienced examiners.

“I think for what has been happening since I join till now, it has always been a clinician pairing with a tutor with the idea that the clinician who is basically at the clinical area has more of the clinical knowledge and the tutor from the classroom also has more of the theoretical knowledge . . .”—KI05

“You see when you pair a clinician and a tutor who has not worked before, and we meet at the pre-examination meeting for the first time. And we are supposed to work together and, . . ., the experienced person influences the inexperienced person. . . ., sometimes too, the regulatory body is under pressure to get examiners to go to (some) areas and do the examination because other people turn down the invitation because they are busy. . . . they have to call people to fill in, and the ones that come handy are those they have . . .”—KI16

“Examiners must be trained twice a year by the regulatory body with collaboration from the Ministry of Health and other stakeholders (such as) service delivery agencies where the students go to work. All of us need to understand the philosophy because . . . maybe things have changed, a lot of things may have changed in the system and those in the field may not appreciate the change”—KI20

**Process Issues**

Process issues refer to how the clinical competence assessment is controlled. It involves how the examiners assign student nurses to patients to plan care. How examiners determine what competency skills are assigned to students to perform. The marking of the care plan and competency skills are also explained. Subthemes that emerged from the data were planning care, competency assessment, and marking system and are described with their corresponding verbatim quotes below.

**Preparing the patient care plan.** Eight key informants (KI1, KI3, KI9, KI10, KI12, KI15, KI18, and KI19) stated that before patients are assigned to students, examiners assess the healthcare needs of the patient. Students are then given 30 minutes to assess their patients and prepare a care plan. A total of 14 participants (KI3, KI4, KI9, KI10, KI11, KI14, KI5, KI8, KI9, KI12, KI13, KI16, KI17, and KI20) believe that some students falsify patient problems because they are not observed by the examiners when they are interacting with the patient during patient assessment and care plan preparation. However, one participant also thought that sometimes, students are assigned patients that may be difficult to assess.

“So most students come with their already cooked ideas because of the time, and the issue too is that we don’t assess the student while they are taking that information. Nobody checks whether they are even interacting with the patient, whether the information they claimed they have assessed (gathered) is right, some students can do a care plan, and the patient has a wound and they would never know, so what it means is that assessment itself was not done well”—KI03

“We even have instances where a student tells patients to lie with regards to the problem, they feel they want to work on, and they don’t use other proper assessment techniques. Some may be due to laziness as they just don’t want to identify the obvious problems. These are the two reasons why they come up with the cooked problems”—KI11

“I also have to be honest because sometimes we as examiners struggle to get patients for students, but we are supposed to conduct the exams anyway. Sometimes, the student will find it very difficult to find current problems because the
patient has been on the ward for two or three days, . . . it is a bit easier to use patients on the surgical ward because there are wound and pain, so you know that if not for anything these . . . problems are there”—KI18

**Competency assessment.** According to participants (KI1, KI2, KI3, KI5, KI9, KI10, KI11, KI12, KI19, and KI20), students are required to be examined on two nursing clinical competency skills. However, some students may be assigned two relatively complex skills while other students get less challenging skills. This introduces an element of luck in the examination process, which is unfair to some students.

“An example is an admission of the patient and vital signs but when the student gets admission of a patient he or she needs to check vital signs, serve medication, make a bed and several other tasks within this, meanwhile another student will just be given vital signs as the second task, and at the end, if this student who was given the admission is unable to perform the task he or she is referred (failed) whiles the other one passes. I think it is not fair”—KI12

“They give a student colostomy care or under-water-seal drainage then you could see that this student has been challenged and was not lucky because he was over-loaded, and then one student will also get bed making and vital signs. . . . so one person will have a holiday and pass . . . in this case, standardization of the examination was not met”—KI10

Sometimes, some students may be assigned different tasks outside their nursing orders in the patient care plan, or they may be asked to perform the tasks on another patient because the procedure might have been done already on their assigned patient, as explained by participants (KI15, KI18). Another interesting discovery is that the examiners like to assign candidates varied tasks to cover all the assessment rubrics provided by the regulatory body (KI11, KI16) therefore end up assigning different procedures that were not documented by students in their patient care plan. Additionally, other examiners will assign non-difficult tasks to complete the examination session early, as explained by KI16.

“Sure, because there are sometimes that the student identifies bed making and everybody getting bed-making. So you may give a task on the ward like an admission of a patient and changing colostomy bag, those are things that students will not expect to get, so as soon as you give them things like that, they think the examiner is very wicked”—KI16

“There are some students who will get an easy task, they will get bed making and vital signs, and they are gone, but there are some areas that the examiner will count the tasks to make sure they are doing across the board” so some examiners will look at your (students) previous one (task) and . . . will assign admission (another task).—KI16

There were mixed reactions to the introduction of a standardized examination for assessing the clinical competency of nursing students. One participant (KI20) said that students should be allowed to choose the procedures to perform. Although one (KI10) called for combining mandatory and optional tasks for each student, others (KI16 and KI17) believe that standardizing clinical competency assessment will solve the challenges of assigning different clinical competency skills of varying complexity to different students.

“We should let it be an initiative of the student to choose. In any case, students have their strengths and weaknesses, and of course, we want the strengths, but we also want to see the weaknesses. We can still see the weaknesses”—KI10

“. . . sometimes, it is true people get vital signs, and they score 4,3,4,3 . . . while somebody will get underwater seal drainage and the person may have difficulties which are not fair, so we have to look at this and do a broader consultation”—KI18

“I think some maybe are mandatory, and others may be optional. Just as I said, we have major and minor procedures, so you make sure that one student does not do two minor procedures or major procedures. Even with the major, some seem like a minor procedure” KI10

One participant (KI20) who did not support standardizing the assessment system thought that once a student is well trained, the person must be able to perform any clinical competency skill assigned.

“It is very dicey because I don’t think that is the way to go. If you are trained to do all kinds of things, it doesn’t matter what kind of procedure. You have been taught, and everybody have been taught, so that is the fair aspect; whether they give to you or me, we should be able to do it. So during the assessment, we should not say we should all do the same. Theoretically, you can do that, but practically, I don’t think so, it is not feasible”—KI20

According to participants (KI3, KI10, KI13, KI16, and KI17), standardizing the examination will create uniformity and prevent biases in the examination system. Although participants thought that all the nursing procedures are important and nursing students must master them all, they resolve that the examination should revolve around core clinical competencies.

“You see when students are challenged in that way; . . . they will prepare for those areas because . . . the core component of nursing practice revolves around this area(s). The rest are adjunct, they are just spicing up the nursing care, like handling over and taking up”—K13

The key informants identified various skills that they thought may be included in a standardized clinical competency examination system such as the Objective Structured Clinical Examination (OSCE) for the assessment of nursing students at the terminal examination. OSCE is a form of clinical competency examination where students are examined on similar skills to ascertain their level of competence. The proposed skills include care of the mouth; administration of oxygen; safety needs; bed bath; bed making; vital signs; administration of medication; monitoring intake and output; wound dressing; catheter care; emergency triaging; collection of specimen; admission,
referral, transfers and discharge; feeding patient; physical assessment; handing over and taking up; and communication.

**Marking system.** Ten participants (KI3, KI4, KI5, KI8, KI9, KI12, KI14, KI16, KI17, and KI19) stated that students are observed and graded independently by two examiners during the performance of the task assigned. Sometimes there are varied marking patterns due to individual differences. The examiners compare the marks and reach a consensus on the final mark to be awarded to the student. Sometimes, the chief examiners (head of the examination team) intervene when necessary to resolve the differences. Some participants (KI6, KI13, and KI16), therefore, recommend the need for more rigorous supervision by the chief examiners.

“...you will have challenges with your partner and even maybe with the chief examiner because you are all thinking at different levels. (This is) because things are not standard, so your partner may think this way, you also think this way (differently) but at the end, you have to come to a consensus to make sure that the right thing is done. But as long as there is no 100% standardization, obviously, there would be arguments”—KI6

“Normally, you know, it is an observational thing, you score based on your observation, so if at a particular point in time you don’t observe very well, the rating is going to be different. It is a point we call consideration, so maybe at a point I scored differently and then my partner scores differently then we come together, and then we grade. We will talk about each other’s score; maybe there is something I might have omitted or I didn’t hear very well, so she will prompt me on that, and I will say okay, we will all come to an agreement as to what to give”—KI8

“There are some items written on the rating scale that some of the examiners do not understand the gravity of what is being done; one typical example is recording intake and output. It is a very short task, but... a patient can easily die because of that, so when somebody comes to do a calculation or entry that is wrong, an assessor will say the student has recorded, so they mark 3 points, but... I know the gravity, (so) once you record and it is wrong, I will mark you 1 point”—KI16

Secondly, 11 participants (KI4, KI5, KI10, KI11, KI12, KI13, KI14, KI15, KI16, KI17, and KI18) recommend that examiners must observe and score the care plan preparation process so that students will avoid memorizing and writing false patient problems. Marking of the care plan often results in conflicts because the examiners are from diverse institutions, and there is no known standardized nursing diagnosis manual available for all the institutions to use or refer to.

“...the ones that are marked are the ones people pay attention to, but I think assessment should be marked. But before the assessment is marked, I don’t know either they increase the time or they decrease the number of students a day to see how it goes, but we need to mark assessment”—KI16

“We have issues with the care plan because when you move from my school to another school, we all have a different mindset of what the care plan is with different teaching,... so I don’t dwell so much on the care plan when I am assessing students because that was what the student was taught”—KI5

Lastly, standardizing the examination will bring uniformity in the assessment of students. Also, students will do a proper assessment of patients and identify realistic problems from the patient as supported by participants (KI13, KI14, and KI15).

“...you will make your own way out because students come in with cooked problems and cooked diagnoses, so they just come and pour them on the sheet because you may see a particular patient is in urine and may need catheter care and if the student is not conversant with catheter care, he/she will not write it. When wounds are complicated, the student will not identify (it) as one of the problems because they think it will take a lot of time, so if there is a special mark allocated, one will be obliged to pick the important and realistic problems and not the false ones”—KI15

**Outcomes of Clinical Competency Skills Examination**

Outcomes refer to how the results of the clinical competency assessment are used in nursing education. It also covers issues relating to how the feedback received from the examiners is used for the quality improvement of the assessment system. Subthemes include the performance of students and examiners, and nursing policy and practice.

**Performance of students and examiners.** According to the participants (KI3, KI8, KI10, KI18, KI19, and KI20), the outcome of the clinical competency assessment shows the quality of students trained. Subsequently, the results also indicate the performance of teachers. It may also indicate the overall performance at the institutional level. Participants stated that examination reports on the various Nursing Education Institutions (NEI) and the clinical examination facilities should be made available for quality improvement purposes.

“I think the school should have the feedback on what was done right, what was not done right and what must be improved, so that the others that are being prepared will come out improved”—KI10

“I will not be interested in just the outcome or the results but also the examiners’ report and the overall performance of the students. That is more important than just saying that we got 100%. Let us go into the nitty-gritty of the 100%, that will help us know where the students have done very well, so it gives us an overview of what is happening at the institution level... it will help all stakeholders to know the weaknesses of the system and suggest appropriate interventions to address the next examination”—KI20

Participants stated that examination reports on the various NEI and the clinical examination facilities should be made available for quality improvement purposes.

Ten participants (KI3, KI4, KI5, KI8, KI10, KI11, KI12, KI13, KI14, KI15, KI16, KI17, and KI18) recommend that examiners must observe and score the care plan preparation process so that students will avoid memorizing and writing false patient problems. Marking of the care plan often results in conflicts because the examiners are from diverse institutions, and there is no known standardized nursing diagnosis manual available for all the institutions to use or refer to.
Four participants (KI10, KI18, KI19, and KI20) believed that if students were allowed to evaluate the examiners, it would provide helpful feedback to the regulatory body on the competency and the professionalism of the examiners, which may, in turn, help to improve the examination system.

“I don’t know, so when students can evaluate the examiners, it will also be a check for them. You may not be able to (give) students 100% because it is an examination, and the students (may) feel I should have been treated this way. So, it may be the examiner’s word against the student’s. But I don’t think five students will come together and write something about an examiner. So if we can see the trend, then that examiner should be called. . . . the evaluation from the students will help”—KI10

“But debriefing has been helping in the whole world. So, I think with this evaluation, there is nothing wrong. It would have been better so that people will comport themselves”—KI19

**Nursing policy and practice.** This theme presents the key informants’ views on the adequacy of policies and practices guiding the clinical competency assessment that influences the outcomes of the assessment in Ghana. Seven participants (KI3, KI13, KI6, KI11, KI16, KI19, and KI20) thought that the curriculum for teaching clinical competency is appropriate. Nurse educators and clinicians who teach nursing students need more training on the policies and expected competence of nursing students. Also, nurse educators and clinicians who assess nursing students’ clinical competence during licensing examinations need more training to ensure that the assessment process is fair.

The curriculum contains the policy guidelines and other information on how general nurses are to be trained. Also, there may be a need to restructure the clinical practice schedule to reduce the overcrowding of students at one time. Participants believed that the regulatory body should ensure that the care plan is practised at the clinical sites so that students will understand it better during the examination.

“I will say yes, the curriculum that we have now is not bad. It is good. I think it is of international standard, but the only challenge is the people who teach the curriculum, whether or not they are well trained, experienced, (and) well prepared to teach that. That is the challenge”—KI20

“Besides that, when they go to the clinical area, how many nurses out there can even assess and diagnose one patient in their presence for them to learn from the clinicians at the ward, and even if we take this same rating tools to go and assess those who are practising right now how many of our nurses will pass”—KI3

**Discussion**

Assessment of clinical competency of nursing students is an integral part of the licensing examination for certification. It is conducted at the end of the training, where nursing students register for the licensing examination. This study explored the views of key informants, nurse educators, clinicians, and managers, who have at least 5 years of teaching, managing, and conducting clinical competency assessment in their respective practice facilities. The findings showed that although the examination system was established, there were some inherent challenges that needed to be rectified.

The unavailability of an up-to-date clinical education manual, the ad hoc review of clinical competency assessment rubrics and the use of different books and manuals from different countries made the teaching and learning of clinical practice skills unstandardized. This alone creates a critical problem in the assessment of clinical competency as different educators and clinicians teach with different resources and are sent to different institutions to assess students who were taught using different manuals and books. This potential for bias in the assessment of clinical competency was also reported by Atakro et al. (2020) and Salifu et al. (2019). There is strong evidence (Bagnasco et al., 2016; Hou et al., 2019; Kpodo et al., 2016; Williams et al., 1987) that standardization of clinical teaching and assessment improves the validity, reliability, and usefulness of clinical competency assessment. If the Nursing Council cannot make the assessment rubrics (component tasks) available to nurse educators and clinicians, revisions in the competencies should be disseminated to all NEIs as early as possible. This will reduce the disconnect between what is taught and what is assessed to enhance to quality of the assessment system.

The classified nature of the assessment rubrics adds another layer of uncertainty to this problem, as reported by Burke et al. (2016). The availability of assessment tools strengthens the objectivity and reliability of assessment. Many authors (Fawaz et al., 2018; Immonen et al., 2019; Mthimunye & Daniels, 2020) reported that the availability of examination rubrics gives clinical educators the ability to support students on the expectations of the examination, which is mostly conducted based on the minimal standards of practice set by the regulatory councils. In discussion with the leadership of the Nursing and Midwifery Council of Ghana, they explained that the tools are for the examination only and cannot be accessible to the student and their educators.

Results also show that there are limited teaching, learning and assessment resources. Fawaz et al. (2018) reported that limited resources made it difficult for educators and clinicians to support students with current issues in clinical nursing competency. The regulatory body recommends some books in the curriculum; however, some institutions do not have access to these books. This is common in low-resource countries such as Ghana; however, Christmals and Gross (2019) emphasized that students should not be disadvantaged in the examination due to limited resources.

Some examiners stated that they were not trained before the examination day, on which they were given some orientation on the process. The team consists of two examiners, and
there is also a need for inter-rater reliability testing that was not done by the regulatory body. Recruitment and training of examiners are important for the validity and reliability of the assessment system. Many authors (Burke et al., 2016; Khamarko et al., 2012; Loades & Armstrong, 2016; Meier et al., 2014; Safabakhsh et al., 2016) emphasized the importance of formal training and continuous professional development of examiners on the examination process and the application of the examination tools as essential for quality assessment. Training on the psychometric properties of the assessment tools also needs to be done to ensure inter-rater reliability, thereby ensuring fairness in the assessment system (Daly et al., 2017; Robertson et al., 2020). The Nursing Council stated that they train the examiners every 2 years, but there are some occasions where the examiners’ appointment would not have attended their training program; hence, they request the chief examiners whose team they belong to give them orientation onsite.

Accommodating, feeding, and gifting the examiners during the examination, as stated by the key informants, has the potential to influence the outcomes of the examination. Empirical evidence also shows students present gifts to examiners to manipulate assessors into passing them (Hudges & Quinn, 2013). The Nursing Council stated that it is the institutions’ duty to support (accommodate and feed) examiners; therefore, they met with the leadership of the nursing institutions and the Ministry of Health and agreed that the institutions should charge 18 United States Dollars ($) apart from paying registration fees to support the Council in conducting the examinations. To avoid bribery and manipulation of the examination results, the examiners need to be independent of the institutions being examined.

Not assessing students during their interaction with the patients assigned to them for the preparation of the care plan coupled with the short time (30 minutes) allocated to students to assess and plan care for patients under examination conditions creates an opportunity for the student to devise means of finishing in time hence memorizing fabricated care plans from home to copy during the examination. A quality physical assessment has an impact on patient outcomes (Douglas et al., 2016; Lambie et al., 2015), and therefore, nurses must be assessed for their competence in physical assessment and planning of care accurately. Because students fabricate care plans that they eventually will be asked to provide for the patients, there is a possibility of providing care that the patient does not need, or care which may be dangerous to the health of the patient, thereby increasing the risk for morbidity and mortality (Kariwala et al., 2018).

It is important to standardize the clinical competency assessment system by introducing OSCE to ensure validity, reliability, and fairness (Nyoni & Botma, 2017). This will, in turn, lead to the standardization of the teaching and learning in Nursing Education Institutions, thereby resolving some of the challenges examiners face during the clinical competency assessment.

The current assessment system, although established, does not achieve the quality criteria such as validity, reliability (consistency or reproducibility), equivalence, feasibility, educational effect, catalytic effect, and acceptability (Hudges & Quinn, 2013; Norcini et al., 2011), however, when these challenges indicated are prevented, the quality of the assessment system will improve which will, in turn, improve the competency of nursing students.

Recently, Korea, China, and Brazil adapted the National Council Licensure Examination (NCLEX), including clinical competency assessment which is not a component of the NCLEX (Shin et al., 2017). The Ghanaian nursing licensing examination system comprises both the theoretical and the clinical competency assessment, positioning it as a context-specific benchmark for countries in sub-Saharan Africa. As such, the nursing licensing examination in Ghana needs continuous evaluation and improvement.

Conclusion

Though the intention of the clinical competency examination conducted by the Nursing and Midwifery Council of Ghana is to ensure that only competent nurses are licensed to practice in the country, there are inherent issues of unstandardized assessment process and resource limitation, which compromises the intent of the process. The Nursing Council admitted to not being aware of some of the challenges found in this study and will work towards improving the quality, validity, reliability, and fairness of the examination system. It is essential that the Council institute a quality improvement processes-including independent research into the examination process to continually improve on the process, especially when other countries within the sub-region try to benchmark their nursing licensing examination conducted by the Nursing and Midwifery Council of Ghana. It will be essential for the Council to consider standardizing the assessment system to ensure fairness in the examination.

Limitations of the Study

Even though the researcher selected eight nursing education institutions and eight health facilities used for the examination of students, this may not be representative of all the hospitals and nursing education institutions in Ghana.

Practical Implications

The study identified some key practical implications to nurse educators, clinicians, and managers who serve as examiners and the licencing agency as a whole. First, the insufficient knowledge of examiners on the policies guiding the clinical competency assessment could affect the outcome of the assessment. Second, not training some examiners before deployment to assess students could affect the validity of the
examination as the examiner may lack the expertise in assessing the students. It will be essential for the nursing regulatory body to improve on the recruitment and deployment processes. Third, the lack of resources coupled with few patients at some of the examination centres makes it difficult for examiners to assign students to different patients. It will be important for the regulatory body to consider increasing funding and other resources for the efficient implementation of the assessment system. Lastly, students falsifying the problems of the patients assigned to them during the care plan preparation could affect the credibility of the examination process. The licensing agency, therefore, needs to identify strategies that will ensure that students do not falsify patients’ problems.

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Author Contributions
The first author conducted the study under the guidance of the second and third authors. All the authors were involved in the conceptualization, data collection, analysis, and manuscript writing.

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References
Adamson, K. A., Gubrud, P., Sideras, S., & Lasater, K. (2012). Assessing the reliability, validity, and use of the lasater clinical judgment rubric: Three approaches. Journal of Nursing Education, 51(2), 66–73. https://doi.org/10.3928/01484834-20111130-03
Alquwez, N., Cruz, J. P., Alshammari, F., Felemban, E. M., Almazan, J. U., Tumala, R. B., Alabdulaziz, H. M., Alsolami, F., Silang, J. P. B. T., & Tork, H. M. M. (2019). A multi-university assessment of patient safety competence during clinical training among baccalaureate nursing students: A cross-sectional study. Journal of Clinical Nursing, 28(9–10), 1771–1781. https://doi.org/10.1111/jocn.14790
Asamani, J. A., Chebere, M. M., Barton, P. M., D’almeida, S. A., Odame, E. A., & Oppong, R. (2018). Forecast of healthcare facilities and health workforce requirements for the public sector in ghana, 2016–2026. International Journal of Health Policy and Management, 7(11), 1040–1052. https://doi.org/10.15171/ijhpm.2018.64
Atakro, C. A., Atakro, A., Akuoko, C. P., Aboagye, J. S., Blay, A. A., Addo, S. B., Adatara, P., Agyare, D. F., Amoa-Gyarteng, K. G., Garti, I., Menlah, A., Ansong, I. K., Boni, G. S., Sallah, R., & Gyamera Sarpong, Y. (2020, April). Knowledge, attitudes, practices and perceived barriers of evidence-based practice among registered nurses in a Ghanaian teaching hospital. International Journal of Africa Nursing Sciences, 12, 100204. https://doi.org/10.1016/j.ijans.2020.100204
Bagnasco, A., Tolotti, A., Pagnucci, N., Torre, G., Timmins, F., Aleo, G., & Sasso, L. (2016). How to maintain equity and objectivity in assessing the communication skills in a large group of student nurses during a long examination session, using the objective structured clinical examination (OSCE). Nurse Education in Practice, 17, 54–60. https://doi.org/10.1016/j.nepr.2015.11.034
Burke, E., Kelly, M., Byrne, E., Ui Chiardha, T., Mc Nicholas, M., & Montgomery, A. (2016). Preceptors’ experiences of using a competence assessment tool to assess undergraduate nursing students. Nurse Education in Practice, 17, 8–14. https://www.sciencedirect.com/science/article/pii/S1471595316000056?via%3Dihub
Christmals, C. D., & Armstrong, S. J. (2019). The essence, opportunities and threats to advanced practice nursing in Sub-Saharan Africa: A scoping review. Helixyon, 5(10), e02531. https://doi.org/10.1016/j.helixyon.2019.e02531
Christmals, C. D., & Gross, J. I. (2019). An analysis of the introduction of digital nursing licensing examination in Ghana. International Journal of Caring Sciences, 12(3), 1892–1897.
Christmals, C. D., Gross, J., Aziato, L., & Armstrong, S. J. (2018). The state of nursing research in Ghana: An integrative literature review. SAGE Open Nursing, 4, 237796081878382. https://doi.org/10.1177/2377960818783820
Creswell, J. W. (2014). Nursing physical assessment for patient care, 1st edition. Sage.
Daly, M., Salamonson, Y., Glew, P. J., & Everett, B. (2017). Hawks and doves: The influence of nurse assessor stringency and leniency on pass grades in clinical skills assessments. Collegian, 24(5), 449–454. https://doi.org/10.1016/j.colegn.2016.09.009
Douglas, C., Booker, C., Fox, R., Windsor, C., Osborne, S., & Gardner, G. (2016). Nursing physical assessment for patient safety in general wards: Reaching consensus on core skills. Journal of Clinical Nursing, 25, 1890–1900. https://doi.org/10.1111/jocn.13201
Englund, H., Basler, J., Meine, K., & McArthur, E. (2020). More than a cultural experience: Assessing the impact of a medical-surgical international clinical on nursing students’ academic performance. Nurse Education Today, 84, 104248. https://doi.org/10.1016/j.nedt.2019.104248
Fawaz, M. A., Hamdan-Mansour, A. M., & Tassi, A. (2018, October). Challenges facing nursing education in the advanced healthcare environment. International Journal of Africa Nursing Sciences, 9, 105–110. https://doi.org/10.1016/j.ijans.2018.10.005
Hou, J., Chen, S., Sabharwal, S., Fan, V., Yan, M., & Wang, W. (2019). Comparison of RN licensure examination: China and
the United States. International Journal of Nursing Sciences, 6(1), 111–116. https://doi.org/10.1016/j.ijnss.2018.11.002
Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. Qualitative Health Research, 15(9), 1277–1288. https://doi.org/10.1177/1049732305276687
Hudges, S. J., & Quinn, F. M. (2013). Quinn’s principles and practice of nurse education (6th ed.). Cengage learning EMEA.
Immonen, K., Oikarainen, A., Tomietto, M., Kääriäinen, M., Tuomikoski, A. M., Kaučič, B. M., Filej, B., Rikikiene, O., Flores Vizcaya-Moreno, M., Perez-Cañaveras, R. M., De Raeve, P., & Mikkonen, K. (2019). Assessment of nursing students’ competence in clinical practice: A systematic review of reviews. International Journal of Nursing Studies, 100, 103414. https://doi.org/10.1016/j.ijnurstu.2019.103414
Kariwala, P., Dixit, A. M., Jain, P. K., Rani, V., & Srivastava, D. K. (2018). Assessment of knowledge and skills of nursing staff working in a tertiary care hospital of Western Uttar Pradesh. Indian Journal of Community Health, 30(1), 51–55.
Khamarko, K., Koester, K. A., Bie, J., Baron, R. B., & Myers, J. J. (2012). Developing effective clinical trainers: Strategies to enhance knowledge translation. SAGE Open, 2(2), 112582401244848. https://doi.org/10.1177/1125824012448486
Kpodo, C. J., Thurling, C. H., & Armstrong, S. J. (2016, July). The challenge of training nursing students’ communication skills of final year nursing students: An observational study. International Journal of Nursing Sciences, 6–24. https://doi.org/10.1921/7701240205
Kariwala, P., Dixit, A. M., Jain, P. K., Rani, V., & Srivastava, D. K. (2018). Assessment of knowledge and skills of nursing staff working in a tertiary care hospital of Western Uttar Pradesh. Indian Journal of Community Health, 30(1), 51–55.
Khamarko, K. Koester, K. A., Bie, J., Baron, R. B., & Myers, J. J. (2012). Developing effective clinical trainers: Strategies to enhance knowledge translation. SAGE Open, 2(2), 112582401244848. https://doi.org/10.1177/1125824012448486
Kpodo, C. J., Thurling, C. H., & Armstrong, S. J. (2016, July). Best clinical nursing education practices in Sub-Saharan Africa: An integrative literature review. 27th International Nursing Research Congress, 78890. https://sti.confex.com/sti/congrs16/webprogram/Session22705.html
Lai, C. Y. (2016). Training nursing students’ communication skills with online video peer assessment. Computers and Education, 97, 21–30. https://doi.org/10.1016/j.compedu.2016.02.017
Lambie, A., Schwend, K., & Scholl, A. (2015). Utilisation of the nursing process to foster clinical reasoning during a simulation experience. SAGE Open, 5(4), 1125824015617516. https://doi.org/10.1177/1125824015617516
Loades, M. E., & Armstrong, P. (2016). The challenge of training supervisors to use direct assessments of clinical competence in CBT consistently: A systematic review and exploratory training study. Cognitive Behaviour Therapist, 9(27), 1–20. https://doi.org/10.1017/S1754470X15000288
Meier, K., Parker, P., & Freeth, D. (2014). Mechanisms that support the assessment of interpersonal skills: A realistic evaluation of the interpersonal skills profile of pre-registration nursing students. The Journal of Practice Teaching and Learning, 12(3), 6–24. https://doi.org/10.1921/7701240205
Mthimunye, K. D. T., & Daniels, F. M. (2020, January). Exploring the challenges and efforts implemented to improve the academic performance and success of nursing students at a university in the Western Cape. International Journal of Africa Nursing Sciences, 12, 100196. https://doi.org/10.1016/j.ijans.2020.100196
Murray, K., McKenzie, K., & Kelleher, M. (2016). The evaluation of a framework for measuring the non-technical ward round skills of final year nursing students: An observational study. Nurse Education Today, 45, 87–90. https://doi.org/10.1016/j.nedt.2016.06.024
Norcini, J., Anderson, B., Bollela, V., Burch, V., Costa, M. J., Duuvivier, R., Galbraith, R., Hays, R., Kent, A., Perrott, V., & Roberts, T. (2011). Criteria for good assessment: Consensus statement and recommendations from the Ottawa 2010 conference. Medical Teacher, 33(3), 206–214. https://doi.org/10.3109/0142159X.2011.551559
Nyoni, C. N., & Botma, Y. (2017). Aligning summative clinical examination with competence-based curriculum: Midwifery educators experiences in Lesotho. International Journal of Africa Nursing Sciences, 7, 11–17. https://doi.org/10.1016/j.ijnas.2017.05.003
Oerermann, M. H., Kardong-Edgren, S., & Rizzolo, M. A. (2016). Towards an evidence-based methodology for high-stakes evaluation of nursing students’ clinical performance using simulation. Teaching and Learning in Nursing, 11(4), 133–137. https://doi.org/10.1016/j.teln.2016.04.001
Ossenberg, C., Dalton, M., & Henderson, A. (2016). Nurse education validation of the Australian nursing standards assessment tool (AN SAT): A pilot study. YNEDT, 36, 23–30. https://doi.org/10.1016/j.ynedt.2015.07.012
Robertson, R. L., Park, J., Gillman, L., & Vergis, A. (2020). The impact of rater training on the psychometric properties of standardised surgical skill assessment tools. https://doi.org/10.1016/j.amjsurg.2020.01.019
Safabakhsh, L., Arbabshastani, M. E., Sharifi, S., & Arbabisarjou, A. (2016). Clinical competence assessment in pre-registration nursing. Der Pharmacia Lettre, 8(21), 82–85.
Salifu, D. A., Gross, J., Awal, M., Jerry, S., & Ninnoni, 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, 72–83. https://doi.org/10.1002/nop2.188
Shin, S. J., Kim, Y. K., Suh, S. R., Jung, D. Y., Kim, Y., & Yim, M. K. (2017). Perception survey on the introduction of clinical performance examination as part of the national nursing licensing examination in Korea. Journal of Educational Evaluation for Health Professions, 14, 26. https://doi.org/10.3352/jeehp.2017.14.26
Williams, R. G., Barrows, H. S., Vu, N. V., Verhulst, J. S., Colliver, J. A., Marcy, M., & Steward, D. (1987). Direct, standardised performance examination as part of the national nursing licens- ing examination. Nursing 2020: Investing in education, jobs and leader- ship. https://www.who.int/publications-detail/nursing-report-2020
Zasadny, M. F., & Bull, R. M. (2015). Assessing competence in undergraduate nursing students: The amalgamated students assessment in practice model. Nurse Education in Practice, 15(2), 126–133. https://doi.org/10.1016/j.nepr.2015.01.003