Special Article

An Analysis of the Introduction of Digital Nursing Licensing Examination in Ghana

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Abstract

The introduction of digital nursing licensing examination in Ghana is one of the major positive nursing education policy shift in the last three decades. The abrupt implementation of the policy without adequate preparation, broad base stakeholder consultation and proper piloting is unfair to the nursing candidates. The process will create fear and panic among the final year nursing students, who were not trained with the same process. Students from the hard to reach and under-resourced institutions will be disadvantaged. The use of part of the actual examination process as a pilot study also creates bias in the examination process. This creates the opportunity for poor performance of candidates in the examination and inadequate learning from the pilot test system- a recipe for system breakdown. Despite the inherent invalidity, unfairness and unreliability of the old licensing examination system, the new system could have been implemented more scientifically and fairly. This paper critically analysed the introduction of the digital nursing licensing examination system in Ghana. We recommend the Nursing and Midwifery Council of Ghana revise the implementation strategy, paying attention to the rate at which it is being implemented and fairness. Delaying the introduction of the digital examination for at least two years within which the nursing students currently in their first year of the Diploma programme in nursing colleges or second year in the Bachelors degree programmes in the universities could be prepared with and towards the digital licensing examination would be fair. This will also allow time for the council to conduct a proper pilot test, learn from the process and improve the examination system.

Keywords: Digital, Nursing, Licesnsing examination, Ghana

Background

Implementation of Educational Policy in Ghana

There is a history of abrupt introduction of many major education policies in Ghana. Among these are the shift from 3-year senior high school education to 4-year and back to 3-years within the space of 5 years in Ghana and Free Senior High School Education (Adu-gyamfi, Donkoh and Addo, 2016; Essuman, 2018). The negative consequences of these rushed and politically motivated policy implementations to fulfil political campaign promised are mostly born by the recipient of education and their families. Nursing is not left out; a politically contentious area in nursing education has been the shift of nursing education from ambient of the ministry of health to the ministry of education and the subsequent loss of the dual (student-employee) status of nursing students.

The Importance of Nursing Education and Licensing in the Contemporary World

Human resources for health have received increasing attention in the last decade. The production of the appropriate cadres of health workforce with the necessary competencies and attitudes to respond to the rapidly changing healthcare needs of all population groups is essential for Universal Health Coverage. The nursing workforce is at the core of the Human resources for Health for Universal Health Coverage. The education and governance of the

nursing workforce is therefore critical in the Universal Health Coverage context (Asuquo *et al.*, 2013; Kunaviktikul, 2014; Rispel *et al.*, 2014; International Council of Nurses, 2015a, 2015b; Rispel, 2015).

The Nursing and Midwifery Council of Ghana

The Nursing and Midwifery Council of Ghana was established under the Nurses and Midwives Council Decree (N.R.C.D 117) of 1972 and Legislative Instrument (L.I) 683 of 1971. The legal mandate establishing the council has been repealed and replaced with the part III of the Health Professions Regulatory Bodies Act, 2013 (Act 857). The council has the mandate to protect and maintain high standards of nursing and midwifery education and practice in Ghana (Parliament of Ghana, 2013; Nursing and Midwifery Council of Ghana, 2015). The council has, among its roles, the authority to prescribe standards and develop guidelines for nursing curriculum development in Ghana and to conduct licensing examination of nurses prior to registration and practice of nursing in Ghana (Parliament of Ghana, 2013; Nursing and Midwifery Council of Ghana, 2015).

Principles of quality assessment systems

Assessment is an important part of any education system. Licensing examinations are conducted as a form of quality assurance mechanism to exclude unsuccessful candidates or otherwise candidates that are not safe to practice nursing in a country (Foreman, 2017). The content and the methods of administration of the examination must, therefore, be communicated as early as possible in order for the student and faculty to know the expectations of the examination (Mcalpine, 2002; Foreman, 2017). Mcalpine (2002) reiterated that an assessment process is a form of communication targeted to give quality feedback to or on a variety of stakeholders such as student, curriculum designer, faculty, assessors and assessment system. The feedback is necessary to improve the quality of the assessment and the training programme.

Validity, reliability, fairness, and applicability are key principles of every examination process (Mcalpine, 2002). An assessment is valid if it measures what it is designed to measure (Peeters and Martin, 2017). When the same student is assessed with the same test under the same conditions and the results are fairly the same, then the assessment is reliable (Mcalpine, 2002;

Peeters and Martin, 2017). Being applicable means the assessment tools must easily administered within the context of the assessment (Baird, Gamble and Sidebotham, 2016). The principles of fairness in the examination process demand that the assessment process should not disadvantage any student or group of students (Tierney, 2014).

The Current Licensing Examination System in Ghana

During the launching, the Registrar of the Council outlined the licensing examination process and components of the examination papers. Candidates of the basic nursing (Registered General Nursing, Registered Mental Health Nursing, Registered Community Health Nursing, and Registered Midwifery) programmes write three theoretical papers which include two (2) major papers comprising four essay questions and 60 Multiple Choice Questions (MCQs) per paper and a general paper (100 MCQs) over a three day period. Patient/family care study and practical nursing constitute the practical component of the basic nursing licensing examinations.

Major Weakness in the Current Licensing Examination System

Clinical nursing assessment is essential in nursing education as it forms the basis of the education system (Khan, Salahuddin and Khan, 2014). Being able to test the clinical knowledge, skills and attitudes of nursing students accurately is vital in identifying those who have the basic competencies to be registered as professional nurses (Khan, Salahuddin and Khan, 2014). Making assessment systems valid and reliable will not only ensure limited biases in the clinical examination process but also ensure the safety of the patients in the health facilities (Mcalpine, 2002; Khan, Salahuddin and Khan, 2014). The clinical nursing examination is Ghana is done through structured observation.

Clinical nursing assessment in Ghana, as described by nursing educators, follows the task-based traditional assessment process. Students are allocated to a specific clinical facility based on a memorandum of understanding between the clinical facility and the nursing education institution. The examiners are also allocated to the units/wards of the clinical facility with the list of students they are expected to examine. The examination team consists of one nurse

educator/tutor and one nurse clinician. A pre-examination meeting is held between the students and the examiners to clarify any issues regarding the examination and the expectations of the examiners from the students.

On the day of the examination, the students report in their professional outfit-without which the student is not allowed to take the examination. They are all locked up in a room within the ward in which they are being examined or outside if there is no such room for that purpose. Depending on the number of students and the patients on admission, all or some of the students are given 30 minutes to complete a nursing care plan on a patient. These patients are assigned to the students by the examiners. After the 30 minutes, the care plans are recalled and read. Based on the nursing diagnosis and nursing orders given by the student on the nursing care plan, two *tasks* are assigned to the student to perform within 90 minutes.

The two examiners then assess these students using an assessment tool designed by the Nursing and Midwifery Council of Ghana. These tools have a rating scale of 0-4 and vary in the number of items assessed based on the task assigned-ranging from 8 to 25 items. The two examiners then reach a consensus on their rating of the students. A student needs 55% of the total marks to pass this examination. This method is outmoded hence the need to introduce best practices in clinical education and examination in Ghana (Kpodo, Thurling and Armstrong, 2016).

The authors believe that the practical examination lacks validity, reliability and fairness. An integrative literature review on the state of nursing research in Ghana found no study evaluating the nursing licensing examination in Ghana (Christmals *et al.*, 2018). There is no effort to establish interrater reliability of all examiners prior to testing of candidates. In addition, the selection of patients for the examination is based purely on convenience; thus all candidates are not being uniformly evaluated. There is an extremely high risk of bias and prejudice in the examination practices. Therefore, the need to review and revise the task-based traditional system.

Poor Implementation of the Digital Licensing Examination

On the 9th of February 2016, the Nursing and Midwifery Council of Ghana launched a revised version of the nursing curriculum in Ghana (Nyanteh, 2016). This curriculum review introduced "Relationship Marketing Strategy & Entrepreneurship; Supply Chain Management; Adolescent Sexual and Reproductive Health; Community Health Improvement Services (CHPS); Nursing and Midwifery Informatics" and two non-scoring courses (French and Sign Languages). This curriculum was quickly implemented at the start of the 2015/2016 academic year (Nyanteh, 2016).

The 5-year strategic plan of the Nursing and Midwifery Council of Ghana (2015) proposes A-to-Z digitization of the licensing examination process. This is a laudable idea. The indication in the strategic plan was quickly followed by a Facebook announcement on the 22nd November 2017 (Nursing and Midwifery Council of Ghana, 2017a) about the implementation of the online licensing examination in the following year. This is abrupt and unfair to the nursing students. The announcement stated that the Dutch government financed the project. It was indicated in the announcement that the Nursing and Midwifery Council is in the process of establishing an ultramodern computer laboratory so that schools that do not get accreditation of the computer laboratories will use that of the Council (Nursing and Midwifery Council of Ghana, 2017). There are 117 accredited nursing training institutions in Ghana by the year 2017 (Nursing and Midwifery Council of Ghana, 2017b).

The online exam consists of three sections, multiple choice questions, electronic practical examination and electronic viva voce patient/family case studies (Nursing and Midwifery Council of Ghana, 2017a). The licensing examination was piloted on September 3, 2018. A pilot or feasibility study/project is a rehearsal of an intended methodology or project with the main purpose of ascertaining validity, reliability and applicability. Results from the pilot project are used for learning and improving the design and implementation of the actual project (Donald, 2018). The pilot examination of the Nursing and Midwifery Council is an actual examination and therefore compromises the learning process of the digital licensing examination process.

Concern

Streeck and Thelen (2005) demonstrated that institutional change that is gradual promotes reproduction by adaptation results in the gradual

transformation of the system and therefore incremental. Abrupt implementation of change, however, promotes breakdown and replacement of the system (Streeck and Thelen, 2005; Cerna, 2013).

The students have not been assessed with this digital examination process throughout their training. Computerized testing involves a different skill set than that of paper and pencil tests. Students must become familiar and accustomed to the digitalized examination process prior to being required to complete an examination that influences their professional career.   The communication from the Nursing and Midwifery Council stated, *"The council **is in the process** of establishing and ultra-modern computer lab so that schools that **do not get accreditation** could use their computer lab as exams centres could use the council's lab for their licensing examinations"* This means that as of November 2017, there has not been accreditation of the schools' computer laboratories, neither has the nurses and midwifery council completed and tested their computer lab for the examinations.

We could make an educated guess that the nursing council was not ready to implement the new system of examination because:

- The time left for the students to write this examination will not permit rigorous accreditation of the institution's computer laboratories.
- The said ultramodern laboratory might not be completed and tested in the time period to the examination.
- There was no mention of any pre-test or pilot testing of the programme to guarantee its applicability.
- There has not been any statement on the source of the questions as the new curriculum has been introduced only at the beginning of the 2015/2016 academic year and the students writing this examination would have started training with the old curriculum in 2014/2015 academic year. The new curriculum should be completely implemented and evaluated prior to new testing.
- There was poor stakeholder consultation on the new system and how applicable it is to the Ghanaian context.

If faculty are responsible to provide students with the knowledge and skills to complete the digitalized examination process which includes an electronic practical examination and viva voce patient/family case studies, extensive faculty development must be provided for them to acquire the necessary computer skills. The process will not be fair to the hard to reach schools, which are coincidentally the most resource-limited institutions. This is because:

- If the computer laboratories of the schools are not fit to write the examinations, it means that they were not fit to train the students for the same examination and therefore the students will be disadvantaged in the examination.
- The students who are in hard to reach schools will have to travel long distances, seek for accommodation, try to get used to an unfamiliar environment whiles preparing and writing the examination in a computer laboratory they have not used before.
- Computers are different and will take the student a longer period of experimenting with them to get used to them.
- It is not clear who will bear the cost of transportation, feeding, accommodation of the students who may travel over long distances to write this examination.

Immersion of the Authors within the concept and context

The first author was trained and licensed as a nurse Ghana. The author has 7 years combined practice and nursing education within the Ghanaian context. The author is a nurse educator with a Master in Nursing Education where he worked on Best Clinical Nursing Education Practices in sub-Saharan Africa. He then specialised in nursing curriculum development at the doctoral level. The second author has an extensive experience in nursing education, assessment and curriculum development in Ghana. She served as a professor of Nursing in public University and a Head of Department of Nursing for a private University College in Ghana.

Conclusion

Licensing examinations are important in ensuring that only candidates that qualify to provide quality safe nursing care to the population are licensed to do so.

The abrupt introduction of the digital licensing examination process in Ghana without a broad base stakeholder consultation and proper piloting will create fear and panic among the final year students who were not trained with the same process. This will intern lead to poor performance in the examination. The digital examination process is biased towards the institutions that are located in the cities and resourced with computer labs. The increases the cost of examination for students who studied in resource-poor intuitions and at the same time did not have access to good computer laboratories, increasing their risk of failure in the licensing examination. This may heighten the acute shortage of nursing workforce and the poor quality of care provided to the population due to the heavy workload on the nurses. We believe the practical examination system under both the old and the proposed system of assessment be evaluated and updated to contemporary assessment standards.

Recommendations

We recommend the Nursing and Midwifery Council of Ghana delays the introduction of the digital examination for at least two years within which the nursing students currently in their first year of the Diploma programme in nursing colleges or second year in the Bachelors degree programmes in the universities could be prepared with and towards the digital licensing examination. This will also allow time for the council to conduct a proper pilot test, learn from the process and improve the examination system. Thorough stakeholder consultation and on the digital licensing examination process should also be done. Computer laboratories of hard to reach institutions should resourced to enable them train with and write their lisensing examinations successfully.

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