AN ANALYSIS OF THE ASSESSMENT OF CLINICAL LEARNING IN A NURSING DIPLOMA PROGRAMME IN KIGALI HEALTH INSTITUTE IN RWANDA

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DECLARATION

I, Camille Nyirinkwaya KAYIHURA, declare that this dissertation titled "**An analysis of the assessment of clinical learning in a nursing diploma programme in Kigali Health Institute in Rwanda**" is my original work. It has never been submitted for any other purpose, or at any other university. Sources of information utilized in this work have been acknowledged in the reference list.

Signature: ....   Date: ...2nd July 2007

DEDICATION

This Dissertation is Dedicated to My Wife Annonciata,

and Our Children Sandrine, Doreen and Sabrina for

All Their Love, Support and Encouragement

ACKNOWLEDGEMENT

ABSTRACT

Assessment of clinical learning is imperative in order to ensure that those who become registered nurses are safe and competent practitioners. Assessment of clinical skills requires evaluation of the development of appropriate knowledge, skills and attitudes. Literature however reveals that the measurement of clinical skills performance continues to pose a challenge for nurse educators, the debate around the best assessment method in clinical learning, as well as, validity and reliability in assessing clinical learning is ongoing. This study was therefore aimed at exploring and describing current practices in assessment of clinical learning in a nursing diploma programme in Kigali Health Institute in Rwanda.

The study was a quantitative descriptive exploratory design. Data were collected through the use of questionnaires. Nurse educators, students and external examiners were asked to report on the assessment strategies commonly used in Kigali Health Institute, their views about assessment strategies, and the strengths and weaknesses of clinical assessment strategies used in a nursing diploma programme in assessing practical competences of nursing students. The total number of participants who returned questionnaires in this study was 117.

The results of this study revealed the commonly used assessment strategies included OSCEs (100%), case presentations (66%), direct observations (38%), standardized patients (31%) and reflective diaries (2%). Furthermore, assessments were based on clinical learning outcomes. Assessments were conducted formatively and summatively to ensure validity in assessments and to ensure that a variety of clinical learning areas were assessed. Although there was no documented structured process of conducting clinical

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assessments, the findings revealed that the process included a number of phases; planning, preparation, implementation and evaluation phases. There were measures in place to ensure validity and reliability in assessments. The need for a policy on clinical learning assessment emerged so as to serve as a guide to ensure consistency in conducting assessments. The need to build the capacity of nurse educators and external examiners also came up as very few had educational preparation for their roles. Most of them were specialists in the discipline not in nursing education. The findings also revealed that not all nurse educators were involved in decision making regarding clinical assessments for quality assurance purposes. Issues such as welcoming of students on the assessment day, giving of instructions to students, time spent on performing tasks, feedback to students, returning to tasks which were not completed and improvising during assessments due to limited resources emerged as areas of concern.

Recommendations made are related to the assessment process, the building of capacity of nurse educators and external examiners, preparation of students for clinical learning assessment, and further research for the in-depth exploration of this area.

LIST OF ABBREVIATIONS

CEUs: clinical education units

CINAHL: Cumulative Index for Nursing and Allied Health Literature

KHI: Kigali Health Institute

MCQ: multiple choice questions

OSCE: Objective Structured Clinical Evaluation

SPSS: Statistical Package for Social Sciences

SP: Standardized Patients

UKZN: University of KwaZulu Natal

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CHAPTER ONE

INTRODUCTION

Background to the Study

According to McCarthy (2007), assessment of students in clinical practice is imperative in order to ensure that those who become registered nurses are safe and competent practitioners. Assessment of clinical skills requires evaluation of the development of appropriate knowledge, skills and attitudes (Neary, 2000). While knowledge can be assessed via traditional strategies such as written examinations or assignments, skills and attitudes are less easy to judge. Just as acquiring clinical skills and attitudes is seen to be achieved more readily in a clinical environment, the assessment of these elements via a "real patient" scenario is perceived as more appropriate (Ward and Willis, 2006).

Chambers (1998) however pointed out that the assessment of students in clinical learning is acknowledged as a long-standing and difficult problem. According to Chambers there is little consensus about what is meant by the term 'competence' when applied to clinical nursing practice, thus making the assessment of clinical practice a largely subjective process. In addition, the validity and reliability of tools used to assess clinical practice are difficult to establish, making objective assessment complex at best and impossible at worst.

Traditionally clinical learning was assessed through direct observation of a student performing a certain procedure; this was then followed by an oral examination. In medicine, clinical skills were assessed through a long case and oral examination in which assessment was based on a patient presenting with a relevant clinical problem or condition. The student was

instructed to do a diagnosis and formulate a treatment plan under examination conditions and to present the findings, usually verbally to an examiner. Commenting on this form of assessment Smee (2003) stated that the basic requirements for reliability and validity have not always been achieved in traditional "long case" and "short case" assessments and recommended in its place a skills-based assessment. Skill- based assessments are designed to measure the knowledge, skills, and judgment required for competency in a given domain (Smee, 2003). In this type of assessment the underlying principle is that 'performance is sampled across a range of patient problems'. Examples of assessment strategies that that are based on this principle include Objective Structured Clinical Examinations, Objective Structured Long Case and Practical Assessment of Clinical Examination Skills.

Authors such as Ward and Willis (2006) argue that the debate surrounding the most effective method of assessing clinical skills within nursing is ongoing. In line with Ward and Willis' view, McCaughey (2004) states that the measurement of clinical skills performance continues to pose a challenge for nurse educators. Gupta and Bisht (2001) assert that conventional clinical or practical examinations suffer from certain inherent deficiencies. In addition to in-built variability due to student, patient or examiner factors that increase the subjectivity of marking, they have several other disadvantages. Assessment is usually not competency-based. Often only the end-result is tested, not the process of arriving at that conclusion. Moreover, assessments are not authentic in nature (simulated cases). Authentic performances/exams use a real context. There is direct observation of a student caring for a real patient with a real problem in a real setting (Redman, 1999). As a result of these concerns in clinical assessment, Percey (2006) recommends the use of multiple assessment strategies to evaluate the effectiveness of a student's learning. According to this author, authentic assessment is good, but presents several problems like variability in patients and consistency in reliability.

The practicality of assessing students in clinical practice presents a variety of problems, including validity and reliability issues, as well as patient concerns. Reliability is a fundamental consideration of any assessment process (Reznick, 1992). Reznick recommended a lengthy examination of six hours or more to achieve high levels of reliability. While there is no strict value that constitutes a reliable examination, there is an emerging consensus that reliability of .80 or greater is desirable for a high-stakes examination (Reznick, 1992).

Because nursing combines clinical skills and theoretical knowledge, it is necessary to assess the clinical competence of students as part of the total evaluation procedure (Mellish, 2001). Assessment in clinical areas tends to evaluate more accurately the quality of patient/client care. It is essential that students undergoing an education programme are assessed on the knowledge, skills and attitudes that will satisfy the governing body of nursing, and other professional bodies that those individuals are indeed suitable and able practitioners (Neary, 2001). Assessment in education and training thus plays an important role in collecting evidence of the learner's work so that judgments about the learner's achievement, or non-achievement, can be made. Clinical assessment is thus critically important because competency in practice ultimately will determine the future of advanced nursing practice (Mellish, 2001).

Assessment is used to provide the rationale and legitimacy for social structures and power relations of modern day societies, and for one's place within these. It is concerned directly with what is taught and what is valued within our education systems. It can influence not only how we see ourselves, but may also determine our social relations with others and how we see them. It is something that has grown in importance in contemporary times (Leathwood, 2005).

While demonstrating or assessing that the trainee has mastered competencies is necessary it is not a sufficient goal of nursing training. The focus must shift to the outcome of a well-trained

nurse who has demonstrated the ability to function as an independent practitioner. Thus we must assess and ensure the actual effectiveness of training as opposed to the potential effectiveness of training (Reich and David, 2005).

It is a widely held belief in education that understanding of the method of assessment is fundamental to its effectiveness. In this case it involves the scheme of clinical progress assessment to be carried out, including the use of continuous assessment booklets and documents, as well as the significance of the grades, scores and comments written by assessors (Neary, 2001).

A student's mastery of clinical skills is an obvious target and reason for assessment to take place. This mastery will require evaluation at various stages throughout the educational programme. Early assessment provides opportunities to identify learning needs and to support the growth of clinical skills, while exit point assessment ensures that professional standards have been attained (McAllister, 2001).

The purpose of assessment is to clarify or grade students, enable student progression, guide and improve students' performance, facilitate students' choices of options and diagnose faults. It also enables students to rectify mistakes, gives teachers feedback on their teaching, motivates students, provides statistics for the course or institutions, and adds variety to the students' learning experience and adds direction to teaching and institution. All these activities can be diagnostic, formative or summative (Day, 2002).

The purpose of any evaluation should be to supply the individual student with an idea of his/her progress, so as to enable him/her to maintain and improve areas of strength while eliminating weaknesses. Knowledge of one's results and achievements is a motivating factor in learning (Mellish, 2001). Educators need to use the full range of assessment methods to properly

capture the learning that makes a nurse fit for an award, fit for practice, and fit for purpose and it is every student's right to develop to his/her full potential (Summers, 2005).

There is a need to explore integrated assessment approaches. Assessment methods should be able to accommodate a range of competencies. Integrated assessment methods allow students to integrate a range of knowledge and skills and to demonstrate the use of these in planning, implementing and evaluating care given to patients (Mthembu, 2003).

Problem Statement

Bujack, cited in Mthembu (2003) points out that the evaluation and assessment of safe and comprehensive nursing performance requires the consideration of a much broader range of practice competencies than has previously been the case with traditional education methods. Indeed, there is a need to explore integrated assessment approaches. Integrated assessment methods allow students to integrate a range of knowledge and skills, and to demonstrate the use of these in planning, implementing and evaluating care giving to patients.

While the literature suggests that the OSCE is a well-established method of clinical assessment within the medical profession, and is increasingly used as a practical assessment within other health professions such as dentistry and radiography, it is a relatively new method of practical assessment within nursing (Ward, 2005). It is, however, one which gained popularity with the recent primary health care policy emphasis upon nurses using advanced clinical practice skills (Ward, 2005; Khattab and Rawlings, 2001).

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Few studies exist in relation to the use of OSCE as an assessment of advanced clinical practice competence among nurses (Ward, 2005). Many studies conducted abroad indicate that the traditional clinical examination has been shown to have serious limitations in terms of its validity and reliability (Newble, 2004). The basic requirements for reliability and validity have not always been achieved in traditional "long case" and "short case" assessments. Skills-based assessments have to contend with case specificity, which is the variance in performance that occurs over different cases or problems. In other words, case specificity means that performance with one patient-related problem does not reliably predict performance with subsequent problems (Smee, 2003).

Any discussion on the reliability of final examinations remains academic since there is no quality evidence available. Evaluating the reliability of a test that has several components requires special statistical analysis that allows composite estimation. These studies are lacking in clinical education, and more research is clearly needed in order to acquire an empirically verified estimate of the reliability of clinical assessment (Vleuten, 2000).

According to Neary (2000), assessment of clinical competence in nursing continues to be a source of difficulty for education. The main assessment technique used in traditional teaching is direct observation of clinical skills. The validity and reliability of this method has been questioned in terms of the subjectivity of the assessor, the small and varied behaviours that are observed, lack of uniformity and control of behaviour observed. No single procedure is adequate for assessing clinical competence (Neary, 2000).

While the available literature (Shovein, 2005; Newble, 2004; Mthembu, 2003; Neary, 2000) reveals a number of challenges regarding clinical learning assessment, and asserts that there are very few studies that have examined the assessment of clinical learning, as well as the impact of assessment on student learning in the clinical environment, with the understanding that there are

few studies related to assessment of clinical learning, no study was found to have been conducted in this area in Rwanda. Using data base like EBSCO HOST, CINAHL, PRE-CINAHL, ERIC and MEDLINE with key terms like 'assessment of clinical learning', 'clinical teaching', 'OSCE', 'reflective diaries' and 'portfolio', no publications were found on Rwanda in those specific areas.

The gap established from the reviewed literature and from interacting with academics from the Kigali Health Institute was that no research had been conducted in the area of assessing clinical learning, an area which is crucial in measuring the level of competence of graduates produced. Therefore the challenge in this study was to explore and describe the current practices in the assessment of clinical learning in a nursing diploma programme at the Kigali Health Institute.

Purpose of the Study

The purpose of this study was to explore and describe current practices in assessment of clinical learning in a nursing diploma programme at the Kigali Health Institute.

Objectives of the Study

1. To identify strategies used to assess clinical learning in a diploma programme at KHI

2. To analyze the process of conducting clinical assessment from the perspective of stakeholders[1]

3. To analyze the views of stakeholders regarding the current practices in assessment of clinical learning.

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[1] Stakeholders include students, nurse educators and external examiners

Research Questions

This particular research sought to answer the following questions:

1. What are the assessment strategies used in a nursing diploma programme at the Kigali Health Institute?

2. What are the views of nursing teachers regarding the current practices in the assessment of clinical learning?

3. What are the views of nursing students regarding the current practices in the assessment of clinical learning?

4. What are the views of external examiners regarding the current practices in the assessment of clinical learning?

5. How is clinical assessment conducted in the diploma programme at the Kigali Health Institute's clinical assessment?

6. What are the strengths and weaknesses of the clinical assessment strategies used in a nursing diploma programme in KHI?

Significance of the Study

A study of this nature was the first to be conducted at Kigali Health Institute in Rwanda. Information obtained may serve as base-line data for further research in this area. The findings may inform policy-making, especially the policies related to clinical assessment. The findings of this study may help teachers at Kigali Health Institute build on the strengths of how they conduct clinical assessments, and improve on any weaknesses which are identified.

Conceptual Framework

The conceptual framework was developed from the literature. The major concept in this framework was: assessment of clinical learning. The sub-concepts were: (1) learning outcomes,

(2) assessment strategies, (3) process of clinical assessment, (4) validity and reliability. There are two-way arrows which mean that these concepts are interrelated (Figure 1).

Assessment strategies

Assessment strategies should judge whether an individual student meets the criteria of being competent in a particular skill. According to Piercey (2006), there are a variety of competency-based assessment strategies which can be used to assess competency in clinical practice. Assessors should select efficient learning strategies considering their reliability and validity (Reznick, 1992). Assessment must consistently measure what it is supposed to measure, that is, it must be valid and reliable. A variety of assessment approaches are therefore utilized by most Higher Education Institutions. These include direct observation in clinical placements, compilation of portfolios of evidences, video or videotapes of nurse-patient interactions, and simulated patient encounters in skills laboratories such as the Objective Structured Clinical Examination (OSCE) (Ward and Willis, 2006).

Conceptual framework
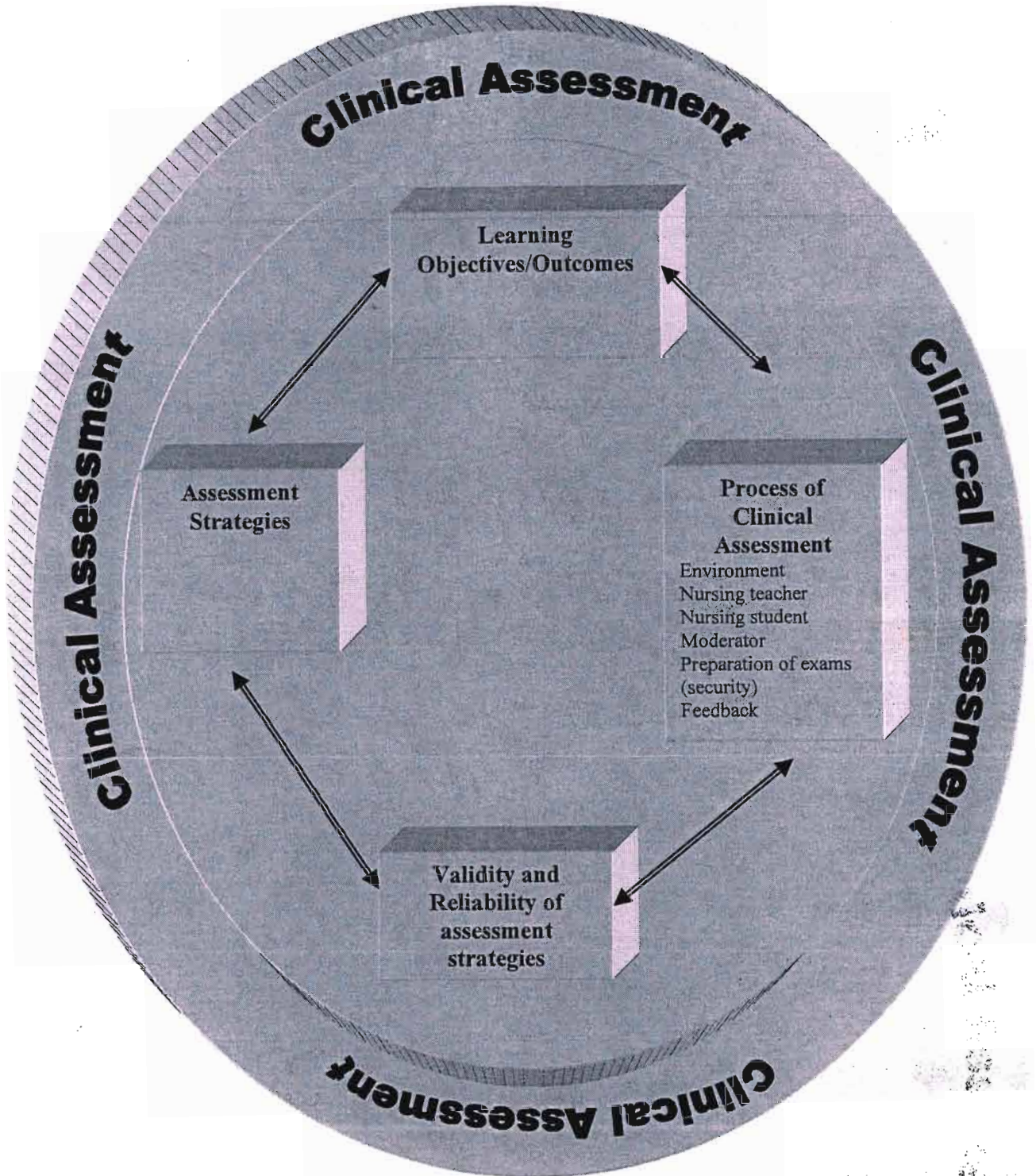
Figure 1:
Assessment of Clinical Learning conceptual framework adapted from Hyrkas's (2002, p. 387) Model

Clinical learning outcomes

According to Piercey (2006), learning outcomes or objectives are clear precise statements of what students should be able to do when they complete their instruction, and passing the assessment attests to them having met those objectives. Collectively, unit objectives should reflect the competencies the student will need to demonstrate on completion of the learning program. Clinical assessment should be aimed at measuring whether the set clinical outcomes/objectives were achieved.

Piercey (2006) asserts that the concept of competence is a complex one that encompasses such attributes as knowledge, skills and attitudes. It enables an individual to perform a role or set of tasks at an appropriate level, grade, quality or achievement, thus making the individual competent in that role. Neary (2000) therefore recommends that assessment of clinical learning should be comprehensive in order to be able to evaluate the level of practical competence. This author recommends the use of a variety of assessment strategies.

Regarding learning and development of a learner, the expected outcomes are related to the development of expected competencies (knowledge, skills and attitude), and personal as well as professional development (Hyrkas, 2002). The assessment strategies chosen will measure those learning outcomes. Looking at the actual effectiveness of training requires a set of questions that differs in intent from those previously asked. Previously, it was sufficient to ask, "Do clear learning objectives of appropriate content exist, and is the nurse student appropriately exposed to settings in which they can be achieved?" The new focus must now ask, "Do nurse students actually achieve the learning objectives in a meaningful way, and how can this achievement be demonstrated to contribute to the nurse's performance as a practitioner?" (Reich and David, 2005).

Process of clinical assessment

According to Smee (2003) planning well for the clinical assessment is crucial. The process of assessing clinical learning begins with the planning phase. This is followed by the preparation phase, the implementation phase and the process ends with the evaluation phase. The planning phase includes planning the formative as well as summative assessments, strategies to be used during each form of assessment. Measures that ensure validity and reliability, including the appointment of external examiners and/or moderators need to be planned and their roles need to be clarified. The preparation phase includes designing assessment instruments and submitting them to external examiners for scrutiny. In cases of OSCE's this phase includes designing OSCE stations, agreeing on the number of stations, ensuring that the content of those stations is linked to the curriculum objectives (to ensure validity) and that the material required in each station is complete. Smee (2003) points out that incomplete station material as well as last minute changes in these material is a common problem. The planning phase should also take into consideration the number of students to be examined; time factors, as time is the common concern when conducting examination; and the availability of appropriate space, so that the space is able to accommodate the students to be examined and the OSCE stations. Preparation of examiners and external examiners for their roles is also crucial. The implementation phase is when the examination is being conducted. The processes which take place during the examination day including the giving of instructions to students, the examination process, the presence of the external examiners during the examination day, the feedback to students and students giving feedback about the examination process to the examiners, the marking of assessments by examiners and submitting . The process ends with the final decision from the external examiners

when they submit a final report about the whole examination process and marks (Sheehan, 1994; Walters and Sivanesaratnam, 1995)

Validity and reliability in clinical assessment

A recent review paper by Beckman and colleagues in the Journal of General Internal Medicine (Quero Munoz, 2005) highlights the fact that all assessments require solid, scientific evidence which shows that they measure what was intended (validity) and that the intended inferences are reasonable. They also must accomplish this measurement with minimal error. While the review by Beckman and colleagues considers the published research on the reliability of clinical teaching assessments, they do so by highlighting reliability as one major aspect or source of validity evidence (Quero Munoz, 2005).

According to Sheenaham, (1994) external examiners have an important role to play in ensuring validity and reliability in the assessment of learning and in ensuring quality in assessments. Walters and Sivanesaratman (1995) define the role of an external examiner as that of ensuring that the examination procedures are conducted fairly according to the regulations governing the qualification to be offered and that the examinations truly reflect the aims and objectives of the course.

According to Smee (2003), reliability describes the degree to which the test consistently measures what it is supposed to measure. Smee is of the view that standardised patients' portrayals, patients' behaviour, examiners' behaviour, and administrative variables also affect reliability. The more reliable a test, the more likely it is that a similar result will be obtained if the test is readministered. Reliability is sensitive to the length of the test, the station or item discrimination, and the heterogeneity of the cohort of candidates. Reliability is a measure of the variation in scores due to differences in performance between subjects, and also the correlation of

assessors rating the same performance. It is generally accepted that the reliability of a regulatory assessment must be at least 0.8. Smee (2003) lists factors that lead to lower reliability in clinical examinations such as OSCEs. These include (a) Too few stations or too little testing time, (b) checklists or items that do not discriminate (that is, are too easy or too hard), (c) unreliable patients or inconsistent portrayals by standardised patients, (d) examiners who score idiosyncratically, and (e) administrative problems (such as disorganised staff or noisy rooms).

According to Smee (2003), the most basic evidence of validity comes from documenting the links between the content of the assessment and the curriculum's objectives and from the qualifications of those who develop the assessment. There are important questions to be asked when establishing validity. These questions according to Smee (2003) are: Are the patient problems used for clinical assessment relevant and important to the curriculum? Will the stations assess skills that have been taught? Have content experts (generalists and specialists) reviewed the stations?

Operational Definitions

Clinical assessment

Clinical Assessment is defined as being whenever one person in some kind of interaction, direct or indirect, with another is conscious of obtaining and interpreting information about the knowledge and understanding, or abilities and attitudes of this other person in the clinical settings (Day, 2002).

Clinical learning

Clinical learning is a change in behaviour in individuals as a result of experience. Teaching actions include the provision of learning experiences and guidance that facilitate learning in health clinics, hospitals rooms and even patients' homes (Guinee, 1978).

Nursing diploma programme

The nursing diploma programme is a programme delivered over three years for full time students and over four years for part-time students.

NB: The following three terms are defined in the context of this study because clinical assessment measures the following types of competence. They are included in the data collection instruments.

Practical competence

Practical competence is the demonstrated ability to perform a set of practical tasks.

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Foundational competence

Foundational competence is the ability to demonstrate an understanding of 'what' one is doing when carrying a task and 'why' one is doing it that the way one is doing it.

Reflective competence

Reflective competence is the ability to adapt to change and unforeseen circumstances when carrying a task and explain the reasons for doing so. It also means adapting what one does under different set of circumstances. Reflective competence integrates actions with an understanding of the actions, so that learning occurs and changes are made when necessary.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The purpose of this review was firstly to examine the conceptualisation of the term 'assessment of clinical learning' and secondly, to provide a summary of the empirical literature review related to the assessment of clinical learning. The following are also addressed: (1) strategies and approaches to assessment of clinical learning. (2) competency-based assessment. The strengths and weaknesses of different assessment strategies will also be discussed.

Clinical Learning

As a basis for clinical learning assessment, this section is about clinical supervision, teaching, learning and coaching. Clinical learning is described as being at the heart of professional education, as it provides a student with the opportunity to consolidate knowledge, socialise into professional roles and acquire professional values (Mthembu, 2003). A positive clinical learning environment is imperative for the success of education and is largely dependent on good co-operation of staff members in the clinical ward (Henderson, 2006) a good atmosphere and including student nurses as younger colleagues in interactions (Papp, 2003). Traditionally, supervision of students has been undertaken through the standard facilitation model and the preceptor model. More recently, collaborative models such as clinical education units (CEUs) (Richardson, 2000) have been introduced in response to the success factors identified with clinical learning (Field, 2004). Students' competence in clinical learning is an important component in nursing education. The assessment thereof is thus of great importance, as it is the reflection of the quality and quantity of learning which shows a student's progress and levels of attainment.

Nursing education aims to educate and train student nurses to become capable, competent and knowledgeable nursing professionals (Lau, 2002; Munnukka, 2002). It is therefore important that a positive clinical learning environment be created to facilitate the integration of theoretical knowledge into clinical practice (Lau, 2002; Cleary, 2006).

Clinical teaching forms an important part of nursing education, since nursing students spend about sixty percent of their time in the clinical area (Nkosi, 1991). Mellish (2001) states that clinical teaching is aimed at producing a competent registered nurse capable of giving expert nursing care which is based on sound knowledge and practiced skills. The teaching and learning of skills is a fundamental aspect of any practice-based profession, not only nursing (Woolley, 2006). Prior to exposure to clinical practice settings it is essential that students have the opportunity to practice skills in a safe and controlled environment under the direction and supervision of clinical experts (Woolley, 2006). Such activity not only prepares the student for the time s/he will spend in the practice setting, but also lays the foundation for the development of a clinically competent practitioner who is fit for purpose. Recognition of this fact has led many nursing schools to invest in purpose-built facilities devoted to clinical skills' learning. Hilton (1996) reports the success of such developments and, in a later article, describes the benefits of a dedicated technical support worker role to optimize the learning experience (Hilton and Pollard, 2004).

A goal of clinical teaching is that all students should be given the opportunity to achieve and demonstrate pre-defined performance standards. It is suggested that developing a list of clinical conditions around which students' diagnostic and management skills are based, would achieve this. These should be defined in a manner that is objective and assessable. The appropriate measure of whether a student has satisfactory knowledge and skills relating to clinical issues should be the attainment of clinical competency, rather than reaching the end of a clinical

rotation. Competence refers to the knowledge, skills and attitudes a student should exhibit by the time of graduation, in order to cope successfully with the clinical environment that s/he encounters (Samson-Fisher, 2005).

A number of new approaches to the clinical skills have been introduced lately including the development of clinical skills centres, earlier introduction of clinical skills in the nursing and medical courses, and the use of models and standardised patients (Samson-Fischer, 2005). There are a number of clinical assessment strategies that can be used to assess clinical learning. Smee (2003) groups them under 'traditional' and 'alternative' assessment methods.

Strategies Commonly Used to Assessment of Clinical Learning

Traditional approaches to assessing clinical learning

According to Smee (2003) there are traditional approaches to assessing clinical learning as well as alternative approaches. The oral examination (also known as the "viva") and the "long case" have long been used for assessing clinical competence. Smee (2003) describes an oral examination as traditionally being an unstructured face to face session with the examiners. Oral examination allows the examiners to explore the student's understanding of topics deemed relevant to clinical practice. When the long case is used as an assessment strategy, the student collects information from a real patient/case in the clinical settings, the student presents or summarises the patient problems for the examiners and responds to examiners' questions about findings, diagnosis or management, and other topics deemed relevant by examiners. The examiners usually do not observe the student interacting with the patient in this type of assessment. Sometimes however this examination is conducted in the clinical environment in a specialised room where examiners have access to the patient's documents and ask questions based on information from the patient's records. Later, the examiners together with the students

meet with the patient and the student is expected to perform a certain task under the observation of the examiners. Smee (2003) points out that the strength of the long case is the validity that comes from the complexities of a complete encounter with a real patient. "However, the difficulty and relevance of these assessments varies greatly as the content is limited to one or two patient problems (selected from the available patients), and decisions are made according to unknown criteria, as examiners make holistic judgments". Reviewed literature revealed a paucity of literature in nursing education regarding the use of cases or case presentations in assessing clinical learning. According to information obtained from http://www.blackwell-synergy.com/doi/abs (2006), effective case presentations are an important component of the nurse practitioner's skills, yet very little literature exists in this area. Most of the available literature is on medical education.

Observation-based assessment

Observation–based assessment, in simple terms, means the assessment of a person's competence against prescribed standards of performance (Nicol and Freeth, 1998). According to these authors, it is the same as direct observation. The student's competence is determined through observing his/her ability to perform a given task or activity. It is also known as the "glance and mark" method of assessing clinical competence. The assessment of learners' clinical competence in nursing education traditionally takes place in the demonstration /practical rooms within colleges of nursing or at the clinical placements (hospital wards). This approach, according to Nicol and Freeth (1998), ensures the adherence to well-established clinical protocols, routine practices and atomistic, specific assessment and evaluation, characterised by a detailed list of skills. Such an approach to education has proven to be inadequate, and does not

fully equip graduates for future holistic practice in any discipline (Chabeli, 2001 cited by Mthembu, 2003).

Standardised patient–based assessments

Wilkinson and Frampton (2004) describe standardised patients (SPs) as a powerful form of simulation that is commonly used in health professionals' education, especially in medical education throughout the world. According to these authors, standardised patients are individuals, with or without actual disease, who have been trained to portray a medical case in a consistent manner. They are used to measure the competence of students and the quality of their practice. A common way in which SPs are used in performance assessment has been as part of an objective structured clinical examination (OSCE).

Stimmel, Cohen, Fallar, and Smith (2006) conducted a study to review the effect of prior experience with Standardised Patients (SP) in a medical school curriculum on Standardized Patients Examinations (SPE) pass rates. The participants were from two different institutions. They were grouped according to their previous exposure to SPE (a) those who had previous exposure to a SPE during training and (b) those with no previous exposure to SPE. A distinction was made between those who had received prior exposure to a curriculum where the cases utilised were identical to those of the SPE, and those who had gained exposure elsewhere. According to the findings in this study, there was no significant difference in the mean scores of the two groups nor in the percentage of those who failed the examination. The conclusion reached in this study was that prior exposure to SPs does not appear to have a positive effect on subsequent performance on an SPE unless similar or identical cases are used.

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Rethans (1997) conducted a study to assess the variation within individual health practitioners facing the same problem twice in actual practice under unbiased conditions. The health practitioners (n=87) were consulted during practice hours by a standardised patient portraying a patient with angina pectoris. Six weeks later the same group was consulted again by a similar standardised patient portraying a similar case. The results showed that the mean (range, interquartile range) guideline score, total score, and duration of consultation were not significantly different between the first and second patient encounters for the group as a whole. For individual doctors the mean (SD) difference was -0.09 (3.36) for the guideline score, 0.30 (8.1) for the total score, and -0.87 (9.01) for consultation time. Conclusion reached was that shows that assessment of performance in real practice for a group of health practitioners is consistent from the first round of consultations to the second round. However, significant variation occurs in performance of individual health practitioners. In the context of this study, the findings support Stimmel, et al (2006) findings that the use of similar SP has an influence on the performance of students or practitioners.

Tsai (2004) investigated the use of child SPs with the aim of highlighting the difficulties inherent in the use of children for this purpose. Tsai is of the opinion that the use of children in such a way has long been questioned with regard to ethics and the examination quality (in terms of validity, reliability, and feasibility). Tsai reviewed 19 articles on the use of child SPs. Child SPs, ranged in age from infancy to adolescence. In most of these reports, the examiners had to provide a substitute child/ case to take the place of the original. Secondly, child SPs successfully portrayed various roles, although only older children had to learn a scenario. In general, clinical examinations using child SPs were found to be valid and generated reliable scores. The child SPs also provided effective feedback during the feedback sessions which was applauded by the

examiners. The findings in this study also revealed that the experience of serving as a child SP tended to be considered negative for younger children but was quite positive for a number of older children. Tsai recommended that the use of young SPs should be avoided for ethical reasons, and the use of child SPs should be limited to assessments that cannot be satisfactorily measured by other methods.

In the analysis of the standardised patient-based assessments Petrusa (2004) suggested four strategies. Firstly the provision of standardized patient exercises as a sample from an actual curriculum of clinical problem allows consistent judgments about the scope, depth, implicit logic, and accuracy of each and every student's clinical performance at least with the clinical challenges explicitly taught in the clinical curriculum. Secondly 'Scoring needs to be based on critical actions perhaps with a "bonus" for more efficient workups that included all of the critical actions. Simply doing fewer actions is not the same as doing only the most critical.' Assessments must attend to features of logic and organization. Thirdly standardised patient assessments should incorporate a focus on 'situational awareness'-namely "Intuitively incorporating situation-specific parameters into decisions about what to do", and fourthly SP cases need to be moved into the assessment of multiple persons in complex situations.

Alternative Methods of Assessing Clinical Learning

Newble (2004) found that the traditional clinical examination has been shown to have serious limitations in terms of its validity and reliability and therefore recommends alternative methods of assessing clinical learning. Smee (2003) supports skills-based assessments, the assessments which are designed to measure the knowledge, skills, and judgment required for competency in a given domain. One example of a skills-based assessment method is an OSCE.

The objective structured clinical examination (OSCE)

The Objective Structured Clinical Examination (OSCE), according to Smee (2003) was introduced over 30 years ago as a reliable approach to assessing basic clinical skills. It is a flexible test format aimed at assessing a variety of clinical skills. Major (2005) described OSCE as an integrated assessment approach which closely resembles the reality of the health care setting. The principle underlying OSCE is that the performance has to be sampled across a range of patient problems and that it enhances the reliability of clinical assessment (Smee, 2003).

According to Boursicot and Roberts (2005), the use of OSCEs in the quantitative assessment of competence has become widespread in the field of undergraduate and postgraduate medical education, mainly due to the improved reliability of this assessment format. It offers a fairer test of candidates' clinical abilities as all the candidates are presented with the same test (Boursicot and Roberts, 2005). In general, OSCEs consist of a series of stations through which all candidates rotate on a time basis (Quero Monoz, 2005). Each station depicts a situation in practice that is either commonly encountered or critical in nature. The candidate is required to perform specific functions to complete the task or address the problem depicted in the simulation. An assessor is present in most stations to provide real time, direct observation and to assess each candidate's performance.

The work by Smee (2003) showed that the stations are the backbone of an OSCE, and yet the single biggest problem is that station materials are incomplete and subject to last minute changes. The outcome of this is the increased cost, as OSCE uses a number of standardized patients (which are paid) as well as examiners and a lot of time is wasted because of this. Smee (2003) identified a number of factors leading to lower reliability in OSCEs. These factors include (a) too few stations or too little testing time, (b) checklists or items that do not discriminate (that

is, are too easy or too difficult), (c) unreliable patients or inconsistent portrayals by standardized patients, (d) examiners who score idiosyncratically, and (e) administrative problems (such as disorganized staff or noisy rooms). Smee (2003) recommended responding to the following questions to ensure validity of the examination (a) are the patient problems relevant and important to the curriculum? (b) will the stations assess skills that have been taught? and (c) have content experts (generalists and specialists) reviewed the OSCE stations.

The study by Kemahli (2001) however revealed that adding a separate written test to an OSCE increases the OSCE's reliability. Verma and Singh, in Kemahli (2001) suggested that a comprehensive evaluation package containing both OSCE and clinical case presentation should be employed for clinical courses to enhance reliability. Sharing the similar view, Gupta and Bisht (2001) stated that OSCE also has its limitations. While it may test specific skills, it does not evaluate the comprehensive understanding of the candidate. It tends to segregate the patient's problem into components, rather than testing him as a whole. These authors recommend that this drawback can be overcome by combining OSCE with a traditional case presentation.

Prislin, et al (1998) investigated the use of an objective structured clinical examination in evaluating student performance. The findings in this particular study revealed that OSCE appeared to provide consistent measures of student performance. Although content validity was high, further assessment was needed to assure construct validity. The results also showed that OSCE experience provides students with a rich resource for defining their clinical-related learning needs.

Shatzer, et al (1993) conducted a study to assess station-length requirements for reliable performance-based examination scores. The study involved rotating students through a 12-station examination that employed standardized patients. In the first rotation, the student took six five-

minute stations and six ten-minute stations. In the second rotation, the time lengths were reversed for the same stations. The findings revealed that generalizability decreased in the ten-minute stations. This was attributed mostly to less variability among students' performances. The conclusion reached in this study was that the longer station length actually decreased the generalisability of the scores by decreasing the variability among students' performances. Allocating different times to stations can therefore affect the score reliability, as well as impact on the overall testing time, of performance-based examinations.

Competency-based assessment

Dannefer and Henson (2005) argue that the current assessment formats or strategies in nursing and medical education are able to test core knowledge and basic skills reliably but cannot test the competence of students. Methods for assessing other important domains of competence, such as interpersonal skills, humanism and teamwork skills, are less well developed.

Competency-based assessment is the assessment of a learner's competence against prescribed standards of performance (McAllister, 2001). The difference lies in how the forms of assessment are used and interpreted. A competency–based approach to assessment needs to have an emphasis on performance and on integrated or holistic methods of assessment if it is to be valid and effective. Ideally, assessment is carried out in the work place by direct observation, but in practice, this is neither always practical nor possible because of time constraints (McAllister, 2001).

Competency–based assessment is claimed to be a fairer and more realistic assessment of skills, knowledge and attitudes. It is not a quick and easy alternative to examinations of knowledge, but it is thorough, time-consuming, and requires a broader evaluation of performance

within context. It is essentially a summative type of assessment, evaluating whether or not competency within a complex professional activity has been achieved (McAllister, 2001).

According to Mellish (2001) any registered nurse should be capable of assessing clinical competence, although some will be better at it than others. Mellish recommends that the students in their final year should be taught assessment and given the opportunity to practice it. Assessment of clinical competence is not the prerogative of clinical teaching professional nurses only, but should be part of the everyday work of every unit professional nurse. Continuous assessment means just that it is not a once-only event. The unit professional nurse who is responsible for nursing care must assess the clinical competence of those to whom she assigns or delegates tasks. There is no other way for her to accept her role and be accountable for the care given in her unit (Mellish, 2001). This practice in a way prepares the students for competency-based assessments.

Portfolios

The portfolio is advocated as an assessment tool, capable of demonstrating high quality care and professional competence by offering evidence from a variety of sources: practice, literature, study and research (Klenowski, 2002; Pearce, 2003). An effective portfolio is a visual representation of the individual, his/her experience, strengths, abilities and skills (McCready, 2006). The portfolio can provide a practitioner with evidence of reflection on academic and clinical experiences, continuing professional development and lifelong learning, decisions about the quality of work, effective critical thinking skills, reflection on professional and personal growth, responsibility for learning, and development of the skills necessary for a critical reflective practitioner (Klenowski, 2002; Pearce, 2003). The portfolio as an assessment tool, as

suggested by some authors, is valuable as a means of assessment, enabling students to provide evidence of their achievement of competencies (McCready, 2006; Pearce, 2003; Brown, 2001). A portfolio is the formal document that details learning with the assistance of a faculty member.

As students progress through the course they become more receptive and sensitive to incidental remarks and non-verbal cues, their minds being less occupied by singular objective achievements, and more open to the interactions and interplay of personalities, perceptions and environments. There also comes a point in the varied practice placement allocations at which the student could be expected to have reached an acceptance level of having (up to that point) acquired the appropriate knowledge and practice to achieve the agreed learning outcomes (Neary, 2000).

The use of a portfolio as a means of practice assessment is becoming more widespread among the professions (Scholes, 2004.). Karlowicz (2000) defines a portfolio as a purposeful collection of traditional and non-traditional work that represents a student's learning, processes and achievements over time. As such, a portfolio has become widely used to accredit prior learning, and as a medium through which practice can be accessed to gain credits for an academic award (Gerrish, 2006). However, the widest contemporary use of a portfolio as a practice assessment tool is to capture evidence and learning in order to demonstrate personal and professional growth. A portfolio can also take the form of a personal collection of evidence which demonstrates a professional's commitment to lifelong learning (Brown, 2001).

Brown (2001) distinguishes a portfolio from a profile, which is a specific collection of evidence, the former being submitted to an organization for a defined purpose and structured to meet the specific requirements for which the profile has been prepared. However, some portfolios are required to be formatted in a predetermined way, and hence the terms often seem to be used interchangeably.

Validity and Reliability in Assessment of Clinical Learning

According to Smee (2003), for a reliable measure of clinical skills, performance has to be sampled across a range of patient problems in order to determine the level of competence of students. A concern was raised against using one case and then claiming that one has assessed the student's achievement of clinical learning objectives/outcomes at a particular point. Furthermore, according to Boursicot and Roberts (2005), the examiners should be intensively prepared for conducting clinical assessments through the use of OSCEs to ensure consistency between examiners. In their work these authors revealed that inconsistency between examiners reduce the fairness and reliability of an OSCE. Just like Smee (2003) Boursicot and Roberts (2005) are of the opinion that using 'real' patients (not standardized patients) in OSCEs adds greatly to the validity of the assessment.

Wilkinson and Frampton (2004) conducted a study aimed at comparing an essay-style undergraduate medical assessment with modified essay, multiple-choice question and OSCE in predicting students' clinical performance (predictive validity). They also wanted and to determine the relative contributions of the written (modified essay and MCQ) assessment and OSCE to predictive validity. Participants in this study included 137 fifth year medical students who were followed into their trainee intern year. The findings showed that OSCE was a stronger predictor of subsequent performance than the written assessments but combining the two methods of assessments had the strongest predictive validity. Their conclusion reached was that using more comprehensive, more reliable and more authentic undergraduate assessment methods substantially increases predictive validity.

Hodges, et al (1997) assessed the feasibility, reliability, and validity of an (OSCE) for psychiatric clinical clerks. The findings in this study suggested that psychiatry OSCE is feasible for assessing complex psychiatric skills. However, careful attention must be paid to Standardized Patient training, examination monitoring, detection of critical incidents, and provision of feedback to students, faculty, and Standardized Patients. The university's previous system of oral examinations required approximately 600 faculty hours per year. The findings also revealed that the OSCE is an evaluation system that has demonstrable reliability and is more enjoyable for both the faculty and the students.

McLaughlin, et al (2006) conducted a study to establish whether standardized patients can be used as OSCE examiners. This study was conducted because standardized patients were being used as examiners in OSCEs to reduce inter-rater variability in evaluations and, the demand on physicians's time. These researchers' concern was that Standardized Patients had insufficient training to provide valid evaluation of student competence and/or provide feedback on clinical skills. It was also not known whether Standardized Patients ratings predicted student competence in other areas. The objectives of this particular study were to examine student attitudes towards Standardized Patients examiners, to compare Standardized Patients' and physicians' evaluations of competence, and to compare the predictive validity of these scores, using performance on the multiple choice questions examination as the outcome variable. The results showed that most students reported that Standardized Patient stations were less stressful, that Standardized Patients were as good as physicians in giving feedback, and that Standardized Patients were sufficiently trained to judge clinical skills. The findings also revealed that the Standardized Patients scored students higher than physicians and there was a weak correlation between the Standardized Patients and physician scores. Furthermore, physician scores were predictive of summative scores

but there was no relationship between Standardized Patients scores and summative scores. The findings in this study suggested that Standardized Patient examiners were acceptable to medical students. Standardized Patients rated students higher than physicians and, unlike physician scores, Standardized Patients scores were not related to other measures of competence. Standardized Patients as examiners were objective in their assessment because they did not have previous information about students' continuous assessment performance.

Preparation of Assessors for Assessment of Clinical Learning

McCarthy (2007) conducted research to analyse the assessment of clinical learning. The participants in this study were preceptors who were involved in the formative assessment of undergraduate nursing students. The findings of this study revealed inconsistencies in the assessment of clinical learning. They also indicated that the majority of preceptors were inexperienced in conducting clinical assessments. They did not fully comprehend the assessment process, and were not applying all of the recommended assessment strategies when assessing students. McCarthy's study also revealed that a large number of preceptors continued to focus on students' practical skills rather than focussing on the holistic care of patients as outlined in the assessment strategies. The conclusion of this study was that the preparation of preceptors was inadequate given the complexity of the clinical assessment tools used.

Boursicot and Roberts's (2005) article revealed that the inconsistency between examiners affects the validity and reliability of clinical assessment. These authors attributed the inconsistency to inadequate preparation of assessors for the task at hand. Elaborating on consistency between examiners, Boursicot and Roberts (2005) wrote that training of assessors for handling clinical examinations is crucial. According to the work done by these authors, an

interactive training programme that acknowledges the inherent expertise that experienced clinicians bring to the assessment process is recommended. Furthermore, Boursicot and Roberts (2.005) recommended that the training sessions should cover; (a) principles of OSCEs, role of examiners (i.e. no teaching, conducting vivas, altering marking schedules, interfering with the role of the simulated patient!, (b) marking videoed OSCE stations, after which we go through the marking with the clinicians and get them to think through their mark allocation. This is usually the most popular part of the session; (c) marking 'live stations' with group members playing the candidate, the assessor and the simulated patient: this demonstrates how stressful this assessment is for the candidate and how difficult it can be to play the part like a good Simulated Patient (SP); (d) standard setting procedure used. According to Boursicot and Roberts, this can often be crucial when using a student-centred approach and all the examiners are integral to the standard setting process. The more the assessors understand about their vital role in this process the more likely they are to carry it out in a satisfactory way.

Summary of Literature Review

The literature examined revealed that students and assessors expressed a need for clear guidelines, less jargon, fewer objectives, and more practice orientation. They also needed to be given more opportunities to discuss students' standards of performance, ability and achievement through assessment tools such as contract assignments, practice portfolios and reflective/learning journals (Neary, 2001). The observation-based assessment has several weaknesses, and cannot assess important domains like interpersonal skills, humanism and teamwork skills (Dannefer and Henson, 2005). OSCE demonstrates particular advantages over the traditional forms of testing in

assessing communication and interpersonal skills, professional judgment and moral/ethical reasoning (Smee, 2003).

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter on research methodology presents a description of the research process followed when conducting this particular study. It includes the description of a research approach, research design, research setting, population, sampling approach and sampling process. Data collection instruments and data collection process, data analysis, validity and reliability, as well as ethical considerations were outlined.

Research Approach

A quantitative research approach was adopted in this study. Quantitative research is a formal, objective, rigorous, systematic process for generating information about the world. Quantitative research is conducted to describe new situations, events, or concepts in the world (Burns and Grove, 1999, p.23), thus making it appropriate to this study, where research regarding clinical assessment is conducted for the first time in Rwanda.

Research Design

A descriptive, exploratory design was the most appropriate design in this study for a number of reasons. The descriptive study is designed to get more information about characteristics within a particular field of study (Burns and Grove, 1999, p. 192). A descriptive design may be used for the purpose of developing a theory, identifying problems with current practice, justifying current practice, making judgments, or determining what others in similar situations are doing (Burns and Grove, 1999). Furthermore, a descriptive design is used to obtain

information on the current status of the phenomena in order to describe "what exists" with respect to variables or conditions. Descriptive designs have several advantages, but perhaps the main one is that they are relatively easy to undertake, as they only involve one contact with the study population (Gerrish and Lacey, 2006, p. 261). Polit and Hungler (1997) view the descriptive design as an empirically driven design that describes or classifies specific dimensions or characteristics of individuals, groups, situations or events by summarising commonalities found. This design was appropriate because the researcher intended to describe commonly used assessment strategies from the perspective of a number of stakeholders (students, educators and external examiners).

An explorative design on the other hand is more appropriate when a researcher is conducting a study which is aimed at examining a new area of interest or when a subject of study is itself relatively new and unstudied (Polit & Hungler, 1997; Terre Blanche and Durrheim, 1999). This design was appropriate in this study because the study was the first study to be conducted in Rwanda, as exploratory design is used to make preliminary investigations into relatively unknown areas of research. An exploratory design was more appropriate in this study as it is a design used when a researcher is breaking new ground, is investigating a relatively new area of interest or when the subject of study is itself relatively new or understudied. Therefore, an exploratory-descriptive design was appropriate in this study as this was the fist study to be conducted in Rwanda in the area of conducting clinical assessment. Furthermore, the researcher intended to describe current practices in assessing clinical learning in a diploma programme in Rwanda.

Research Setting

Kigali Health Institute (K.H.I) is an institution of higher education established in June 1996 by the Ministry of Health, in collaboration with the Ministry of Education of Rwanda. The

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Institute was developed to address the problem of inadequate health personnel, both in quality and quantity. K.H.I has three campuses: Kigali, Ndera and Nyamishaba (See Figure 2). A diploma nursing programme is offered at all three campuses.

Figure 2: Rwanda map

Kigali Health Institute has three faculties: (a) Faculty of Nursing Sciences (b) Faculty of Allied Health Sciences (c) Faculty of Community Health Development. The Faculty of Nursing

Sciences has three departments: (a) Department of General Nursing (b) Department of Midwifery and (c) Department of Mental Health (http://www.khi.ac.rw/about_khi.html). This study focused the diploma programme in the Nursing Faculty.

- The two campuses, (a) KHI Main campus and (b) Ndera campus are situated in Kigali, the capital of Rwanda.
- Nyamishaba campus is located in the Kibuye municipality in the Western Province.

Study Population

A study population is that aggregation of elements from which the sample is actually selected. In the definition used by various authors, a population is the entire group of persons or objects that is of interest to the researcher. In other words, all persons that meet the criteria which the researcher is interested in studying (Burns and Grove, 1999; Polit and Hungler, 1997; Brink, 2006). The study population for this study included 26 nurse educators who were practicing as nurse educators in K.H.I at the time of research, 400 students who were registered for the Nursing Diploma Programme and 10 external examiners.

Inclusion criteria for nurse educators was that they should have been (a) practicing as nurse educators for about a year, (b) teaching in the nursing diploma programme in Kigali Health Institute, and (c) should have been involved in the process of conducting assessment of clinical learning. Inclusion criteria for external examiners was that they should have been (a) serving as external examiners for more than a year, and (b) currently appointed as external examiners for clinical examinations. Inclusion criteria for students was that they should (a) be currently registered as students in a Nursing Diploma programme in KHI, (b) should have been exposed to at least two clinical assessments.

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The data was collected towards the end of the year, thus making it possible for first year students to be part of the study as they would have been exposed to two clinical assessments, as the year of study starts mid year.

Sample and Sampling

Having selected the research problem and decided which approach to use to investigate it, the researcher must choose, the object, persons and events from which the actual information needs to be drawn. Therefore, the researcher needs to define the population and sample. Occasionally, the researcher may study an entire population. This is likely to occur when there are only a few persons who have the characteristics in which the researcher is interested (Brink, 2006). This was the case in this particular study where the researcher had to rely on available subjects. The researcher had to request all nurse educators and examiners to participate in this study due to their limited numbers. Therefore a non-probability sampling method was used to select nurse educators and external examiners. To be more precise, a convenience sampling which is a type of non-probability sampling method was used to select nurse educators and external examiners.

Probability sampling using a systematic sampling method was adopted in this study to select students from a group of 400 students. Probability sampling methods provide one excellent way of selecting samples that will be representative of the whole population. Systematic sampling involves selecting elements at equal intervals, such as every fifth, eighth, twentieth element (Brink, 2006). The process involves selecting every k^{th} individual on the list, using a starting point selected randomly. To use this design, the researcher must know the number of elements in the population, and the size of the sample desired (Burns and Grove, 1999). If a list of elements is available, systematic sampling is easy and convenient (Brink, 2006).

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The initial phase in the process of sampling students included determining the desired sample size from the total of 400 students. Arriving at a desired sample size required the use of a special formula. According to Polit and Hungler(1997), number of formula or methods exist that are used to estimate the sample size. In this study, Katzenellenborgen, Joubert and Abdool's (1997) formula was used; $n = Z^2 pq/d^2$. In this formula n is the sample size, z is the normal deviate (usually 1.96), p is the expected proportion (0.5), q is 1-p, and d is the required precision (0.1). This sample was calculated in the following manner; $n= (1.96)^2 \times 0.5 \times (1- 0.5)/ (0.1)^2 = 96$. Ninety six (96) was the desired total sample size. The sampling interval (K) of four was obtained by dividing 400 by 96 (400/96 = 4).

After determining the sample size and the sampling interval the researcher followed a systematic sampling process, sampling every fourth student from the sampling frame. The researcher took a list of all students (sampling frame) and numbered the students from 1 to 400. The researcher randomly chose the starting point and then selected every fourth number from the list until a total number of 96 students were selected.

Data Collection and Instruments

Data were collected through the use of questionnaires. Three questionnaires were used in this particular study: one for the external examiners, one for the nurse educators and one for the students. The questionnaire used to collect data from nurse educators was developed by Mthembu (2003) and permission to use this questionnaire was sought from the author. The first section of all data collection instruments collects demographic data and the second section collects data about the strategies used to assess clinical learning, the process of conducting assessment of learning, views of participants about the assessment practices including the problems or challenges related to assessment of clinical learning. The nurse educators' instrument also

addresses the issues of validity and reliability, their role in the process of assessing clinical learning, as well as the role of external examiners. Mthembu's (2003) questionnaire was partly adapted to address the objectives and the purpose of the study.

Validity and Reliability of the Instruments

Validity refers to whether the questionnaire measures what it is intended to measure (Gerrish and Lacey, 2006, p. 375). It is a determination of the extent to which the instrument actually reflects the abstract construct (or concept) being examined (Burns and Grove, 1999, p. 260). There are numerous yardsticks for determining validity: face validity, criterion-related validity, content validity, and construct validity. In this study the researcher used content validity to determine validity of the data collection instruments. Literature (Burns and Grove, 1999) suggests that the content validity of a new instrument can be achieved by referring to literature pertaining to the research topic, or by calling the experts in the content area to examine the items to see if they adequately represent the hypothetical content universe in the correct proportions (Burns and Grove, 1999; Polit and Hungler, 1997). The questionnaire for educators used in this study was developed by Mthembu (2003). The data collection instruments used in this particular study were subjected to the scrutiny of experts in nursing education and in research methodology; that is, lecturers in the UKZN Nursing School, as well as the experts forming part of the Health Science Faculty Research Committee. These lecturers are specialists in education and research. The instrument was submitted to these specialists for analysis, correction and adjustment.

The reliability of an instrument on the other hand refers to the extent to which a questionnaire would produce the same results if used repeatedly with the same group, under the same conditions (Gerrish and Lacey, 2006, p. 376). A number of techniques can be used to address the issue of reliability, such as test-retest method and split-half method. In this particular study a test-

retest method was adopted. In a test-retest method the same questionnaire is given to the same people after a period of time (Gerrish and Lacey, 2006). The researcher in this particular study administered the questionnaire to four students, two nurse educators and two external examiners, who were not included in the study. Two weeks later, the researcher administered the same questionnaire to the same subjects. The analysis of results from both showed that the reliability coefficient was .98. Polit and Hungler (1997) maintain that a reliability coefficient may range from a low of .00 to a high of 1.00.

Data Collection Process

After obtaining permission from Kigali Health Institute, nurse educators, as well as students registered for the diploma programme and moderators were approached. The purpose of the study and its significance was discussed with them, and then they were requested to participate voluntarily in the study. Lunch breaks were used to collect data. The researcher (helped by a colleague) personally distributed the data-collecting instruments and collected the questionnaires when completed. Confidentiality was ensured. The researcher assigned codes and numbers to each questionnaire. In this way, it was not possible to link the questionnaire to a individual respondent.

Data Analysis

Each item of the questionnaire was coded (assigned a number). Data were analysed by using an SPSS (Statistical Package for Social Science) programme for close–ended responses. Descriptive statistics, frequency distribution and percentages were used. The responses for open-ended questions were analysed using content analysis. All responses were scrutinised to establish

the main ideas or themes. These themes were then categorised according to their characteristics and the information from the literature.

Ethical Consideration

Nursing research must not only have the potential to generate and refine knowledge, but must be ethical in its development and implementation (Burns and Grove, 1997). Therefore, prior to conducting the study, the research proposal was presented to the University of KwaZulu Natal's Research Committee for approval. In addition, permission to conduct the research was requested from the Kigali Health Institute. The researcher obtained consent from participants. The consent form states the aims and purpose of the research and requests participation in the study. Anonymity was guaranteed, since there was no way of tracing information back to the respondents. No names were written on the questionnaires. A number was to be assigned to questionnaires. The consent form was kept separate from the questionnaire to ensure anonymity. The respondents were informed regarding their rights to participate or to refuse to give information. They were also able to withdraw themselves at any time from the research.

Limitations of the Study

The main limitation was the paucity of relevant literature on the subject content. The researcher had a limited time period to collect data as he used his vacation period (2 weeks) and had to come back to South Africa. The researcher would have preferred to have been able to spend more time in Rwanda exploring further the areas of research but had to come back to South Africa to continue with his studies.

CHAPTER FOUR

DATA PRESENTATION

Introduction

This chapter presents the results of the study, starting with demographic data followed by data obtained from nurse educators, the students and from external examiners. All three groups of participants reflected on the assessment strategies commonly used in Kigali Health Institute, the strengths and weaknesses of these clinical assessment strategies, the examination process and issues related to validity and reliability of assessment of clinical learning. Demographic data and commonly used assessment strategies are presented using frequency distributions, percentages and graphs.

Population and Sample Description

The number of teachers who were practicing as nurse educators at the time of the study in the Nursing Faculty at Kigali Health Institute was 26. All of these nurse educators were asked to participate in the study and they agreed to be part of the study. However, only 18 (69%) nurse educators returned the questionnaires. From the sample size of 96 students, only 89 (93%) returned the questionnaires. The researcher should have added at least 10 participants from the student population to cater for the attrition, or poor response rate. All external examiners returned their completed questionnaires (100%). The total number of participants who returned the questionnaires was 117.

Characteristics of the study respondents

Ages of nurse educators

Fifty percent of nurse educators (n=9; 50 %) who participated in this study were aged between 26 and 35 years. Graph 1 showed that nurse educators who were aged between 35 and 45 years comprised 27.8 %(n=5), and the oldest group of nurse educators above 45 years comprised 22.2% (n=4).

Graph 1: Age of the nurse educators
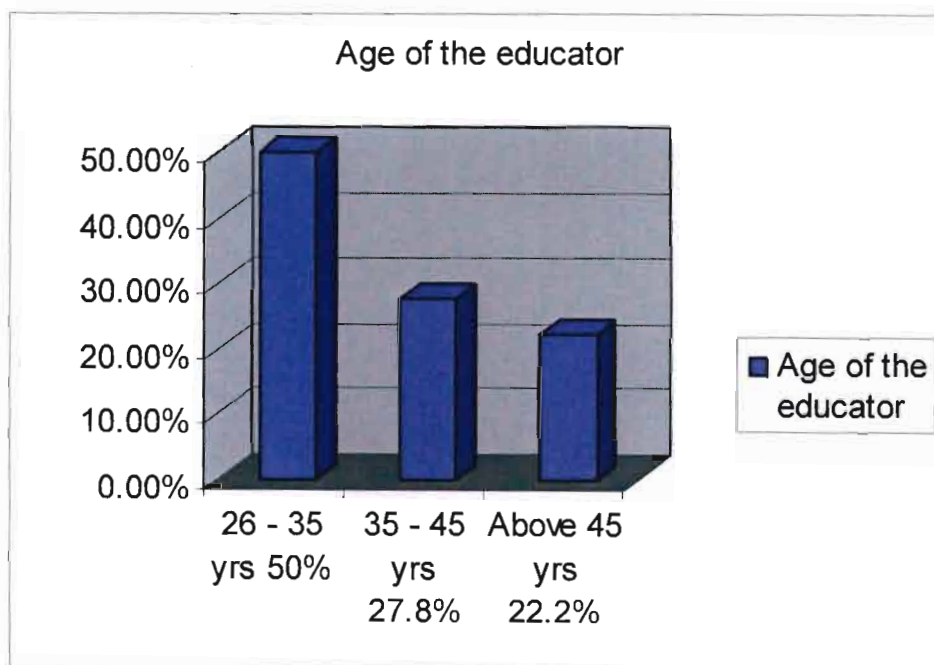
Ages of students

The majority of students (n=72; 80%) were aged between 20 and 35 years. Graph 2 revealed that the students aged between 35 and 40 years comprised 11.2 %(n=10) and those aged above 40 years made up 7.9 %(n=7).

Graph 2: Age of students

Age of the participants

40.00%	
35.00%	
30.00%	
25.00%	
20.00%	
15.00%	■ Age of the participants
10.00%	
5.00%	
0.00%	

20 -25 yrs 38.2%	30 - 35 yrs 16.9%	Above 40 yrs 7.9%
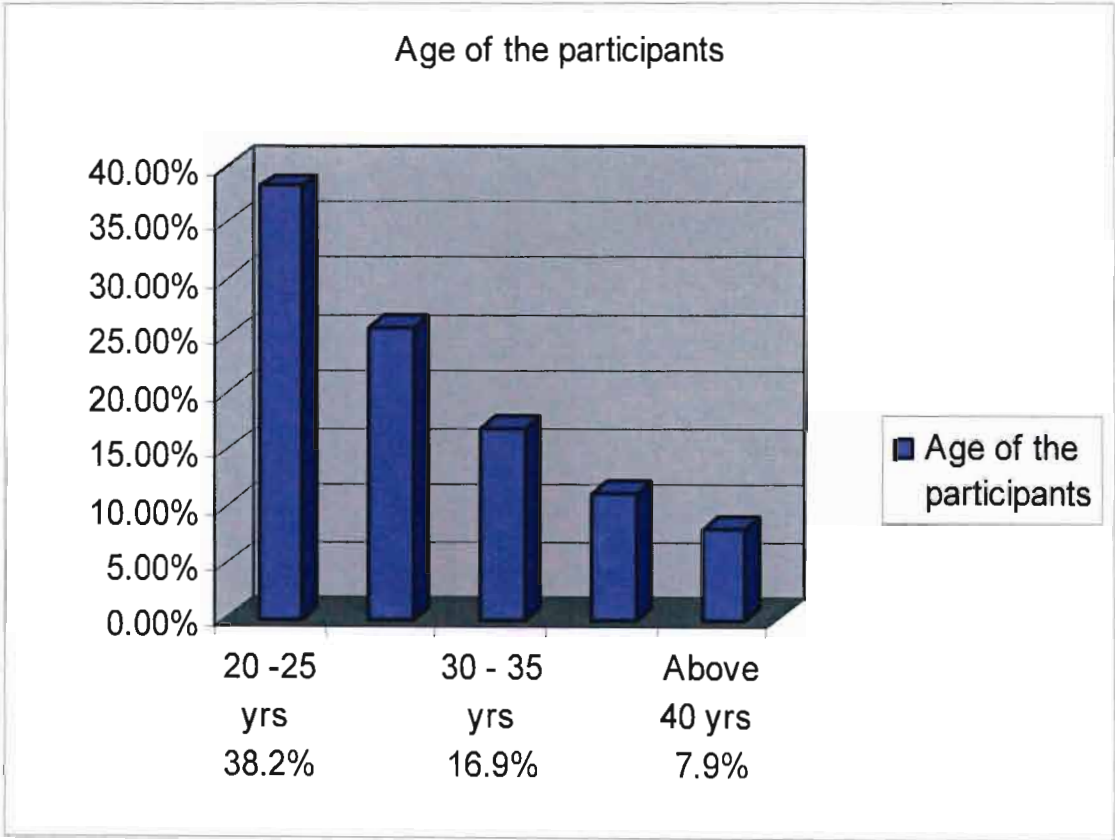
Ages of external examiners

Graph 3 showed that the majority of external examiners (n=7; 70%) were aged between 26 and 35 years, while 30 % (n= 3) were aged between 35 and 45 years.

Graph 3: Age of external examiners

Age of the participants

| | 26 - 35 yrs 70% | 35 - 45 yrs 30% |

Legend: ■ Age of the participants
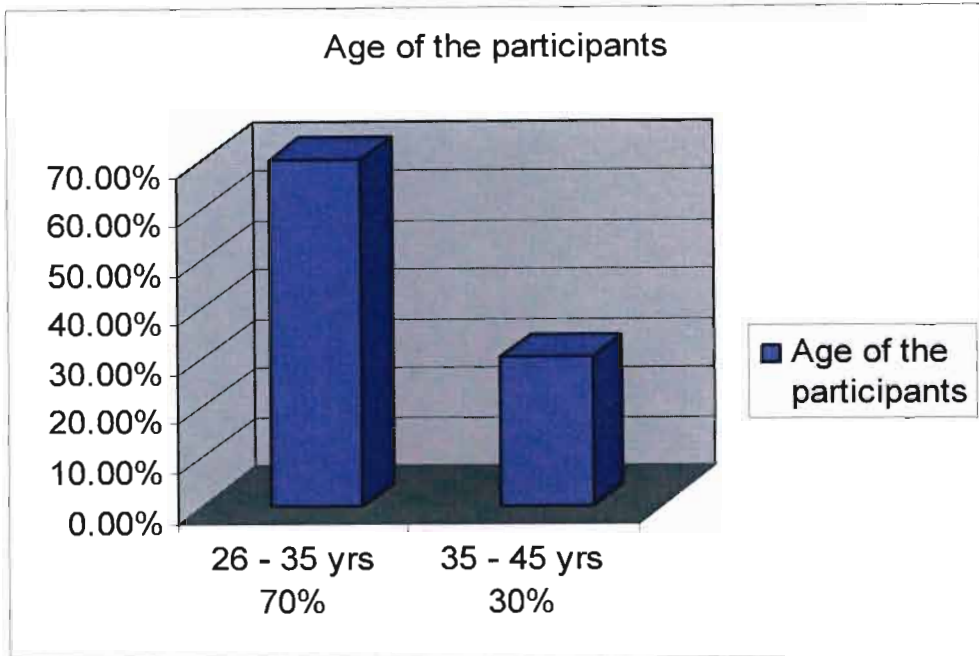
Teaching qualifications of nurse educators

The findings in this study revealed that 17% (n=3) of nurse educators had a teaching qualification at an honours degree level, 6% (n=1) had a masters degree in an area of specialisation; that is midwifery and nursing education. In total 4 nurse educators had a qualification in nursing education and 6% (n=1) had a qualification in teacher training. Only 28% (n=5) participants from the nurse educators group had a qualification in education. Of the 18 participants 11% (n=2) were holders of a diploma in nursing and 6% (=n2) were holders of diploma in midwifery. Although other educators did not have a nursing education qualification the specialisations in the areas they were teaching and the specialisation was up to a masters degree level.

Graph 4: Teaching qualifications of nurse educators

Nurse Educator's Qualifications

- Basic Degree in Nursing
- Diploma in Mental Health
- Diploma in Midwifery
- Diploma in Nursing
- Diploma in Teacher Education
- Honours in Nursing Education
- Masters in Hospital Management
- Masters in Midwifery and Nursing Education
- Masters in Public Health
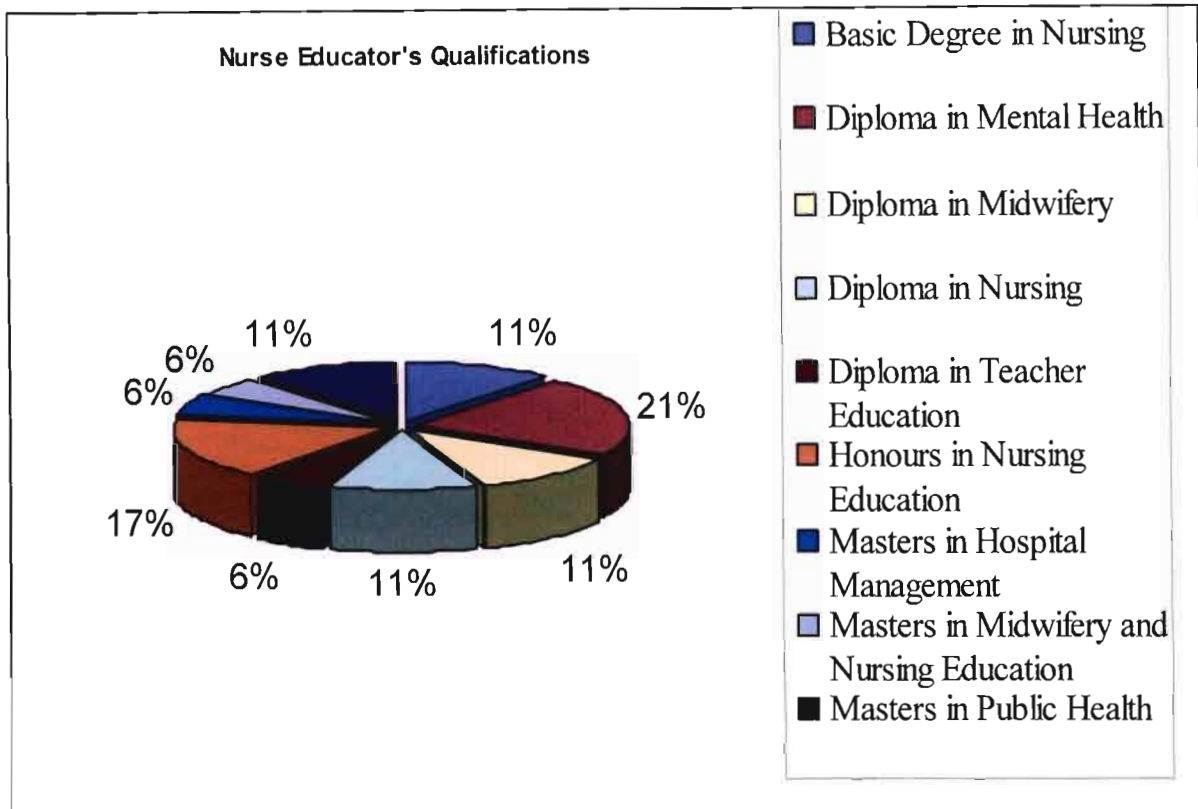
Teaching qualification of external examiners

The findings in this study showed that 30% (n=3) of the external examiners had a qualification in nursing education 20% (n=2) had a diploma in nursing, 40% (n=4) had a diploma in midwifery and 10% (n=1) had an additional qualification in population studies. Of the 10 participants from this group 70 % (n=7) were diploma holders in nursing, while 30 % (n=30) were degree holders.

Graph 5: External examiner's qualifications

External Examiner's Qualifications

10%

40%

30%

20%

- Diploma in Nursing
- Diploma in Midwifery
- Honours in Nursing Education
- Diploma in Nursing and Population Studies
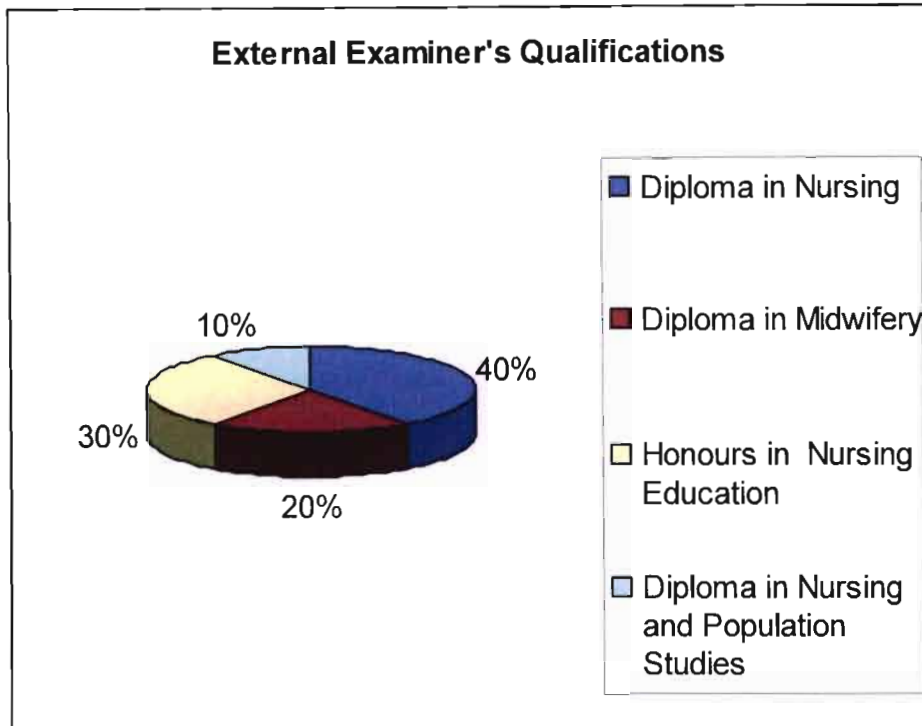
Assessment of Clinical Learning: Nurse Educators' Perspective

Involvement of nurse educators in assessing clinical learning

According to 11 (88%) nurse educators, nurse educators and clinical instructors are involved in assessment of clinical learning. Two of the respondents did not respond to this section. The findings showed that preceptors and ward staff were not used in the process of conducting clinical assessments.

Training in clinical assessment

Eleven (61%) nurse educators indicated that training was provided to those examiners without a nursing education qualification. Training was in a form of workshops. The nurse educators also indicated that this was also covered during the orientation process of new nurse educators. Seven

of the nurse educators stated that there was no preparation of nurse educators without a nursing education qualification. The nurse educators also pointed out that while they were undergoing basic diploma training, there was a unit in their curriculum on 'curriculum development'. This section covered teaching, learning theories and assessment of learning. This section in their curriculum provided them with the basic skills for assessing clinical learning.

Learning outcomes of teaching courses

Nurse educators reached various learning outcomes through the teaching exercise. Table 3 shows the different learning outcomes achieved. Two teachers (11.8 %) reported that the ability assess a mother in antenatal care, labour ward and post-partum was their students' main learning outcome, while other two teachers (11.8 %) reported that the main learning outcome was the 'nursing care using nursing process'. Using cases in psychiatric nursing (5.9%) and anesthesia and resuscitation nursing (11.8 %) were among learning outcomes mentioned by teachers.

Clinical Learning outcomes	Frequency	%
Assess patient's clinical conditions	2	11.8
Give anaesthesia	2	11.8
Resuscitate patients in critical condition.	2	11.8
Assess a mother in ANC, labour ward & post-partum	2	11.8
Use cases in psychiatric nursing	1	5.9
Conduct clinical interviews, stress management and communication Skills	1	5.9
Implement nursing care of psychiatric patients	2	11.8
Nursing care using nursing process	2	11.8
Exhibit managerial and communication skills	1	5.9
Plan human resources	1	5.9
Conduct research in clinical settings	1	5.9
Provide nursing care for HIV patients/clients	1	5.9
Total	18	100.0

Table 1: Clinical learning outcomes/areas assessed during assessment of clinical learning

Assessment strategies used to assess attainment of clinical learning outcomes

The results showed that the nurse educators used both formative and summative assessment to assess clinical learning. The assessment strategies included case presentations/case studies (n=11; 61%), OSCE (n=18; 100%, observation-based assessment (n=5; 28 %) and Standardized Patient Assessments (n=2; 11%). The participants provided more than one assessment strategy; as a result, the frequency and the percentages are more than the total of 18 participants and 100%.

Graph 6: Assessment strategies according to Nurse Educators

Clinical Learning Assessment Strategies: Nurse Educators
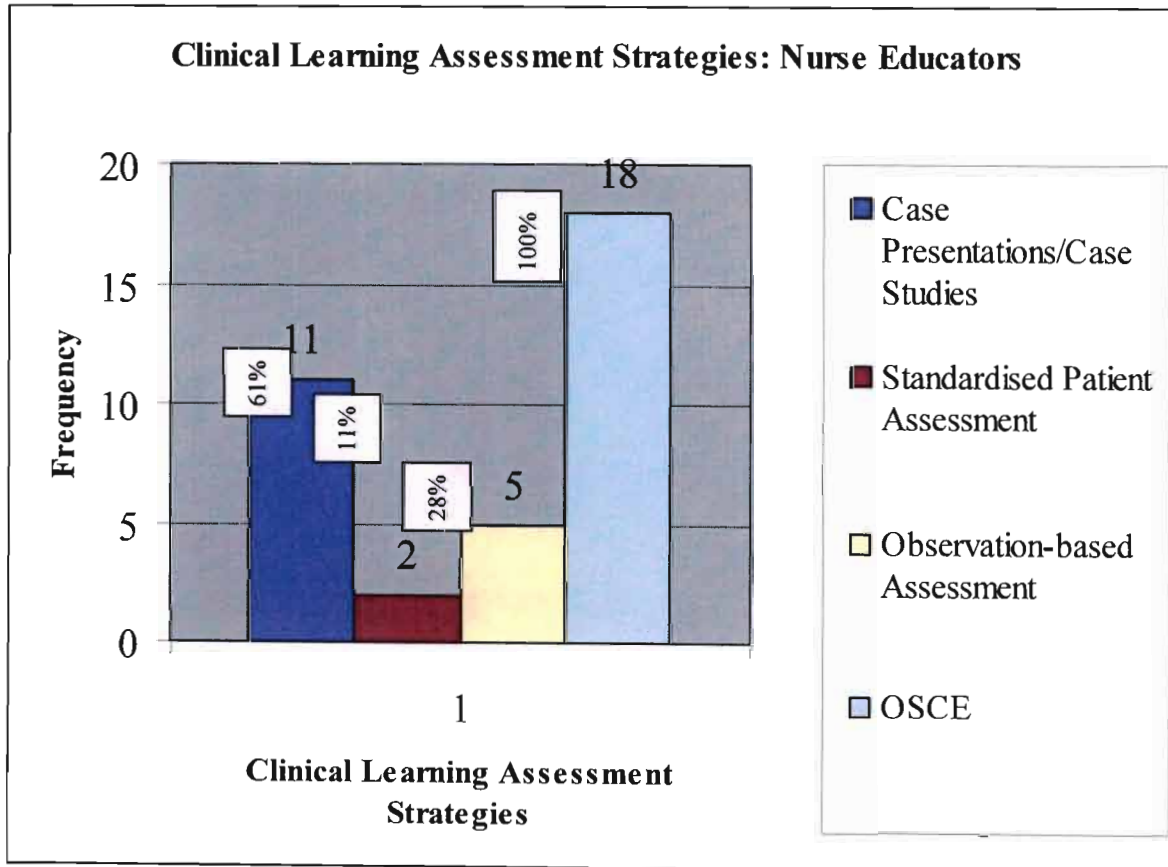
Involvement of Nurse Educators in the process of assessing clinical learning

A majority of nurse educators (n=13; 72%) (See Graph 7) were involved in the actual examination process (implementation), as subject coordinators who were responsible for the planning and setting of clinical examinations. Eight (44%) of the nurse educators were involved in the planning of equipment and other resources needed . Five (27%) of the examiners were involved in decision - making regarding the assessment methods to be used, planning equipment and resources, implementation and informing students about the results of the assessment.

Graph 7: Involvement of Nurse Educators in the process of assessing clinical learning
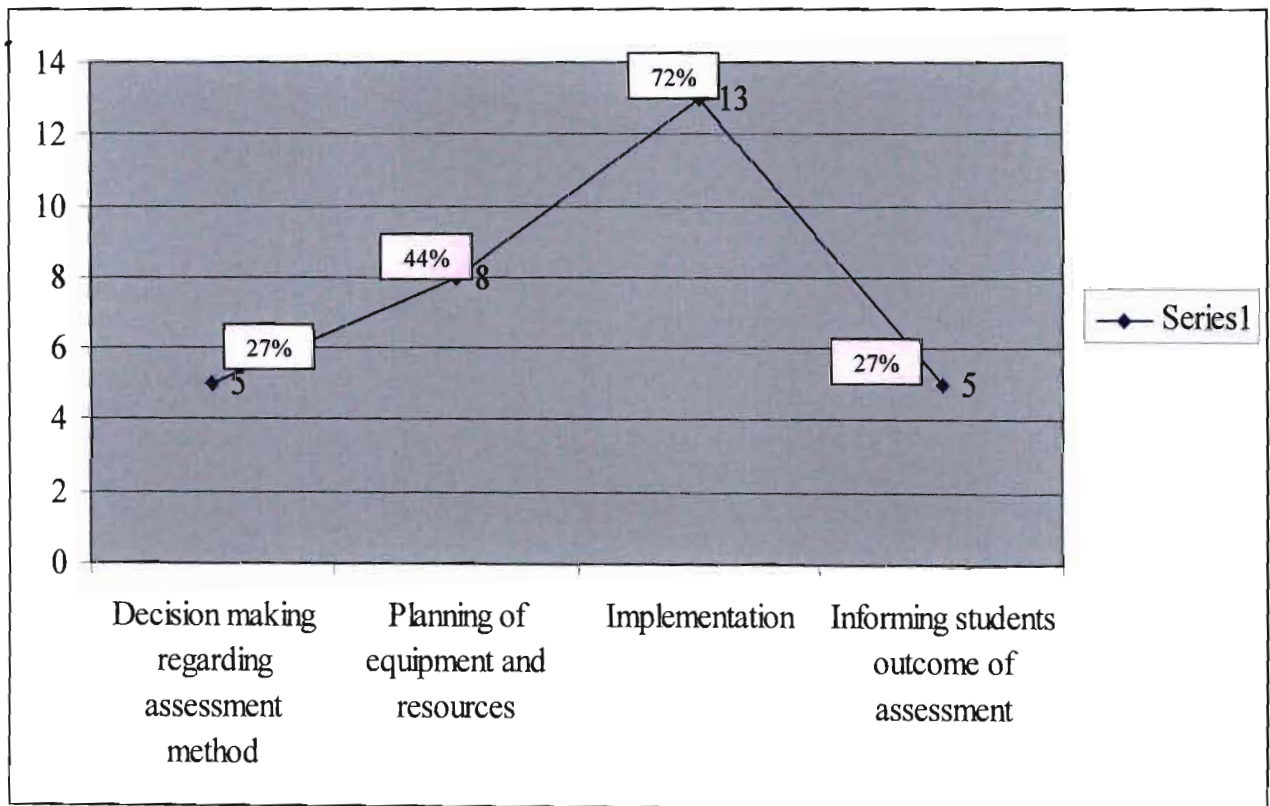
Assessment of practical competence

The findings in this study revealed that 77.8 % (n= 14) of nurse educators found that strategies used to assess clinical learning were useful in assessing practical competence, that is, the student's ability to perform a set of practical tasks (See Table 4).

Practical competence assessment	Frequency	Percentage
Yes	14	77.8
No	2	11.1
No response	2	11.1
Total	**18**	**100.0**

Table 2: Ability of methods listed to assess practical competence

In explaining which one of these strategies enabled nurse educators to assess practical competence, the findings showed that case presentations and OSCE were the best strategies. According to the nurse educators, case presentations/cases were linked with providing care to patient/cases which were presented by the students. The students were assessed on the tasks related to the management of that particular case. OSCEs were also ideal in assessing practical competence. The OSCEs gave a good indication of what the students could or could not do, which tasks they could perform or could not perform.

Assessment of foundational competence

The findings in this study also revealed that 88.2 % (n= 15) of nurse educators (See Table 3) found that some of the clinical assessment strategies used were useful in assessing foundational competence (the ability to demonstrate understanding of what one is doing and why he/she is doing it). The student demonstrates the knowledge and understanding that underpins the action taken. These assessment strategies included case presentations, standardised patient assessments and OSCEs.

Foundational competence assessment	Frequency	percentage
Yes	15	88.2
No	2	5.9
No response	1	5.9
Total	18	100.0

Table 3: Foundational competence

Assessment of reflective competence

The findings in this study revealed that 76.5 % (n= 13) of nurse educators (See Table 4) found that the clinical assessments used were useful in assessing reflective competence (the ability to adapt what one does under different sets of circumstances, based on understanding of what they do). In reflective competence the learner integrates the above two (practical competence and foundational competence) into an ability to adapt to change and unforeseen circumstances and explain to be able to the reasons for doing so.

Reflective competence	Frequency	Percentage
Yes	13	76.5
No	3	11.8
No response	2	11.8
Total	18	100.0

Table 4: Reflective competence

According to educators, the reflective diaries allowed students to reflect on nursing procedure, acquiring more skills and controlling side effects.

Strengths of the assessment method used by educators

Of the total number (n=18) of nurse educators who participated in this study, some of them (23.6 %; n=4) reported that the OSCE evaluated the performance of skills objectively. Case

53

presentations/case studies evaluate the level of competence of students holistically and also evaluated the ability to provide rationale for the nursing actions taken (n= 5; 29.5%).

Problems or challenges associated with assessment methods used

Nurse educators revealed that there were problems of reliability (n=2; 12.5 %), credibility and feasibility (n=9; 56.5%), as well as authenticity (n=2; 12.5%)- See Table 5. Nurse educators explained that this was a result of the inadequate preparation of both examiners and external examiners in the area of assessment of learning. Linked to the problem of inadequate preparation, the nurse educators indicated that sometimes the comments from external examiners indicated that there was inconsistency between learning outcomes and what is assessed by examiners. In other words, assessment tasks were not linked to what had been taught to students, especially because the exams are set by nurse educators who are not involved in clinical teaching while clinical instructors are responsible for clinical learning. The nurse educators also expressed concerns about how some of the assessment instruments were constructed, the items included in the assessment instruments, and the age of the instruments used. The nurse educators revealed that some instruments were too old and had not been adapted to suit the changes in the curriculum or clinical learning.

Problems with the assessment Methods	Frequency	Percentage
Reliability	12	12.5
Validity	10	6.3
Feasibility	3	37.5
Authenticity	1	6.3
Credibility	2	12.5
No response	5	31.5
Total	18	100.0

Table 5: Problems associated with assessment Methods Used

Other problems associated with reliability were that sometimes, the stations during OSCEs were too few to be able to reflect what the assessment was intended to measure. Furthermore, the nurse educators indicated that sometimes the time allocated for assessing learning is not enough and the students, instead of focusing on demonstrating what they are able to do, race against time to be able to complete the assessment. In cases where standardised patients are used, patients behave in an inconsistent manner, thus affecting the reliability of assessment. Sometimes logistical or administrative problems affect the reliability of assessment. Problems such as disorganised examiners on the day of the examinations, as well as a noisy exam environment. The external examiners are supposed to be experts in the areas being examined and should review stations or checklists specifically with the focus on the competencies being measured. Instead of doing this, some external examiners focus on technical errors, such as spelling errors not the instruments' ability to measure what it is supposed to measure.

To ensure validity in clinical assessment, nurse educators use continuous assessment (n=2; 11.8 %). They suggested evaluating the skills and related values by using case presentation as the main assessment strategy (n= 9; 53 %). Another concern about regarding validity and reliability which was raised by 44% (n=8) of the nurse educators in this study was that the external examiners were not adequately prepared for the task because of the limited pool of nurse educators within nursing education. Most of the clinical examiners were in management positions in hospitals and nursing council offices while others were occupied positions in government structures. Some of the participants showed concern about the preparation of external examiners for their roles. In support of this concern, other nurse educators indicated that some examination instruments used were very old and no one raised that as an issue. About 61% (n=11) of the

nurse educators stated that on the day of the examination there were inconsistencies which required explanation from an external examiner but the external examiner could not assist. For example, whether or not students should return to the stations they did not finish if they had surplus time .

Measures taken to ensure Validity and Reliability of clinical assessment

Only 15 (83%) nurse education responded to questions about measures taken to ensure validity and reliability in the clinical assessment of learning. The responses were mainly related to the process that was followed when doing an OSCE examination, as this had emerged earlier as the dominant method of assessing clinical learning. According to these nurse educators, measures included the setting of examination stations together as a team of examiners. The team includes discipline experts as well as those with a qualification in nursing education. This team ensures that the stations are a fair representation of clinical learning outcomes. Once an agreement has been reached about what is to be included in the examination, the examination instruments and marking guide are submitted to the examiner. The external examiner checks the examination instruments and marking guides and suggests changes if there is a need.

According to 13 (72%) nurse educators, the examination is prepared in such stations for OSCE are allocated a standardised time. To ensure that students spend the same amount of time in each station, a timer is used to ensure consistency in time allocated. The examination stations are manned by one examiner through out the examination, using the same examination instrument and marking guide. The external examiners have to attend the examination to evaluate the examination process. According to the participants, the external examiners give direction to examiners when there is a need, for example, if a student faints during the examination but

decides to continue with the examination on the same day. The external examiners assist in taking a decision in such as case.

The role of the external examiner

According to the nurse educators, the role of the examiner includes (a) checking the instruments used for conducting clinical assessment and giving feedback to examiners (n=17; 94%)(See Graph 8) ; (b) monitoring the examination process on the day of the examination for fairness and consistency (n=15; 83%) and giving direction to examiners if there is need for making an urgent decision about a deviation from the normal during the examination process (n=13; 72%), (c) intervening immediately when there is inconsistency in the process of examination, e.g. asking some students, not all students, probing questions to clarify what is not clear to examiners (n=11; 61%), (d) checking the marking guides or examination tools after the examination process to check consistency and fairness in marking by the examiners (n=13; 72%), (e) making a final decision about certain stations which were found problematic, for example, failed by all or most of the students, or case or standardised patient that gave students problems during the examination (n=15; 83%).

Graph 8: External Examiners' role

External Examiners' Role

Legend:
- Check Assessment instruments before exam
- Monitors evaluation process
- Intervenes in cases of inconsistency
- Gives direction to examiners
- Check Assessment instruments after exam
- Makes final decision reproblematic exams
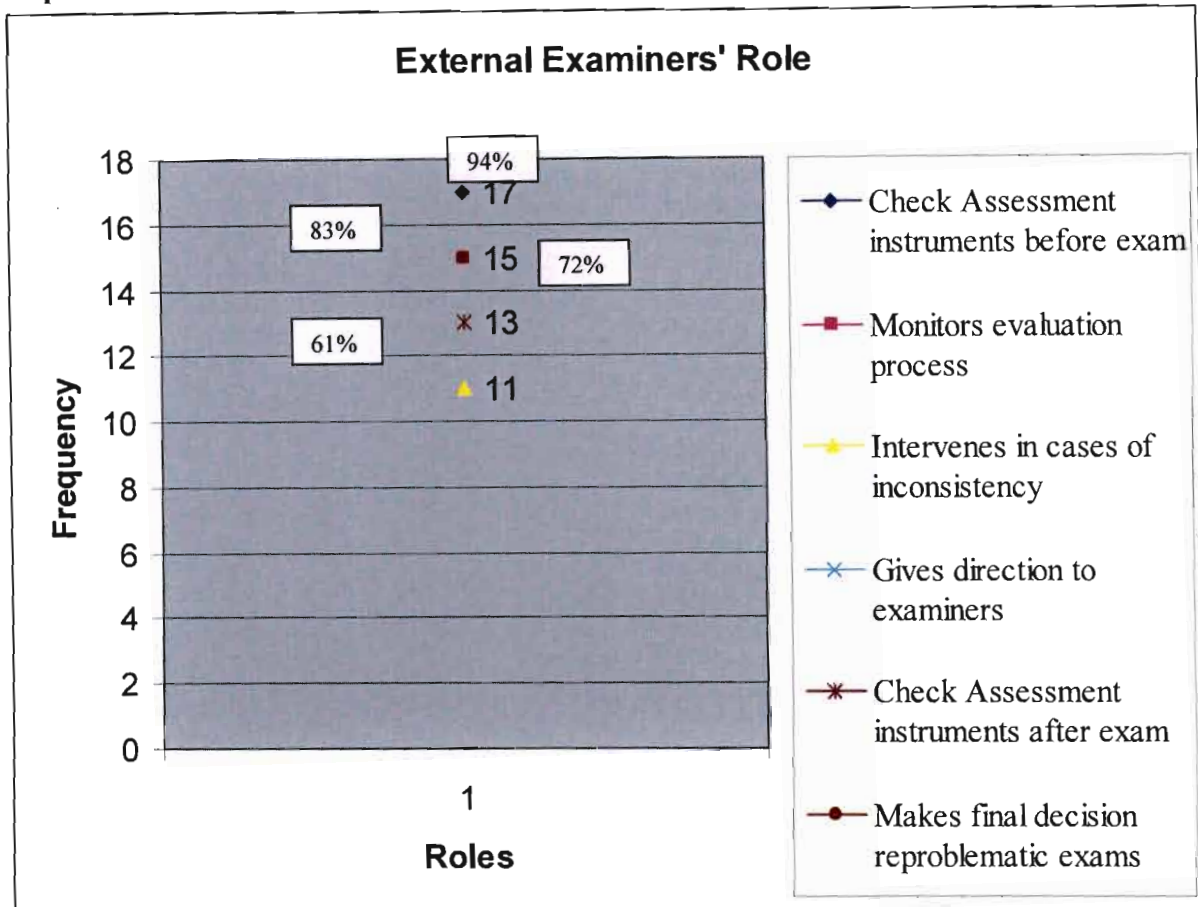
Assessment strategies' ability to measure clinical learning

The findings in this study revealed that the majority of nurse educators (n=16; 87.5%), as in Table 6 consider that the assessment methods used reflected the student's clinical learning, while a few (n=2; 12.5 %) found that the assessment methods used do not reflect the student's clinical learning.

Reflection of student's clinical learning	Frequency	Percentage
Yes	16	87.5
No	2	12.5
Total	18	100.0

Table 6: Are the methods of assessment a true reflection of a student's clinical learning?

The explanation given for the above statement revealed that the majority who considered that the assessment methods used reflecting clinical learning, stated that assessments were related to learning objectives, students reflect what they have learned, and clinical exams covered both practical and theoretical knowledge. The few nurse educators who considered that the assessment methods were not a reflection of clinical learning stated that the clinical assessments were prepared by nurse educators, not by the clinical instructors who were responsible for clinical learning. As a result some of the tasks during the assessment were not covered or not emphasised during the clinical learning process. Furthermore, some of the assessments were too short. For example, the students were given only one procedure to demonstrate. The concern was that one procedure is not enough to measure all or most of the clinical learning outcomes.

What was positive regarding ensuring validity of assessment instruments was that most of the external examiners were experts in the discipline. Therefore they were able to assess the content of the instruments and whether they covered what was expected adequately. Secondly, regarding reliability, on the day of the examination they were invited to come and observe the examination process and to give feedback on what they observed.

Transparency of the evaluation strategies used for students

Almost all the nurse educators (n=17; 94.4%) reported that the clinical assessment used indicated what the student was expected to achieve. Sixteen (88.9 %) nurse educators reported

that the criteria that would be used to assess achievement were known and clear to all nurse educators. According to 14 (77.8 %) nurse educators, what the students would have to do to demonstrate achievement and competence was clear to them. Fourteen (77.8 %) nurse educators knew how the students' performance would be assessed. The conditions under which, or situations in which the assessment would take place was transparent to 13 (72.2 %) nurse educators. Sixteen (88.9 %) nurse educators reported that they knew when the assessment would take place.

However, one (5.6%) nurse educator reported that she was not sure (a) if what the student was expected to achieve was clear, (b) if the criteria to be used to assess achievement was known, (c) if what the student would have to do to show achievement was clear, (d) if the manner of performance assessment was known, (e) if the conditions under which or situations in which the assessment would take place were explicit and (f) if the period when the assessment would take place was previously communicated to students.

Furthermore, one (5.6%) nurse educator reported that students were not told anything about the criteria to be used to assess their achievement, or about the period of clinical evaluation. Three (16.7%) nurse educators reported that students were not aware of the expectations of what they would have to do to show that they were competent. Four (22.2%) nurse educators reported that students were not told about the conditions or situations under which the assessment would take place.

Feed-back to students

Almost all nurse educators (n=17; 94.4%) reported that feed-back was given to students after the exams. One (5.6%) nurse educator however, reported that there was no feed-back provided to students after exams. Fourteen (87.5 %) nurse educators reported that the feed-back

was given by the evaluators. One nurse educator (6.3 %) reported that the feed-back was given by either the chairperson of the examiners' team, or by the whole community of examiners.

Students as the Subjects of Clinical Assessment

Assessment strategies used to assess the clinical learning outcomes: the students' perspective

The assessment strategies identified by students (Graph 9) were similar to those of the nurse educators. The student nurses reported that case presentations (n=63; 71 %), OSCE (n=89; 100 %), direct observations (n=34; 38 %) and Standardized Patients (n=28; 31%) were the most used clinical assessment strategies. However, some students talked about reflective diaries (n= 2; 2 %) and presented this as an alternative clinical assessment method. The totals in this section exceed the number of participant and 100% because the participants identified more that one assessment strategy

Graph 9: Assessment strategies (students' perspective)

Graph 9: Assessment Strategies: Students
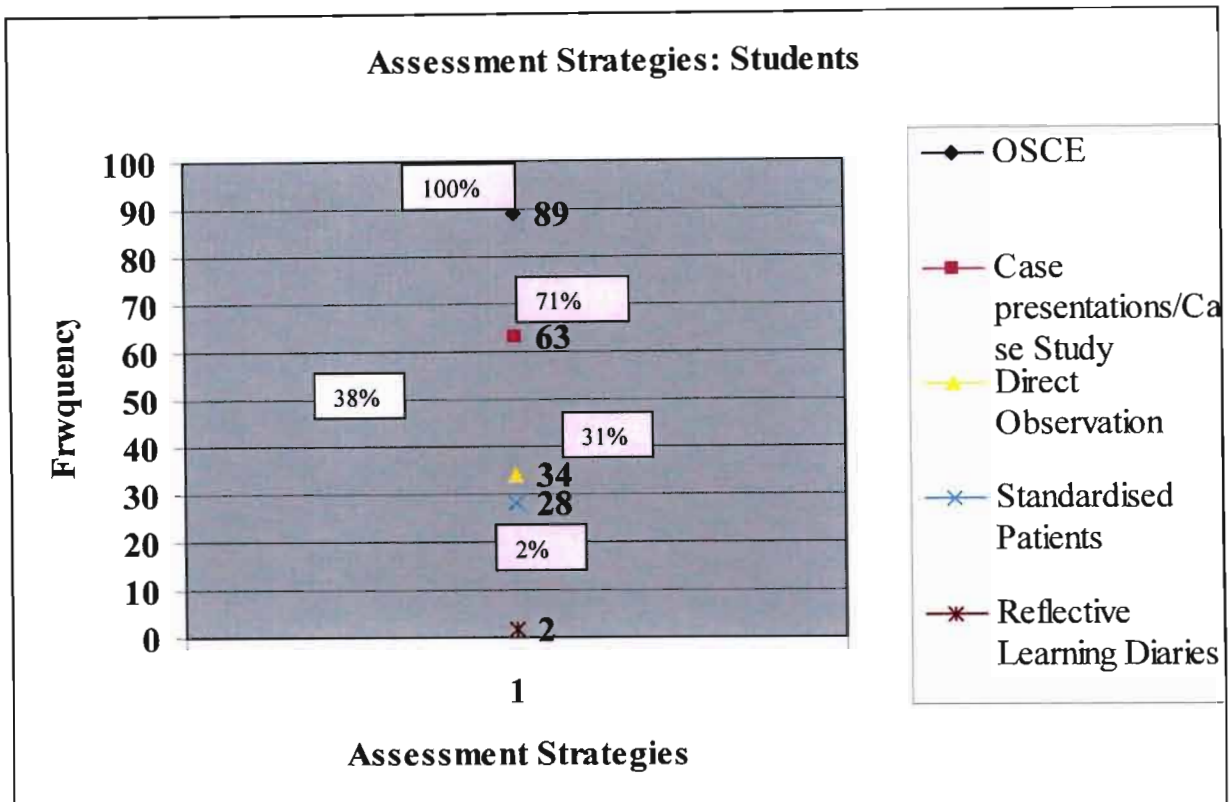
Strengths of clinical assessment strategies used

The students reported various strengths attributed to assessment strategies used to evaluate them: (1) according to eight (11.6 %) students, the methods used showed that one knows one's patient very well, (2) furthermore, 12 (17.4 %) students reported that the methods used helped students to provide care holistically to their patients and apply decision-making processes, (3) other students (n= 26; 36.2 %) said that direct observation is not stressful, and improves practical skills. Case presentations were reported to be interesting as well as challenging to their communication skills. They also prepared them for conducting patient assessments in real life.

Challenges associated with clinical assessment strategies and assessment in general

The students pointed out certain weaknesses or challenges linked to the above assessment strategies (Graph 10) Time allocated to clinical assessment was not enough (n=29; 32.6%). For example time allocated to OSCE stations was not adequate. The students (n=38; 43%) also indicated lack of material resources as another challenge. The students were expected to improvise when performing tasks during examinations. Fifty (56 %) students reported poor cooperation from patients, especially when using case presentations and standardized patients. The students reported that this was very frustrating to them especially because they were already nervous because of the examination. Eighteen (20 %) students reported that standardised patients were sometimes behaved in different ways with different students and they questioned the fairness of the examination in that case. About twelve (13%) of the students indicated that one case presentation was not enough to evaluate their practical skills. Their concern was that only one skill or competence was assessed that was linked to the presented case. They compared the case presentation with the OSCE where a number of stations were used to assess a variety of skills.

Graph 10: Challenges/Weaknesses in Assessment Strategies according to Students
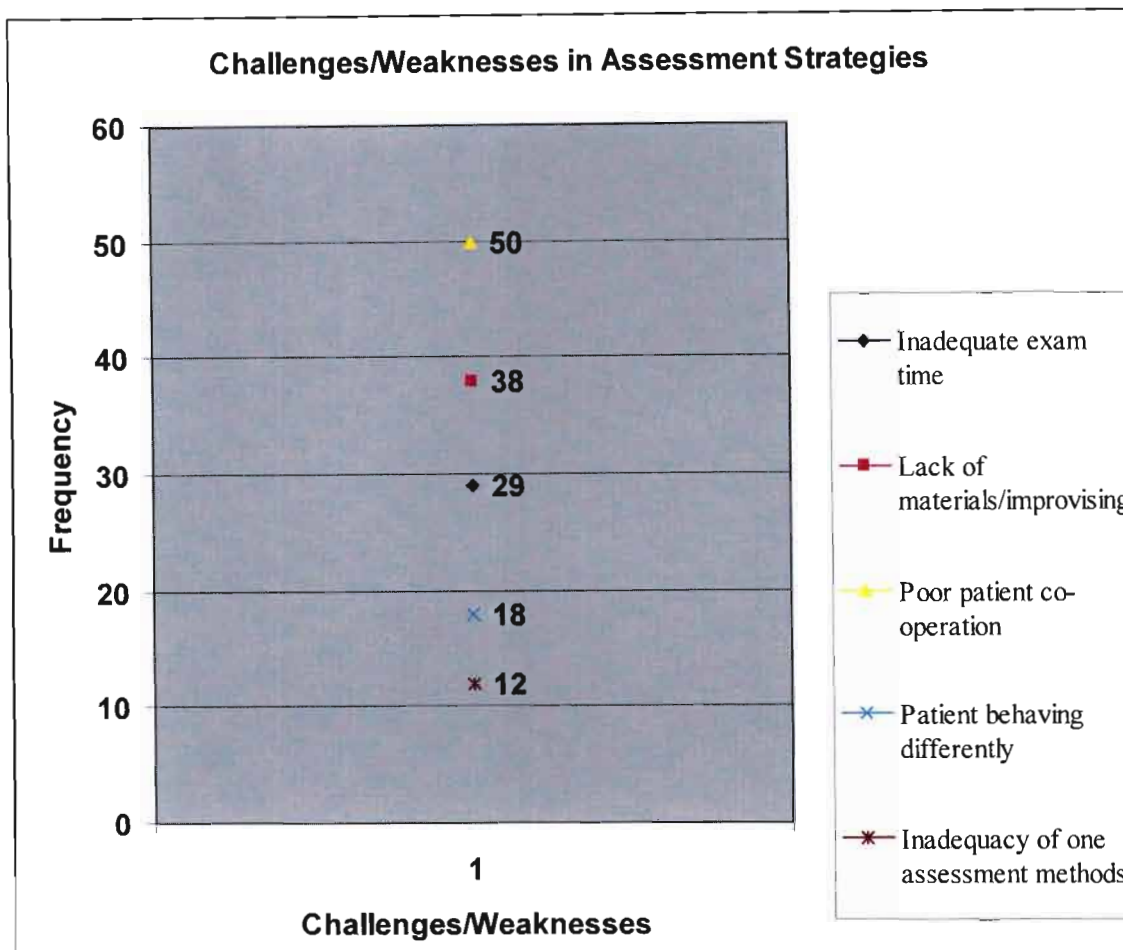
Relation between clinical assessment and clinical learning

The students (n=66; 74.2 %) reported that their clinical assessment was related to what they were learning in clinical settings. However, some of them (n=23; 25.8 %) denied any such relation between the clinical assessment and clinical learning.

The explanation supporting the relation between clinical assessment and clinical learning was that, (a) the assessment measured the level of competence in performing a skills, a skill that was taught during clinical learning, (b) the clinical learning objectives which were distributed to

students at the beginning of the course were related to the assessment, (c) the students had an opportunity during clinical learning to correlate theory and practice and that improved their level of understanding of the subjects taught, (c) The students had an opportunity to make daily reports of their learning through their reflective diaries, and that helped to improve their performance or practice.

Students who considered that there was no relation between clinical assessment and clinical learning stated that: (a) Procedures operated differently in the various hospitals, (b) Clinical instructors were few in number, (c) Evaluations were not related to objectives, as they were planned and coordinated by nurse educators who were not involved in their clinical learning (d) The teaching in the clinical setting was not appropriate to what they were learning in class (n=8; 11.3 %).

Transparency of the evaluation strategies used for students

The students (n=60; 68.2 %) reported that the clinical assessment used, showed what the learner was expected to achieve (learning objectives). Fifty (56.8 %) students reported that the criteria used to assess achievement were known and clear. According to 48 (54.5 %) students, what they would have to do to show achievement was clear. Thirty nine (44.3 %) students indicated that they knew how the learner's performance would be assessed. The conditions under which or situations in which the assessment would take place were transparent to 39 (44.3 %) students. About 65 (73.9 %) students reported that they knew when the assessment would take place.

However, 38 (43.2 %) students reported that they were not told anything about the criteria to be used to assess their achievement, nor were they told anything about the period of clinical evaluation. For 28 (31.8 %) students, what they were expecting to achieve in clinical learning

was not explained to them prior to the commencement of the programme. Forty (45.5 %) students reported that they were not aware of what they would have to do to show that they were competent. Forty nine (55.7 %) students reported that they were not told about the conditions or situations under which the assessment would take place.

About the examination day (Process of Assessment)

The students reported what normally happens on the examination day (See Graph 11).

Graph 11: Assessment process: Students
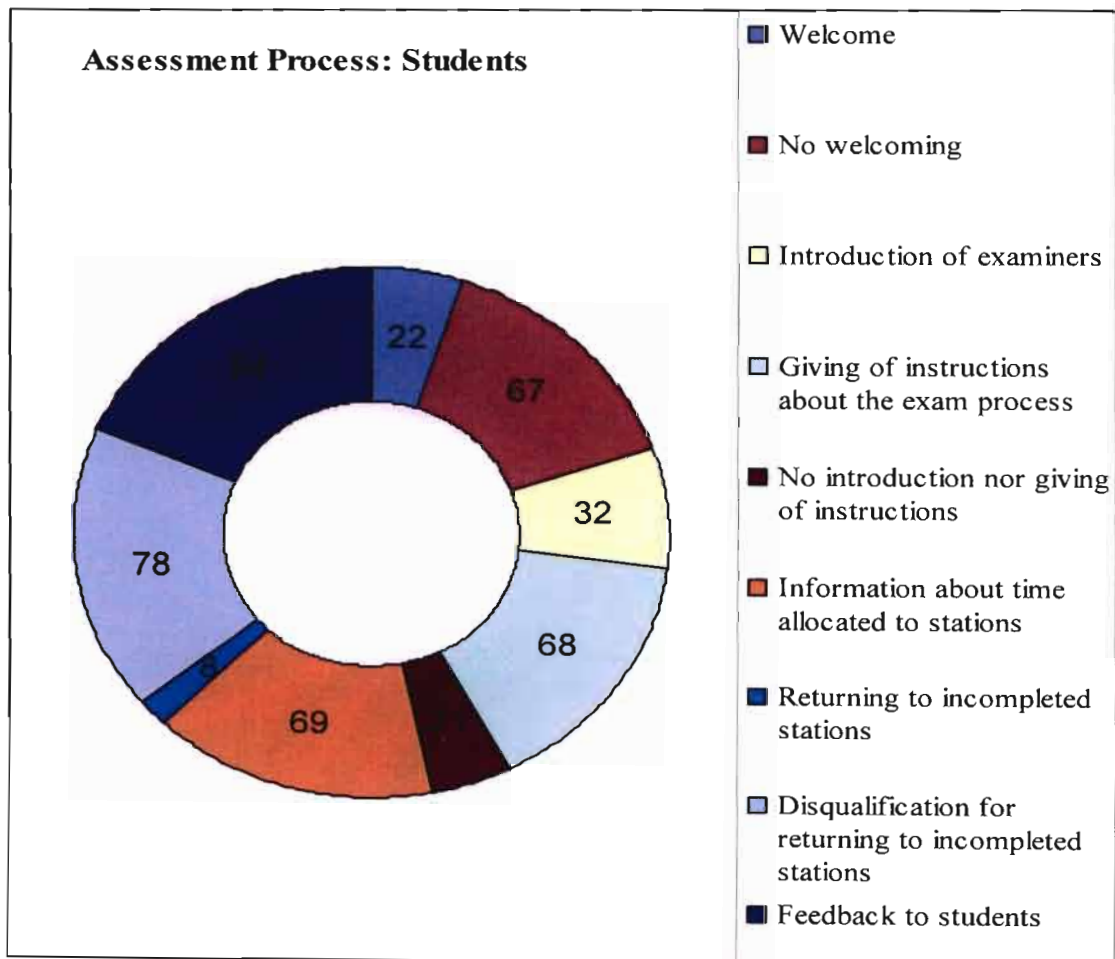
According to students, the assessment process included welcoming of students (n=22; 24.7 %), introduction to examiners (n= 32; 36.0 %), giving of instructions about the examination process (n=68; 76.4%), time allocated to each examination station (n=69; 77.5 %). Some students (n=67; 75.3 %) however expressed that no welcoming took place on the examination day, there was no introduction of examiners nor instructions to students (n=21; 23.6%). A large number of the students (n=78; 87.6%) reported that during the examination there was no returning to stations that were not completed during the examination, even if there was an extra time. without being penalised. A few students (n=8; 9.0 %) reported that during the examination it was possible to return to an incomplete component without being penalised.

Feed-back to students

The majority of students (n=84; 94.4 %) reported that the feed-back was given by the evaluator after the assessment. However, five students (5.6 %) reported that the feed-back was not given after the exam.

Fairness of clinical assessment

The students (n=53; 59.6%) reported that the clinical assessment used in their school was fair enough in that it reflected their competence objectively. Some of them (n=36; 40.4 %) considered that the clinical assessment used to assess them was not fair, and did not reflect objectively their competence. The 59.6% of students who reported the examination to be fair and objective supported their view by stating that (a) the assessment criteria were clear, fair and transparent; they were communicated to students by examiners. (b) Clinical assessment measured the clinical learning outcomes which were given to them at the beginning of the course.

The students (40.4%) who stated that the clinical assessments were not fair and did not reflect their competence objectively, supported their view by stating that (a) clinical instructors were not available during clinical placement to prepare them (students) for clinical assessment, and (b) the time allocated for clinical assessment was not enough for the students to demonstrate their competence, and (c) evaluators were subjective and gave them less marks.

External Examiners and Assessment of Clinical Learning

Strategies used to assess clinical learning

External examiners reported various assessment strategies which were used such as: (a) Case presentations (n=3; 30.0 %), (b) Direct observations (n=5; 50.0 %), (c) OSCEs (n=10; 100%) and Standardized Patients (n=6; 60%)- See Graph 12.

Graph 12: Clinical Learning Assessment Strategies according to External Examiners
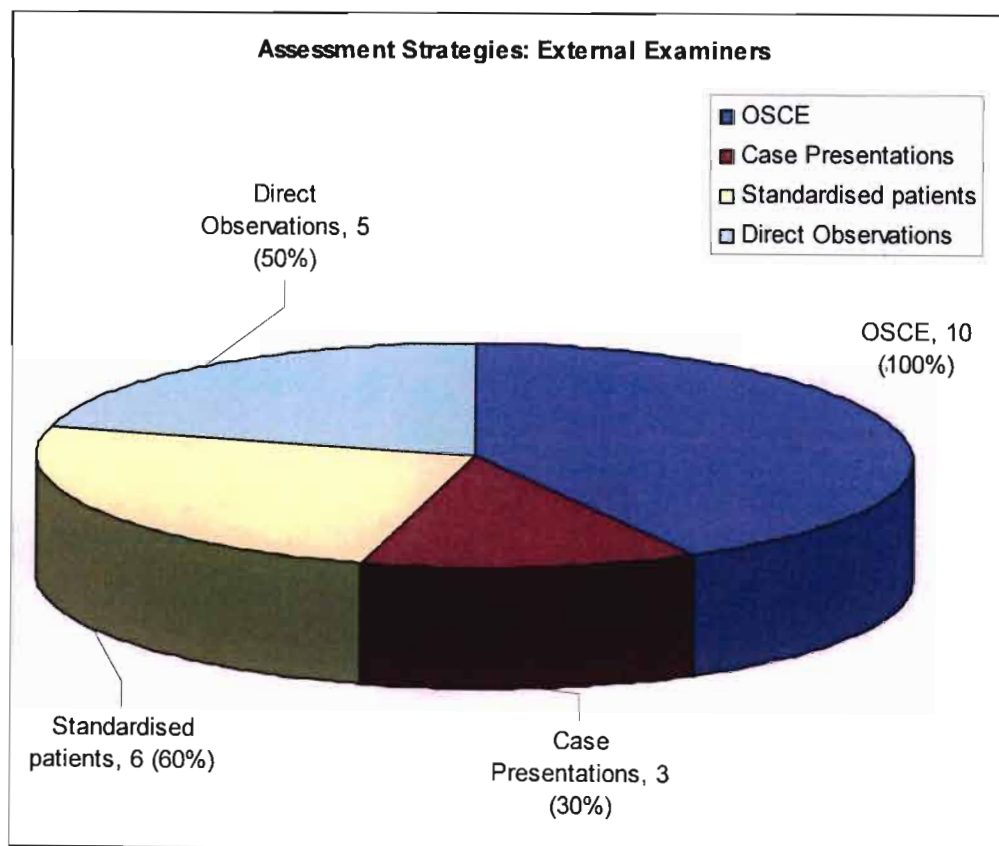
External examiners gave the following as strengths of above-mentioned clinical learning assessment methods: (a) Case presentations were useful in assessing practical or task-related skills, application of theoretical knowledge to real cases, and in assessing communication or case presentation skills. (b) OSCEs were useful because the examiners were able to assess a number of competencies within a short period of time. Furthermore, OSCEs ensured consistency in assessment as students were exposed to same stations. The external examiners, however, pointed out that OSCE's were very stressful to already nervous students and the time allocated to stations, according to students during the feedback time, was not enough for them to complete the expected tasks.

Relation between clinical assessment and students' clinical learning

According to external examiners (n=9; 90.0 %), the clinical assessment conducted by KHI teachers reflected what students had learnt in clinical settings. According to these external examiners (a) the evaluation was related to learning objectives, and (b) students had the opportunity to practice and communicate in clinical settings. One external examiner (10.0 %) however, expressed a different view, stating that assessments were not related to the students' clinical learning.

This external examiner indicated that some areas assessed were not familiar to students . This was attributed by this external examiner to the practice in KHI where clinical learning is the responsibility of clinical instructors not the nurse educators who were responsible for the setting of examinations.

Transparency of the system of clinical assessment for students

Eight (80.0%) external examiners reported that the clinical assessments showed what the students were expected to achieve. Eight (80 %) external examiners reported that the criteria that were used to assess students' achievements were known and communicated to students. According to 10 (100 %) external examiners, the students knew what they had to do to demonstrate competence in performing clinical tasks. Six 6 (60.0 %) of the external examiners indicated that the assessment process or how assessment would be conducted was communicated with the students. The conditions under which the assessment would take place were transparent to all those involved in the assessment, according to 6 (60.0 %) external examiners. Eight (80.0 %) external examiners reported that students knew when the assessment would take place and what the process would entail.

However, a few external examiners (n=2; 20.0 %) indicated that the students did not know what was expected from them. The criteria to be used were not clear nor the time or period when assessment of clinical learning was going to take place communicated to them.

About the examination day

External examiners (n=6; 60.0%) reported that on examination day, students were welcomed and after that, they were given instructions about the exam process. Furthermore, external examiners (n=8; 80.0 %) reported that during the examination, there was monitoring of time spent at each station took place. Few of the external examiners (n=3; 30 %) reported that during the examination it was possible for students to return to any incomplete component without being penalised. However, seven (70.0 %) external examiners said that students had no opportunity to return to an incomplete component without being penalised. The examination process was completed by obtaining feedback from students about the examination.

Fairness of clinical assessment

External examiners (n=6; 60.0 %) reported that clinical assessment used by teachers was fair enough in that it reflected students' competence objectively. However some of them, (n=4; 40.0 %) considered that the clinical assessment used to assess students was not fair and did not reflect objectively learners' competence.

The explanation given by external examiners as to whether the clinical assessment used was fair and objective included the facts that there was objectivity and fairness in evaluation, and the evaluation was well conducted. External examiners who thought that the clinical assessment used was not fair and did not reflect the learners' competence objectively stated that there was a need to improve clinical assessment and they found that the exams were generally stressful to the students.

Conclusion

According to the participants (n=117) in this study, the findings revealed that the commonly used clinical learning assessment strategies included OSCEs (n=117; 100%) (See Graph 14), Case presentations/case studies (n= 77; 66%); Direct observations (n=44; 38%); and Standardized Patients (n=36; 31%). Two (n=1.7%) of the students also gave reflective diaries as another form of strategy used to assess learning. The findings in this particular study revealed that the process of assessing clinical learning included developing clinical assessment instruments and marking guides, submitting these to the external examiners as a way of ensuring reliability and validity of assessment instruments. The examiners had to make changes to assessment instruments according to the external examiners' recommendations. The examiners, in case of an OSCE had to prepare the stations. According to the findings, not all examiners were involved in the preparation of the OSCE station. On the day of the examination, the examination process began by greeting the students and introducing the examiners. Instructions were then

given to the students, informing them about the time to be spent per station. The process was

concluded with a feed-back session with students giving feedback about the examination process

and examination coordinator giving some feedback to the students.

Graph 13: Summary of strategies used to assess clinical learning.
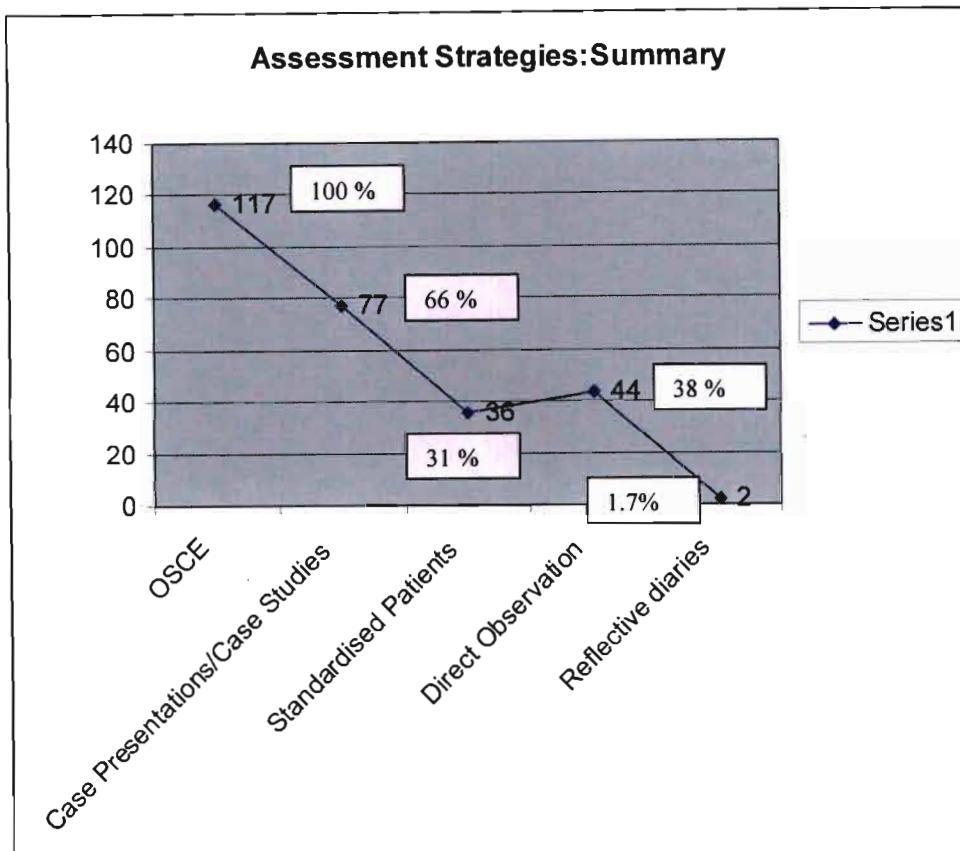
The results in this study also revealed that measures were taken to ensure validity and

reliability in the examination process. However, there were some concerns about the issues of

validity, reliability and authenticity of clinical assessments. The external examiners' roles were

related to quality assurance in clinical assessment. The findings also revealed that few nurse

educators were involved in the decision- making process as well as in the process of preparing for

the examinations. Challenges or problems include improvising during examinations due to lack

of material resources to be used for assessments, inadequate time allocated for assessment of learning, poor cooperation from patients and Standardized Patients behaving differently with different students these all affected the consistency in the examination process, and the use of one form of clinical assessment, for example, case presentation emerged inadequate to measure the competence of students at a particular level of study.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Introduction

The purpose of this study was to explore and describe current practices in the assessment of clinical learning in a nursing diploma programme at the Kigali Health Institute in Rwanda. Participants were educators, students and external examiners. They were requested to report on the assessment strategies commonly used at the Kigali Health Institute. Furthermore, they reported on the strengths and weaknesses of the various clinical assessment strategies used to assess the practical competences of nursing students in a nursing diploma programme.

Demographic data

The findings from this particular study revealed that 28% of the nurse educators had a nursing education qualification and others had specialisation in the areas they were teaching. About 30% of the external examiners had a nursing education qualification. The preparation of nurse educators and external examiners raised some concerns as the additional qualification in nursing education is supposed to prepare them for conducting assessments properly and ensuring quality in the assessment. The participants stated that their general nursing education programme had a curriculum development component that included teaching methodologies and assessment of level. This component was supposed to have prepared them for their teaching role. It is, however, not clear whether the objective of this component was achieved as there were a number of flaws in the assessment of clinical learning. The findings in this study revealed some inconsistencies in the process of conducting assessments. This was in line with the findings in McCarthy (2007) where examiners were found to be inadequately prepared for conducting

assessments. The examiners in McCarthy's study were found to be too inexperienced to conduct clinical assessments, they did not fully comprehend the assessment process, and were not applying all of the recommended assessment strategies in the assessment of clinical learning.

The findings in this study revealed the clinical learning was assessed formatively and summatively. Banning, 2004 suggests that formative and summative assessment allows the inclusion of multiple forms of assessment which would help students integrate, synthesise and assimilate the theoretical components of the domain with the clinical application and practical skills involved. The use of both formative and summative assessment is valuable as it would not only incorporate strategies to promote critical thinking, but would be a powerful tool to assess the students' overall performances and ability to reason clinically. One of the concerns raised by students was that assessing clinical learning summatively through one case presentation was not giving a true reflection of their level of competence. Continuous assessment and then one case presentation summatively would be a more accurate way to assess the level of competence of graduates at a particular level. Smee (2003) recommended comprehensive assessment because he/she was also of the opinion that one case presentation was not enough to assess the level of competence of students. Furthermore, the use of both formative and summative assessment could assist in ensuring that all clinical learning outcomes are measured, thus giving a complete picture of the level of competence of each student.

Assessment strategies

The findings in this particular study revealed that the assessment strategies most commonly used in a diploma programme included OSCEs (100%), case presentations (66%), direct observations (38%), Standardised Patients (31%) and reflective diaries (2%). It was further

reported that the use of a variety of assessment strategies facilitated the ability to assess students' practical competence, foundational competence and reflective competence.

External examiners also outlined certain weaknesses of the clinical assessments used by teachers. For them OSCE was stressful, and the time was always limited. The literature (Brosnan and Evans, 2006) is consistent with these findings, and states that OSCEs are perceived to be a meaningful and fair form of assessment. But these authors warn that OSCE is a stressful experience and requires considerable preparation and effort by students and academic staff. The support for OSCE as an assessment strategy is based on the claim that it is a reliable, less subjective and more valid method of assessment that some other methods (Nicol and Freeth, 1998). The validity of OSCE relies upon a number of factors that include the scenario, checklist, assessor objectivity and simulated patient (Morrisson, 1996). Serby, in (Brosnan and Evans, 2006) also suggests that a multiple number of stations are required to ensure the reliability of results. However, the process requires careful organisation and is time-consuming (Khattab and Rawlings, 2001). The OSCE station relating to examination uses a checklist with more than 15 points, each with a value of 1 (if correct) or 0 (if incorrect). The examiners are allowed to score 0.5 if the student attempted the examination procedure but did not carry it out properly (Ogden, 2000).

Furthermore, the literature indicates that the use of journals or diaries is an effective tool for self-assessment for the and development of reflective skills, particularly reflection on action. This skill can be developed through an individual working on his/her own, or within peer groups. The use of a diary or learning journal can aid the process. As reflective practice encourages the development of critical thinking, articulation of the practice of nursing should become easier. In today's health service provision this is an essential skill for all professionals (Wilson, 1996).

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The student is required to maintain a reflective diary throughout his/her clinical practice. This journal records the student's learning experiences and the learning outcomes (Burns and Bulman, 2000). The reflective diary should start with the student reflecting on his/her current practice, and his/her perceived strengths, followed by an identification of his/her learning needs. Each learning outcome described requires a reflective account by the student. Regular meetings between the student, facilitator and clinical facilitator will provide opportunities to discuss and reflect upon the student's entries in her/his reflective diary, and to agree on further work on the learning outcomes if necessary. Both student and facilitator are required to record their perceptions of the meeting, and note the agreements reached. At the end of the year the facilitator writes a summative report and makes a summative judgment indicating the student's progress and his/her completion of the learning outcomes (Johns, 1995; Taylor, 2000). A Pass or Fail will be returned. Student, facilitator and clinical facilitator are required to sign this report. The student then submits the Assessment of Practice document to the School of Nursing and Midwifery where the result will be logged into the student's records.

Clinical learning outcomes

This study revealed that through teaching exercises, the students achieved various learning outcomes which were used as a yardstick when preparing clinical learning assessments. The findings also supported Piercey's (2006) view that learning outcomes or objectives should reflect the competencies the student will need to demonstrate on completion of the learning programme. Clinical assessment should be aimed at measuring whether the set clinical outcomes/objectives were achieved. Neary (2000) therefore advises that the assessment of clinical learning should be comprehensive in order to evaluate the level of practical competence. This author recommends that nurse educators use a variety of assessment strategies. Regarding learning and development

of a learner, outcomes expected are related to the development of expected competencies (knowledge, skills and attitude) and personal, as well as professional development (Hyrkas, 2002). The assessment strategies chosen will assess those learning outcomes.

The findings also revealed some concerns about the link between clinical learning outcomes and the assessment of clinical learning. Some participants indicated that the students were unable to perform some tasks because they were inadequately prepared for those tasks during the clinical learning process. The researcher assumes that the gap was in the teaching learning process because the learning outcomes or objectives were made available to students and the assessment was based on clinical learning outcomes/ objectives. This study was not able to measure what took place during the teaching /learning process that contributed to inadequate preparation of students for the clinical assessments. According to the information obtained from the students, some clinical instructors who were supposed to be teaching them, were not available to teach. The external examiners also noted this but could not pinpoint where the fault was. One may assume that in this particular study the students also contributed to the problem of them being inadequately prepared for the clinical assessment.

The process of conducting clinical assessment

According to the findings in this study, there was a clear process of clinical learning assessment. Although the participants did not categorise activities according to phase, the findings revealed that this process included planning phase, preparation phase, implementation and evaluation phases. The findings showed that not all nurse educators were involved in the decision-making process regarding the assessment, only 27% were involved. Only 44% were involved in the planning and preparation of equipment, supplies, and OSCE stations. A large percentage of nurse educators were involved in the actual process of conducting clinical assessment. The findings in

this study revealed that few people were involved in decision - making regarding clinical assessment and in the preparation of the OSCE stations. In line with these findings Hyrkas's (2002), study also concluded that any assessment of clinical learning should be conducted under maximum security conditions, in order to support the validity of the process.

The process included preparation of assessment/examination instruments by selected nurse educators, subjecting the assessment instruments to the scrutiny of external examiners, external examiners suggesting changes to ensure content validity, nurse educators factoring in corrections suggested by external examiners, planning of equipment and supplies as well as preparing OSCE stations and relevant material. The activities on assessment day should include giving instructions to students, informing them about the time to be spent performing a task, giving feedback to students and students giving feedback about the examination process, external examiners attending to inconsistencies if any to ensure reliability of assessment. The process ends with the external examiner moderating assessment material, making judgments about problematic tasks and compiling a report to the examiners.

Although the process of assessing clinical learning had positive points in this study, the participants raised a number of concerns. The participants made some contradictory statements regarding some aspects during the assessment of clinical learning which made the researcher question the clarity of the assessment process to all the stakeholders. It was not clear whether a clinical learning assessment policy existed. If it existed what were the contents of that policy and whether the role players in the clinical assessment process were familiar with the policy were not investigated.

The participants complained about limited time during the assessments, which made it difficult for the students to complete the assessment tasks. They also complained about improvising during the examination due to the lack of nursing material. To address the issues of

time constraints and stress, Brosnan and Evans (2006) propose the use of a small number of stations to allow adequate time to perform the skill, to let student demonstrate the unity of the skill and to reduce student stress. Smee (2003) however, questions the reliability of assessment if there are only a few stations. Smee (2005) is of the view that using many short stations should generate scores that are sufficiently reliable for making pass-fail decisions within a reasonable testing time.

The participants also reported that one case presentation was not enough to evaluate their practical skills. It was found in this study that one nurse educator reported that there was no feedback provided to students after exams. Furthermore, some of them reported that no welcoming took place on the examination day; there were no introductions to exam settings, no feedback was given after exams and no instructions were provided on the exam day. A large number of students and external examiners in the sample reported that during the examination they were not allowed to return to any incomplete component without being penalised. The nurse educators, the nurse student and the external examiner emerged as key elements during the process of clinical assessment.

Although some participants raised some concerns about the giving of instructions to students, as well as feedback, the majority of the participants stated that clear instructions were given to students about the examination process and there was a feedback session at the end of the examination. This is supported by Hyrkas (2002) who in his research recommended that instructions should be clear, and the feedback should be provided to the student immediately by examiners.

Validity and reliability of assessments

It was noted from the results of this particular study that nurse educators reported problems of reliability, credibility, feasibility and authenticity related to the assessment strategies they currently use. These problems may be attributed to the inadequate preparation of nurse educators and external examiners for their roles as very few had a nursing education background. Furthermore, clinical teaching was done by preceptors who were not involved in the planning of clinical assessments. The nurse educators who were not involved in clinical teaching used clinical learning outcomes as the guide when planning assessments. As a result, there was a concern that some assessments were not in line with what was covered during the clinical learning process.

Conclusion

The overall picture obtained from the analysis of the practices in assessment of clinical learning in a nursing diploma programme was that various assessment strategies were used assess clinical learning and that assessment of clinical learning was based on clinical learning outcomes. There was a clear process of planning and conducting assessments although this was not documented. There were measures to ensure validity and reliability in the assessment of clinical learning.

Inadequate preparation of examiners and external examiners emerged as an area of concern as very few of these participants had a teaching qualification. There is a need for a policy on conducting clinical assessments so that the roles and responsibilities of all stakeholders are clarified to all. The process of clinical assessment was reported to be well-conducted in general; however some weaknesses were reported, because in some cases no feed-back was provided to students after exams, no welcoming took place on the examination day; no introduction and no instructions were provided on the exam day. A large number of the students and external

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examiners making up the sample reported that during the examination students were not allowed to return to any incomplete component without being penalised.

The assessment strategies were reported to be valid and reliable. Educators suggested using continuous assessments in order to sustain a more valid clinical assessment. More time, human and particularly material resources were needed to prepare and conduct OSCEs. Nurse educators seemed to anticipate and compensate for these weaknesses by suggesting the use of more than one clinical assessment strategy, and, by so doing increasing the validity of the assessment.

Recommendations

Process of conducting clinical assessments

- There is a need for a structured process of conducting clinical assessment to ensure consistency. There is a need to establish whether the policy regarding conducting clinical assessments exists and whether this policy is communicated to all stakeholders involved in assessment of clinical. If the policy does not exist the KHI, Department of Nursing has to ensure that this policy is developed in consultation with all stakeholders and be used as a guide when planning and conducting clinical assessments.

- Nurse educators planning clinical assessment must work closely with the clinical instructors/preceptors in order to know what was covered during learning in the clinical settings.

- Learners should be prepared for clinical assessment that is competency-based not skills-based to avoid negative backwash, with learners learning the practical tasks not a competence as a whole.

- Open communication between learners, clinical instructors/preceptors and nurse educators who are responsible for planning clinical assessment is necessary to ensure that what is assessed is what was covered during learning in the clinical settings.

- There is a need to use both continuous and summative assessment to ensure that all clinical learning outcomes are assessed. Assessment needs to be planned well in advance so that the students know what will be covered during continuous assessments and what will be covered during summative assessment.

- The examiners need to use a variety of assessment methods to ensure the reliability of clinical assessments.

Process of ensuring validity and reliability in assessment of clinical learning

The findings in this study revealed some concerns in the process of ensuring validity and reliability of clinical assessment.

- It is recommended that there is a need to build the capacity of examiners and external examiners regarding planning, preparing, conducting and evaluating clinical assessment. Workshops on clinical learning and the assessment of clinical learning need to be held. The education of these key players needs to be upgraded through undertaking a diploma or degree in Nursing Education.

- External examiners' roles and responsibilities regarding the validity and reliability of assessments should be clarified in the clinical learning assessment policy.

Capacity building

- There is a need to build the capacity of nurse educators and external examiners in the area of assessing clinical learning. Workshops are recommended as a short-term solution and undergoing training in nursing education as a long - term plan.

- Learners should be prepared for different assessment strategies. If possible, expose the students during formative assessment to all the assessment strategies that will be used during summative assessment.

Further research in the area

- There is a need for further research in this area, to explore clinical assessment further. A research study using mixed methods is recommended to explore this concept in depth.

- There is also a need for a research study that will explore the relationship between learning and the assessment of learning, as there was a concern that some of the assessment was not in line with what was covered by students during the clinical learning process.

Chapters' breakdown

CHAPTERS	CONTENT
Chapter one: Introduction	- Background to the study - Problem statement - Purpose of the study - Objectives of the study - Research questions - Significance of the study - Conceptual framework - Operational definitions
Chapter two: Literature review	- Introduction - Clinical learning - Strategies used to assessment of clinical learning - Validity and reliability in assessment of clinical learning - Preparation of assessors for assessment of clinical learning - Summary of literature review
Chapter three : Research methodology	- Introduction - Research approach - Research design - Research setting - Study population - Sample and sampling - Data collection and instruments - Validity and reliability of the instruments - Data collection process - Data analysis - Ethical consideration - Limitation of the study
Chapter four: Data presentation	- Introduction - Population and sample description - Characteristics of the study respondents - Learning outcomes of teaching courses - Assessment strategies used to assess attainment of clinical learning outcomes - Problems or challenges associated with assessment methods used - Measures taken to ensure validity and reliability of clinical assessment - Students as the subjects of clinical assessment

	-	External examiners and assessment of clinical learning
	-	Conclusion
Chapter five: Discussion, conclusion and recommendation	-	Introduction
	-	Demographic data
	-	Assessment strategies
	-	Clinical learning outcomes
	-	The process of conducting clinical assessment
	-	Validity and reliability of assessments
	-	Conclusion
	-	Recommendations

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APPENDICES

APPENDIX 1

APPENDIX 1 (A) Questionnaire (For Nurse Educators)

Instruction: Please mark your response with an X on the following questions

Section T.A: Demographic data:

1. a . What is your gender category?

Male		1
Female		2

1. b. What is your age in years?

Below 26		1
26-35		2
35-45		3
Above 45		4

2. What is your teaching qualification? (Please tick all the programmes applicable to your qualifications).

		1
Diploma in Nursing		
Diploma in Midwifery		2
Diploma in Mental health		3
Basic degree in Nursing		4
Honors in Nursing education		5
Masters in Midwifery		6
Masters in Public Health		7
Masters in Mental Health		8
Other (specify)...................		9

3. Which of the following basic clinical subjects do you teach? (You can tick more than one item).

		Year 1	Year 2	Year 3
General Nursing	1			
Community Nursing	2			
Fundamental nursing	3			
Midwifery	4			
Psychiatric Nursing	5			
Other (specify) ……….. …………………………..	6			

4. Who is involved in the assessment of clinical learning in your institution? (You can tick more than one item).

Nurse – educators		1
Clinical instructors		2
Preceptors		3
Ward staff		4
Other (specify)……………………….. ……………………………………………..		5

Operational definitions:

- ➢ **Nurse- educator**: is an individual with a teaching qualification in nursing employed to teach in class.
- ➢ **Clinical instructor**: is an individual employed for clinical instruction who has a teaching qualification in nursing and is employed to teach in class.
- ➢ **Preceptor**: is a registered nurse specifically appointed to act as a person for the students and also responsible for seeing to it that they receive the maximum benefit from their allocation to the unit , be it a hospital or a community setting.
- ➢ **Ward staff**: is a registered nurse employed in a unit (in a hospital) for nursing care purposes.

5. Is training in clinical assessment provided for individuals who do not hold a teaching qualification when they are required to participate in clinical assessment?

		1
Yes		
No		2

6. If yes, please describe the nature of training that is provided including the content, process and duration ……………………………………………………………...

……………………………………………………………………………………..

………………………………………………………………………………………

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………………………………………………………………………………………
………………………………………………………………………………………

Section T.B: Common methods of clinical assessments used in assessing nursing students.

Instruction: Please mark your response with an X, and specify or elaborate where necessary.

1. Are you involved in assessing students' clinical learning?

		1
Yes		
No		2

2. At what stage of the process are you involved? (please tick all relevant options).

Decision-making regarding the method of assessment		1
Planning equipment and other resources needed		2
Implementation		3
Informing students about the results of assessment		4

3. Please list the clinical learning outcomes for one of the clinical nursing courses that you teach.

....

....

....

....

....

....

....

4. What methods do you use to assess attainment of these clinical learning outcomes? (please list all the methods you use).

....
....
....
....
....
....

5. What percentage of the final grade in this course do these clinical learning outcomes constitute?

....
....
....
....
....
....

6. Are the methods listed in question 4 able to assess the ability of a student to perform a set of tasks and actions in a given context? (Practical competence).

Yes	.	1
No		2

Please explain:..

....
....
....

7. Are the methods listed in question 4 above able to assess the student's understanding of what s/he is doing and why s/he is doing it? (Foundational competence).

Yes		1
No		2

Please explain:

....
....
....
....
....

8. Are the methods listed in question 4 above able to assess the student's ability to integrate performance with his/her understanding so that s/he is able to explain the reason behind these adaptations? (Reflexive Competence).

Yes		1
No		2

Please
explain:..
....
....
....
....

9. What are the strengths of the assessment method that you currently use?

....

....

....

....

10. What do you think is a problem (if any) with the assessment method that you currently use in assessing the stated outcomes for this particular course?

		1
Reliability		
Validity		2
Credibility		3
Feasibility		4
Authenticity		5

Please explain:

....

....

....

....

11. What are the measures taken to ensure validity in clinical assessment?

....

....

....

12. What are the measures taken to ensure reliability in clinical assessment?

....

....

....

13. What is the role of a moderator/external examiner?

....

....

....

14. What is the process of conducting a clinical examination?

....

....

....

....

....

15. Do you think the methods of assessment you use for this course are the true reflection of the student's clinical learning?

Yes		1
No		2

Please explain:

....

....

....

....
....

16. The assessment of clinical assessment used in your institution is transparent to student   in that it explicitly states:

	1	2
	Yes	No
What the learner is expected to achieve.		
What criteria will be used to assess achievement.		
What the learner will have to do to show achievement.		
How performance will be assessed.		
The conditions under which or situation in which the assessment takes place.		
When the assessment takes place.		

17. Is the feed-back given to students after exams?

Yes		1
No		2

18. When is the feed-back given? ....
....

19. By whom is the feed-back given? ....
....

Thank you for your participation.

9

APPENDIX 1 B Questionnaire: (For Students)

Instruction: Please mark your response with an X on the following questions

Section S.A: Demographic data:

1. a . What is your gender category?

Male		1
Female		2

1. b What is your age in years?

Below 20		1
20-25		2
25-30		3
30-35		4
35-40		5
Above 40		6

2. What is the course in which you are currently registered?

Diploma in general nursing (F/T)		1
Diploma in general nursing (evening course: P/T)		2
Diploma in Midwifery (F/T)		3
Diploma in Midwifery (evening course : P/T)		4
Diploma in mental health (F/T)		5

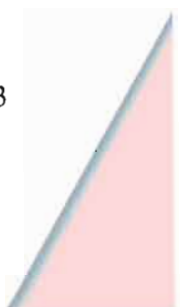**Section S.B: Common methods of clinical assessments used in assessing nursing students.**

Instruction: Please mark your response with an X, and specify or elaborate where necessary.

1. What methods are used by your teachers to assess your clinical learning outcomes?

Case presentations		1
OSCE		2
Paper-pencil examinations		3
Direct observations		4

10

Portfolios		5
Reflective diaries		6
Other (specify)..		7
....		

2. In your view what is good (strengths) and bad (weaknesses) about the methods listed in question 1.

Strengths: ....

....

....

Weaknesses: ....

....

....

3. If you look at your clinical assessment, is it related to what you are learning in clinical settings?

Yes		1
No		2

Please explain: ....

....

....

....

4. Is the system of clinical assessment used in your school transparent to you (students) in that it explicitly states:

	1	2
	Yes	No

What the learner is expected to achieve.		
What criteria will be used to assess achievement.		
What the learner have to do to show achievement.		
How performance will be assessed.		
The conditions under which or situation in which the assessment takes place.		
When the assessment takes place.		

5. What takes place on the examination day?

Welcome		1
Introduction		2
Instructions		3
Timing in between/during		4
Given an opportunity to return to any incomplete component without being penalized if it is within time (sufficient time)		5
Other (specify)..		6

6. Is feed-back given to students after exams?

Yes		1
No		2

7. When is feed-back given? ....

....

8. By whom is feed-back given? ....

....

9. Do you think the system of clinical assessment used in your school is fair enough in that it reflects your clinical competence objectively?

Yes		1
No		2

Please explain: ....

....

....

....

Thank you for your participation.

APPENDIX 1 C Questionnaire: (For Moderators/ external examiners)

Instruction: Please mark your response with an X on the following questions

Section M.A: Demographic data:

1. a . What is your gender category?

Male		1
Female		2

1. b. What is your age in years?

Below 26		1
26-35		2
35-45		3
Above 45		4

1. What is your teaching qualification? (Please tick all the programmes applicable to your qualifications).

		1
Diploma in Nursing		
Diploma in Midwifery		2
Diploma in Mental health		3
Basic degree in Nursing		4
Honors in Nursing education		5
Masters in Midwifery		6
Masters in Public Health		7
Masters in Mental Health		8
Other (specify).................		9

Section M.B: Common methods of clinical assessments used in assessing nursing

Students.

Instruction: Please mark your response with an X, and specify or elaborate where necessary.

1. What methods are used by teachers to assess your clinical learning outcomes?

Case presentations		1
OSCE		2
Paper-pencil examinations		3
Direct observations		4
Portfolios		5
Reflective diaries		6
Other (specify)…………………………………..		7

2. In your view what is good (strengths) and bad (weaknesses) about the methods listed in question 1.

Strengths: ....

....

....

Weaknesses: ....

....

....

3. If you look at clinical assessment is it related to what students are learning in clinical settings?

Yes		1
No		2

Please explain: ....

....

....

....

4. Is the system of clinical assessment used transparent to students in that it explicitly states?

	1	2
	Yes	No
What the learner is expected to achieve.		
What criteria will be used to assess achievement.		
What the learner have to do to show achievement.		
How performance will be assessed.		
The conditions under which or situation in which the assessment takes place.		
When the assessment takes place.		

5. What takes place on examination day?

Welcome		1
Introduction		2
Instructions		3
Timing in between/during		4
Given an opportunity to return to any incomplete component without being penalized if it is within time (sufficient time)		5
Other (specify)..		6

6. Do you think the system of clinical assessment used is fair enough in that it reflects the student's clinical competence objectively?

Yes		1
No		2

Please explain: ....

....

....

....

....

Thank you for your participation.

APPENDIX 2

Information form

INFORMATION FORM TO PARTICIPATE IN RESEARCH PROJECT CONDUCTED IN PARTIAL FULFILMENT OF A COURSEWORK MASTER'S DEGREE IN NURSING EDUCATION.

Study title:

An Analysis of the Assessment of Clinical Learning in a Nursing Diploma Progamme in Kigali Health Institute

Dear participant,

I Camille N. Kayihura, a student at the University of KwaZulu Natal am conducting a research study titled "An Analysis of the Assessment of Clinical Learning in a Nursing Diploma Progamme in Kigali Health Institute". The purpose of this study is to explore and describe current practices in assessment of clinical learning in nursing education in Kigali Health Institute. You are being asked to take part in this study by completing the attached questionnaire. Completing this form will take approximately 20 minutes of your time.

Please be aware that participation is voluntary, you are not compelled to participate in this research and may discontinue your participation at any time. You may also omit any items on the questionnaire(s) you prefer not to answer. There are no foreseeable possible risks associated with participation in this study. If you should experience any discomfort during the process of completing the questionnaire you may discontinue. Please be aware that you may contact Mr. C. N. Kayihura for assistance with the completion of the questionnaire.

Your responses will be provided anonymously to protect your privacy. Potential benefits associated with the study include a better understanding of how nurse educators conduct clinical assessment, and in so doing, make explicit aspects of assessment of clinical learning that need to be improved in order to achieve the goals of competence outcome. If you have questions regarding this study, or would like to be informed of the results when the study is completed, please feel free to contact Mr. C. N Kayihura (08 450 540 /   +27 07 81 75 75 69 /   e-mail : kayihurancamille@yahoo.fr). If you have questions or concerns regarding the manner in which the study is conducted, you may contact Prof Mtshali (Research Supervisor) e-mail : Mtshalin3@ukzn.ac.za.

If you agree to voluntarily participate in this research project as described, please indicate your agreement by completing and returning the attached questionnaire.

C. N Kayihura (Masters Student)
University of KwaZulu Natal; Health Sciences Faculty

APPENDIX 3

UNIVERSITY OF KWAZULU NATAL
FACULTY OF HEALTH SCIENCES
SCHOOL OF NURSING
HOWARD COLLEGE CAMPUS
P.O. BOX 4041 DURBAN, SOUTH AFRICA

30th May 2006

Dear Colleague,

REQUESTING YOUR PARTICIPATION IN A RESEARCH PROJECT

I am a student at the School of Nursing of the University of KwaZulu Natal in Durban, studying towards the Master's Degree in Education for Health Professionals. As a requirement for the degree, I have to conduct a research project, **"An Analysis of the Assessment of Clinical Learning in a Nursing Diploma Progamme in Kigali Health Institute"**.

I am therefore requesting you to complete the questionnaire herein by marking with a cross (X) the responses that match your answers to the questions. You are kindly requested to complete all questions as honestly as possible.

The information gathered will be treated with the utmost confidentiality. Your prompt response to this request will be greatly appreciated.

Thank you for your cooperation.

Yours faithfully

Camille N Kayihura

Supervisor: Prof. NG. MTSHALI

APPENDIX 4

DECLARATION

I.. (full names of
participant) hereby confirm that I understand the contents of this document and the nature
of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so
desire.

SIGNATURE OF PARTICIPANT   DATE
....

APPENDIX 5

To: The Rector of Kigali Health Institute
    P.O Box 3286
    Kigali - Rwanda

From: Mr. Camille N Kayihura
      Master's Student
      University of KwaZulu Natal
      Nursing School
      P.O Box 4041, Durban-South Africa.
      E-mail: kayihurancamille@yahoo.fr

Dear Sir,

Application for permission to conduct a research project in June-July 2006

I am a student at the Nursing School of the University of KwaZulu Natal in Durban, South Africa; studying for the Master's Degree in Education for health professionals. As a requirement for the degree, I have to conduct a research project, titled **"An Analysis of the Assessment of Clinical Learning in a Nursing Diploma Progamme in Kigali Health Institute"**.

I therefore request your permission to interview nurse students and nurse educators as part of the data collection process.

Permission for voluntary participation will be requested from nurse students and nurse educators and their rights to informed consent, confidentiality and anonymity will be ensured.

I trust my application will receive your favorable consideration as information obtained will be of relevance to the Diploma Programme in Kigali Health Institute.

Yours faithfully

Camille N Kayihura.

Supervisor: Prof NG. MTSHALI

APPENDIX 6

KIGALI HEALTH INSTITUTE

B.P. 3286 Kigali, RWANDA
Tel: +(250) 572172; +(250) 571788
Fax: +(250) 571787
Website: http://www.khi.ac.rw
E-mail: info@khi.ac.rw

Dr NJUNWA Kato Jonas
Chairman, Research, Ethics and Publications Commission

7th July 2006

Mr Camille Kayihura, Msc Student
University of Kwazulu Natal
Nursing School
P.O. Box 4041
Durban
SOUTH AFRICA

Dear Mr Kayihura,

RE: PERMISSION TO CONDUCT A RESEARCH PROJECT FOR YOUR MSC.

May I kindly refer you to the above captioned subject.

Your research proposal has been reviewed and the following comments have been given for you to take into consideration.

1. **TITLE:** Title is okay.
2. **AUTHORS:**
   - The author is qualified for the research.
   - Previous experience not known to the supervisor
   - No other team is involved thereby missing the aspect of multidisplinarity.

3. **SUMMARY (ABSTRACT)**
   - Summary is missing
4. **BACKGROUND AND LITERATURE REVIEW**
   - Well searched
5. **PROBLEM STATEMENT**
   - Problem statement is visible, research questions were addressed
   - Hypothesis is missing
   - Study design is okay and it addresses the research problem.

6. **STUDY AREA AND POPULATION**
   - Study area and population are appropriate.
   - Sample size may not be representative: only 96 out of 400 students.
   - Method of sampling is pertinent
7. **METHODOLOGY**
   - Methodology is suitable for the study and uses a combination of approaches.
   - Data handling is well described.

8. ETHICAL CONSIDERATIONS
- It is ethical to carry out the study.
- Procedures for seeking informed consent are clearly explained.

9. DISSEMINATION OF INFORMATION
- How information will be dissemination is not addressed

10. BUDGET
- Budget is realistic but not justified.

11. CONCLUSION
The Research and Ethics Commission is granting permission for you to conduct the research using KHI students, on the condition that:

a) You shall observe all the ethical issues including informed consent to participate in the study

b) You shall disseminate your results such that KHI library gets the report of your study for reference purposes and for the implementing the recommendations as deemed necessary.

We wish you a very interesting and successful study.

Thank you.

Dr NJUNWA, K
Chairman, Research, Ethics Commission

CC
- Rector, KHI
- Academic and Research Vice Rector
- Registrar KHI
- Dean, Faculty of Nursing

Appendix 7

UNIVERSITY OF KWAZULU-NATAL

RESEARCH OFFICE (GOVAN MBEKI CENTRE)
WESTVILLE CAMPUS
TELEPHONE NO.: 031 – 2603587
EMAIL: ximbap@ukzn.ac.za

1 AUGUST 2006

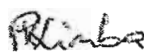**MR. CN KAYIHURA (203502938)**
NURSING

Dear Mr. Kayihura

ETHICAL CLEARANCE APPROVAL NUMBER : HSS/06350A

I wish to confirm that ethical clearance has been granted for the following project:

> "An analysis of the assessment if clinical learning in a Nursing Diploma Programme
> n Kigali Health Institute in Rwanda"

Yours faithfully

Ximba
....
MS. PHUMELELE XIMBA
RESEARCH OFFICE

PS: The following general condition is applicable to all projects that have been granted ethical clearance:

THE RELEVANT AUTHORITIES SHOULD BE CONTACTED IN ORDER TO OBTAIN THE NECESSARY APPROVAL SHOULD THE RESEARCH INVOLVE UTILIZATION OF SPACE AND/OR FACILITIES AT OTHER INSTITUTIONS/ORGANISATIONS. WHERE QUESTIONNAIRES ARE USED IN THE PROJECT, THE RESEARCHER SHOULD ENSURE THAT THE QUESTIONNAIRE INCLUDES A SECTION AT THE END WHICH SHOULD BE COMPLETED BY THE PARTICIPANT (PRIOR TO THE COMPLETION OF THE QUESTIONNAIRE) INDICATING THAT HE/SHE WAS INFORMED OF THE NATURE AND PURPOSE OF THE PROJECT AND THAT THE INFORMATION GIVEN WILL BE KEPT CONFIDENTIAL.

cc. Faculty Officer (Post-Graduate Studies)
cc. Supervisor (Dr. NG Mtshali)