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Factors Impacting on Clinical Competence of Nursing Student in a Problem based Learning Curriculum during Clinical Learning



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Abstract

Clinical competence of Nursing student depends on the supervision received during clinical learning. Supervisors in the clinical area plays an important role for Nursing student when developing their clinical competence in a clinical learning phase. During clinical learning, the expectation is that Nursing student should be able to integrate theory and practice when working with patients. This paper aims to account for those factors that affect competence during clinical learning of Nursing student through a Problem Based Learning curriculum. Thus, the paper reflects a section from a study whose objective was to investigate and outline professional nurses' understandings of the clinical competencies of final-year Nursing student participating in a Problem Based Learning curriculum during clinical training in the North West Province, South Africa. A qualitative, explorative, descriptive and contextual research design was employed in the main study which had a target population of professional nurses in three hospitals in which the Nursing student following a Problem-Based Learning curriculum were placed for clinical learning. The study employed purposive sampling techniques with semi-structure interviews. In this paper, two themes and six subthemes are ported as follows: 1. that there was dysfunctional collaboration between all stakeholders including facilitators and professional nurses and 2. Professional nurses had attitudes towards Problem Based Learning. Clinical placements required meticulous planning and identification of specific theoretical learning which matched the practical learning requirements pertinent to the Nursing student' training levels. It is therefore concluded that the development of the clinical competence of Nursing student in a Problem Based Learning curriculum is dependent on stakeholder collaboration.

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INTRODUCTION

The ultimate goal of nursing education is clinical competence which includes the utilization of knowledge and information, communication and interpersonal, problem-solving and technical skills (Kahya & Oral, 2018). It is expected that by the end of the training period, as a result of receiving necessary and adequate theoretical and practical instructions, students should have achieved the maximum level of clinical competence. Therefore, Professional nurses at the clinical learning environment play an integral role in the development of students' clinical competence during the students' clinical practice. Clinical practice assists students in developing clinical knowledge and skills by integrating theory into practice (Zhang et al., 2022) and allow students to become both functional and independent through the indirect supervision of qualified registered nurses. It is the Professional nurses who assume supervisory roles which assist development of clinical competence for the student. It is therefore becoming imperative to report on the Professional nurses' perceptions regarding factors that have impact on the clinical competence of students educated through a Problem-Based Learning (PBL) context during clinical learning in North-West Province, South Africa.

McMaster University Medical School, Canada first introduced PBL in the 1960s. Subsequently, this approach has gained worldwide popularity, including in South Africa. PBL denotes "an instructional learner-centred approach" that enables "learners to conduct research, integrate theory and practice and apply knowledge and skills" to generate a "practical solution to a defined problem" (Servant & Schmidt, 2017). Further, PBL is defined by Gholami et al. (2017) as an "educational design that emphasizes active participation, problem-solving, and critical-thinking skills". In PBL, learning is active knowledge development as opposed to passive absorption of information (Mumtaz & Latif, 2017). Furthermore, traditional teaching approaches rely upon lecture presentation for the presentation of content information whereas a PBL approach emphasises the presentation of real-life problems as a way of expediting self-directed learning (Ansarian & Lin, 2018). It is suggested that PBL has been determined as a means to advance applications of "lesson-based theory to clinical practice" (Sangestani & Khatiban, 2013). The authors Oyeniran et al. (2019) stated that PBL promotes the application of "problem-solving and critical thinking in real-life learning situations".

Furthermore, it allows learning through active participation in significant challenges.

According to (Cartwright et al., 2016), PBL enable students to develop clinical competence skills associated with the ability to overcome the environmental challenges of clinical practice. The PBL approach aims to foster a migration from the traditional teaching approach to that of one of a learner-centred approach that motivates learners to acquire those required skills which are key competencies for the making of an independent and self-directed competent practitioner (Sayyah et al., 2017). For the benefit of this research paper, clinical competence denotes the ability of a student, who has been educated under a PBL curriculum, to perform under the direct and indirect Professional nurse supervision.

The nursing education institution of South Africa's North-West Province adopted PBL in 2002. The aim was to promote empowerment of Nursing student with those abilities that would enable them to acquire the necessary skills required to become competent clinical practitioners. It has been more than a decade now since the institution adopted this approach and a decade after the graduation of the first group of PBL trained, but there has not been any evaluation of their clinical competence. Derived from the whole study, this research paper intends to report on perceptions of professional nurses regarding factors that have impact on the clinical competence of final year PBL students under their supervision during their clinical placements as well as to make recommendations.

METHODS

A qualitative, explorative, descriptive and contextual research design was adopted for this research. This method permitted the researcher to consider at length, the study participants' perceptions about this particular mode of study (Gray & Grove, 2020), namely, their perceptions regarding clinical competence of PBL trained students which led to identification and intention to report factors that have impact on the clinical competence of those students. The aim of this paper was to report the factors impacting on clinical competence of Nursing student in a Problem Based Learning curriculum during clinical learning in the North West Province drawn from the main study. In this study, Professional nurses from three selected North-West Province hospitals in South Africa were the target population. Participants who consistently supervise Nursing

student during their clinical learning placement were purposively sampled. The students had been placed in different disciplines at the hospitals three times a week. After the researcher approached individual study population, Unit Service Managers or Operational Managers assisted by providing interview or boardrooms and by allowing the Professional nurses who agreed to participate time off and that was done with no obligations as the focus group discussions interviews were done during working hours. Selection of the participants was according to the criteria: (1) Professional nurses who, after professional registration with the South African Nursing Council (SANC), had an excess of two years working experience; and (2) Supervisory Professional nurses who were involved in PBL student clinical learning placement.

The data were collected using an interview guide with semi-structured questions. Probing questions were asked which allowed them to elaborate on and clarify the issue being investigated. Data collection took place between April and July of 2016; and the duration for four (4) FGDs and seven (7) individual interviews was between 30 minutes and 1 hour 30 minutes. A digital voice recorder was utilised by the researcher to record the participants' exact words, which ensured that complete narratives were captured. Data was transcribed verbatim; it was then later coded according to emerging categories and subcategories. Tesch's model, as cited in Creswell (2014), was followed to guide the data analysis.

Credibility was ensured by checking the reliability of the coding with the study supervisor who encoded the data and checked for agreement. Dependability was ensured when the supervisor of the research audited the whole study process. Confirmability was ensured by using enquiry audits where the auditor examined critical incidents of the study. Furthermore, study participants were purposively selected participants based on their knowledge of the phenomenon under investigation and the location and sample size was determined by data saturation.

As suggested by Brink et al. (2018), three underlying ethical principles of "respect for persons, principle of beneficence and principle of justice" were applied for the duration of the study. The ethics committee approved the study and permission was granted by Provincial Department of Health Research Committee and the hospitals' management after

consideration of correspondence describing the aims of the study. Participants received detailed consent with sufficient information about the research, and were informed about their rights to participate voluntarily or to decline any participation. A written informed consent form was signed prior to participation.

Definition of Concepts

Within this study defined concepts are: "Professional nurse", "Clinical Competence", "PBL" and "Nursing Students".

- **"Professional nurse"** denotes a "person who is qualified and competent to independently practice comprehensive nursing in the manner and to the level prescribed, and who is capable of assuming responsibilities and accountability" (SANC, 2005). This study recognises a "Professional nurse" as one who is registered by the SANC and who has more than two years' nursing experience post-registration who supervise Nursing student allocated for clinical practice.
- **"Clinical Competence"** refers to the ability to perform work-role to a defined standard" (Matlhaba & Nkoane, 2022), clinical competence refers to the abilities of a student nurse to exhibit the necessary "knowledge, judgement, skill and experience to make correct nursing diagnosis" and to show that they are proficient in the provision of the "appropriate nursing interventions according to the scope of practice" (SANC, 2005). In this study, clinical competence refers to the final year students educated in a PBL curriculum's abilities to integrate theory and practice in order to provide the necessary care to the patients during clinical learning.
- **"PBL"** is an instructional learner-centred approach. It allows learners to develop practical solutions to a defined problem through the "execution of research, integration of theory and practice and application of knowledge and skills" (Servant & Schmidt 2016). For this study, PBL is seen as enhancing the key competencies of critical thinking and problem-solving skills that are required by competent clinical practitioners.
- **"Nursing Students"** are those persons registered as "student nurse or student midwife" with the South Africa Nursing Council, and who will receive education and training through an accredited NEI program (SANC, 2005). For this particular study, nursing students applies to those who are in their final-year of training and are about to become Professional nurses on completion of a four-year training program.

RESULTS

A total of thirty-four Professional nurses with an age range of 29 and 60 years participated in the study. In total four (4) focus group discussions (FGDs) and seven (7) individual interviews were carried out with the Professional nurses at the three selected North West Province hospitals. The FGDs gender spread was comprised of five males and twenty-two female participants, five females with two males for individual interviews. One FGD contained nine Professional nurses with three of the FGDs, having six Professional nurses each. Table 1 below depicts categories and sub-categories adapted from Matlhaba (2016).

Table 1 Themes and Subthemes

No.	Themes	Subthemes
1	Dysfunctional stakeholders' collaboration between facilitators and professional nurses	1.1. Lack of partnership between clinical stakeholders 1.2. Insufficient communication and clinical accompaniment 1.3. Insufficient clinical placement hours for PBL students
2	Professional nurses' attitudes towards PBL curriculum	2.1. Misrepresentation of the PBL-teaching and learning approach from practice professional nurses 2.2. Comparison between PBL and traditional methods students 2.3. PBL trained students unable to integrate theory and practice

Themes and subthemes

Themes and subthemes are discussed in details with the supporting quotes from participants.

1. Dysfunctional stakeholders' collaboration between facilitators and professional nurses

This study established that within the stakeholder partnership, which included facilitators from the university, professional clinical nurses and Nursing student being trained through the PBL approach, there was dysfunctionality. The study's contributors indicated lack of knowledge of the university facilitators' expectations with respect to the mentorship of students. The study ascertained that an established common agenda and clinical curricula were needed to create better efficiencies between the university facilitators and the professional nurses on behalf of the PBL trained students to overcome these perceived barriers.

1.1. Lack of partnerships between clinical stakeholders

In the majority, interviewees stated that there was a direct and immediate requirement for the university and hospitals to hold meetings and to provide appropriate feedback. They considered that any such intervention should have a wide focus that encompassed both management and the Professional nurses in the hospitals as it was those who, ultimately, were responsible for student nurse supervision.

One participant said: "Yes in the hospitals again we must arrange someone to give feedback on a meeting of all the people where they work and ask if we experience any problems on this and what was [were] your problems and give proper written feedback."

Another participant said: "I think if the tutors or lecturers can create good relationship with professional nurses in the ward then that will solve the problem because they cannot always be here."

1.2. Insufficient communication and clinical accompaniment

It was determined that communication between facilitators and professional nurses was ineffectual. Resultantly, Professional nurses found that supervising was a challenge due to uncertainties of where the Nursing student actually physically were, present, absent or at university. Furthermore, all participants indicated that there is insufficient clinical accompaniment from the facilitators and that have a negative impact on the development of clinical competence of the students.

One participant said: "Teachers from the nursing education they do not follow them up because for example they have objectives they have workbooks. We have a problem with those preceptors/lecturers they hardly come."

One participant said: "I think from the side of the institution, there has to continuous interaction with practicing institutions, maybe they come weekly to give us the objectives, and you come maybe next week again to check if we have assisted the students with regards to that."

One participant said: "You will never get a call from the university says to you kindly release the student because we

need them urgently because of this matter so is difficult to control is difficult to supervise. You will just see the students be absent from work”

1.3. Insufficient clinical placement hours for PBL students

All participants indicated that there are important aspects that need to be considered as they are barriers that might contribute to incompetency of PBL trained Nursing student including clinical exposure as well as the methods used in assessment of students during practical exam.

Another participant said: “Because they [PBL student] will only come on Thursdays and Fridays so it’s mmm time is limited so they don’t get enough exposure”.

Another participant said: “If they can change the method on doing assessment with a doll and do it to the living people in real life will change their attitude”.

2. Professional nurses’ attitudes towards PBL curriculum

The study established that there was a different perception of professional nurses on PBL approach. Most of the professional nurses had no idea or minimum idea on what the PBL approach is and what it entailed.

2.1. Misrepresentation of the PBL-teaching and learning approach from practice professional nurses

The study established that there was a different perception of professional nurses on PBL approach. Most of the professional nurses had no idea or minimum idea on what the PBL approach is and what it entailed. Below are the excerpts from some of the participants:

One participant said: “I think problem-based learning is when you are given a scenario you have to go and research that and do whatever like a lecture can give you that information so on this one you are given you look for yourself with PBL.”

One participant said: “So my challenge is I don’t know if the curriculum itself is not, what should I say is not modernised or is not being reviewed according to what is happening or relevant to what is happening in the clinical facilities for example in the psychiatric hospital “.

One participant said: “... you will ask yourself if its PBL making them to behave this way...I don’t know if is PBL or maybe we can blame them while the problem lies with their programme.”

2.2. Comparison between PBL and traditional methods students

The study indicated that professional nurses have anger and discriminations attitudes towards PBL trained students. They felt that students only interact positively with those professional nurses who were trained in the PBL context. Additionally, the study established that Professional nurses perceived PBL trained students consider themselves to be more educated than diploma trained professional nurses in the clinical area. As a result, of these judgements, there is continuous conflict with their supervisors.

One participant said: “Because you will find that if they are in the ward you are working with your colleague as professional nurse from UNIBO (referring to former name of the university), they will more interact with that colleague of you and they will be talking about their research with Mr so and so, or Professor so and so...”

One participant said: “...they have attitude towards professional nurses; they have this tendency of differentiating a professional nurse from UNIBO (referring to the former name of the university) and a professional nurse from MMACON (referring to the nursing college) because they don’t have the degree.”

One participant said: “You expect them to do same routines; they feel they are more educated to perform those duties; some of the duties will be carried out by students from the college, hence these students end up having some conflict with professional nurses.”

2.3. PBL trained students unable to integrate theory and practice

The study findings show that students educated in the PBL context are good in theory but unable to apply what was taught in class in the practical situation. Majority of professional nurses displayed lack of trust in the students. They mentioned that there were lack of interest and lack of confidence in these fourth-year students who are about to become professional nurses that lead to professional nurses have no trust in them.

One participant said: “... then from the university they do a lot of theory so the level four students in the ward, I

think they still need lot of supervision.”

Another participant indicated the following; “...PBL ones my experience is that they are not more into practical work, they are more into theory.”

One participant said: “...so that’s why they are still lacking confidence...competence of doing procedures even the easiest procedure they can’t do it or they do it with no confidence.”

DISCUSSION

This qualitative study aimed to reflect and report on the factors affecting clinical competence of final year Nursing student educated through a PBL curriculum during their clinical leaning as perceived by Professional nurses.

Dysfunctional stakeholders’ collaboration between facilitators and professional nurses

Effectiveness of the clinical learning environment includes everything around “students, including clinical practice settings or methods, equipment, staff, patients, nurse mentors, and lecturers” (Mbakaya et al., 2020). It is evident that practical placements required meticulous planning and identification of specific theoretical learning which matched the practical learning requirements pertinent to the Nursing student’ training levels. Antohe et al. (2016) emphasize that open and commitment to communication is central to the partnership as “it promotes effective clinical teaching environments for nursing students”. Therefore, partnerships between stakeholders are imperative as perceived in this study.

Authors Wang et al. (2018) consider that overall; workplace culture can be improved through effective communication which can also assist in the elimination of barriers and resolving of problems. Supporting their statement, Al-Drees et al. (2015) maintains that effective communication enhances the fostering of stronger workplace relationships which then has a positive effect on productivity, therefore, “effective communication and communication skills are the most important fundamental elements in the daily performance of the health care staff, nurses and Nursing student”.

Previous study carried out in the same Province as the current study emphasised that in order for PBL to be successful, support and time commitment, energy and resources should be offered by strategic management and leadership to PBL students (Rakhudu & Davhana-Maselesele, 2016). The study further confirmed that good clinical accompaniment was a substantial factor in the training of nurses and that facilitators should regularly be present with the PBL trained students, all the while having constant

interaction with those clinical professional nurses (Rakhudu & Davhana-Maselesele, 2016) which was contradictory to the current study.

Professional nurses’ attitudes towards PBL

The comparison of the effectiveness of PBL and traditional teaching and learning methods in nursing education has been reported in the previous studies (Gustin et al., 2018; Lee et al., 2016; Lu et al., 2022). Hence the notable evidence of attitudes of professional nurses in this study been displayed towards PBL curriculum including misconception and comparison of student’s nurses. Participants in this study had some comparison between the PBL study nurses and those from the institution employing tradition teaching and learning method as the two NEIs both place students for their clinical learning at the same healthcare facilities. Some participants’ complaint that PBL Nursing student liked to be in groups, not taking their allocated tasks serious and displayed obvious theory and practice integration gap. That led to the professional nurses preferring to work with Nursing student from the other institution.

With regarding to PBL Nursing student working in groups, one can argue that limited knowledge regarding PBL is shadowing the judgment of the professional nurses. and making them ignore the fact that teamwork and collaboration are considered highly important skills for all health care professionals, and are vital for providing health care with quality and safety for patients. It is suggested that poor quality of teamwork could negatively affect the quality and safety of healthcare delivery (Allert et al., 2022).

With regard to the Nursing student’ abilities to integrate theory and practice, PLB curriculum seems to provide contradicting outcomes. In their systematic reviews, Sayyah et al. (2017) and Wosinski et al. (2018), the authors suggested that PBL is considered to be among the effective techniques in increasing the ability of integrating theory and practice by pursuing and acquiring missing knowledge during the Nursing student’ clinical practice. Regrettably, the current study findings along with other previous evidences may suggest that there is still a gap in the integration of

theory and practice among Nursing student trained in PBL in the clinical practice which need to be given attention (Gewurtz et al., 2016; Putri & Sumartini, 2021).

One can further argue that the inability to integrate theory and practice among PLB Nursing student resulted from the Professional nurses' unwillingness and unavailability to provide effective clinical supervision during clinical placement. Previous studies including that of Lapeña-Moñux et al. (2016); Günay and Kılınç, (2018) reported the tendencies of reluctance among clinical experienced nursing personnel as they felt that supervising students added unnecessarily to their workload and was problematic and therefore, they avoided spending time with students. Furthermore, experienced nursing personnel were adamant that learning remains the responsibility of the student nurse with the clinical supervisor playing a less than active supervisory role (Günay & Kılınç, 2018).

Limitations of the study

At present the primary limitation for the study is that fourth-year PBL students are allocated to both hospitals and to primary health-care settings; this study's focus was restricted to those training in hospitals and this fact was seen to be a study limitation. Future studies need to also involve primary health care nurses.

Another limitation was that contributors had limited awareness on to the differentiation between PBL and traditional methods as used by the two institutions, University and College, in North West Province, South Africa in the placement of fourth-year students for clinical learning practise. Further, most of the interviewees had themselves been trained through the traditional method. The primary challenge for them was their limited or lack of knowledge of PBL expectations.

Recommendations to resolve the dysfunctional stakeholders' collaboration between facilitators and professional nurses as well attitudes towards PBL curriculum

Regular meetings and feedback between the NEI and clinical facilities are imperative. Any meetings should be inclusive of the supervisory Professional nurses working with the students. Further, both the nursing education and the clinical facilities should adopt communication protocols for the Nursing student training in the clinical areas. It is

suggested that the Professional nurses foster a more encouraging environment for those Nursing student studying through a PBL curriculum as development of clinical competence is dependent upon their supervisor's attitudes. Negative supervisory attitudes decreases both a student's aptitude for learning and their sense of belonging, as it intimates that they do not belong in the nursing profession. This recommendation supports Sadlo (2014) who maintained that "both practice placements and campus-based PBL can promote quality learning experiences for students".

Recommendations for nursing research

This study has been able to identify some serious omissions that require attention; for example, the significance of stakeholders' collaboration towards attainment of clinical competence by students in a PBL curriculum. It is therefore suggested that further studies be carried out which would focus predominantly on students' perceptions as well as PBL facilitators and supervisors for student clinical competence. Included here should be the negative and positive aspects of stakeholder partnerships that affect the clinical competence of these students.

CONCLUSION

The study findings provide the conclusion that there is a high dissatisfaction level with respect to ineffective communication, which has in turn generated dysfunctional collaboration between stakeholders and a detachment towards Nursing student' clinical teaching and learning in a PBL curriculum resulting in a negative ability to become clinical competent. Lack of sufficient or adequate communication between stakeholders, as well as insufficient clinical accompaniment results in the students being disadvantaged and unable to fulfil the requirements of being competent independent practitioners who are able to give quality nursing care for the communities at large. Conversely, Professional nurses demonstrated a lack of understanding of the PBL curriculum and mostly suggested that lack of theory-practice integration among PBL Nursing student was due to the method itself. Furthermore, the PBL Nursing student' inability to correlate theory into practice as it was perceived in this study led to some Professional nurses feeling comfortable to work with Nursing student the nursing college where the traditional

teaching and learning method is employed. Thus, it is clear that it is imperative to have all stakeholders on board to enhance the clinical competence of PBL students.

Implication of the study to the Nursing education and practice.

Clinical supervision during clinical learning is focused ensuring the development of necessary knowledge and skills for Nursing student. The study provided recommendations to overcome the identified factors which are perceived to be affecting clinical supervision of the final year student educated in PBL curriculum. Therefore, inter- professional collaboration is key amongst all stakeholders in order to achieve this main purpose for future competent nurse practitioners.

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CONFLICTS OF INTEREST

The author declare that they have no competing interests.

AUTHOR CONTRIBUTIONS

In this research, the main author acts as a correspondent who is responsible for the research process, from conception to publication by writing articles that have been adapted to journal guidelines.

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