

**THE PERCEPTIONS OF NURSE EDUCATORS ON
PROBLEM-BASED LEARNING IN A NURSING COLLEGE IN
NORTH WEST PROVINCE, SA**



BY

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**Dissertation submitted in fulfilment of the degree Master of Science in
Nursing at Mafikeng Campus of the North West University**

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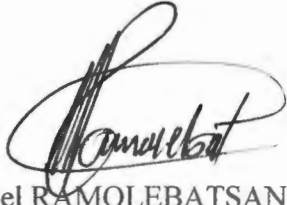
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DECLARATION

I declare that **THE PERCEPTIONS OF NURSE EDUCATORS ON PROBLEM-BASED LEARNING IN A NURSING COLLEGE IN NORTH WEST PROVINCE** is my own work and it has not been submitted before for any degree at any other institution, and that all sources used have been indicated and acknowledged by means of complete referencing.

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DATE: 17/03/17



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LIST OF ACRONYMS

CBL	Case -Based Learning
CSR	Case Study Research.
CT	Critical Thinking Skills
IBL	Inquiry -Based Learning
NWP DoH	North West Provincial Department of Health
NWU	North-West University
OSCE	Objective Structured Clinical Examination
PBL	Project-Based Learning
PBL	Problem-Based Learning
SANC	South African Nursing Council
SAQA	South African Qualifications Framework
SDL	Self-directed learning

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ABSTRACT

Nurse educators are challenged to train and develop graduates who are competent to function effectively in today's settings that are frequently unpredictable, clinical situations that are constantly changing, and provide care to a multitude of patients with acute and chronic illnesses. Problem-based learning (PBL) is the most innovative instructional method conceived and implemented in nursing education to enhance students' application of knowledge, problem-solving skills, higher-order thinking, and self-directed learning skills.

The purpose of this study was to describe and explore the perceptions of nurse educators on PBL at a nursing college in the North West Province, South Africa. A qualitative, explorative, descriptive and contextual approach was utilised to collect data from purposively recruited participants. The participants of the study were the nurse educators in the North West College. The research questions sought to identify the nurse educators' perceptions regarding PBL, and establishing how best the PBL approach could be implemented in the nursing college.

Semi-structured, face-to-face interviews were used to collect data from nurse educators who met the inclusion criteria. Data saturation was reached after interviewing twelve participants. Data analysis was done following the Tesch' 8 steps of data analysis. Trustworthiness was ensured in accordance with the principles of credibility, transferability, dependability and confirmability. Data was captured on an audiotape and transcribed verbatim. Field notes were taken during each individual interviews. Informed consent was obtained from the participants and participation was voluntary. The identities of the institutions and individuals were maintained. Confidentiality by the use of codes, rather than names was maintained.

Content analysis of the data was performed by the researcher and an independent co-coder. After consensus and data saturation, four (4) major themes were identified: 1) positive attributes of PBL, 2) the perceived benefits of PBL, 3) the perceived challenges of PBL and 4) the factors for successful implementation of PBL. Each of these themes was discussed together with relevant data obtained from literature and reduced to a conclusive statement which serves as the basis for recommendations made to formulate guidelines for implementation of PBL.

Several conclusions were reached. The participants wish to implement PBL in their nursing programme because of its positive attributes. College leadership together with the Provincial Department of Health are mandatory in providing support in the form of facilities and staff.

Staff training and development to change mind-sets are already mooted as intervention strategies.

It is recommended that PBL, as a highly resource-intensive educational strategy, requires a large range of logistical support. This includes: the availability of well-trained and committed tutors and the support of skilful and dedicated case writers; from the viewpoint of physical and technical support, one needs to consider the availability of suitable tutorial rooms(particularly when student numbers are large), as well as the availability of appropriate technological resources(e.g. internet facilities).

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Nursing is a complex profession requiring engagement, inspirational, critical and lateral thinking health professionals. Nurse educators are the faces of nursing education and thus they should perceive Problem-Based Learning as the best teaching to encourage self-learning by students and they perceive that being orientated to PBL strategy prepares the individual to the future and remain empowered (Bullock, 2013:103; Grealish & Smale, 2011:61; Harris, 2013:286). It is further perceived by nurse educators that PBL provides more meaning, applicability, and relevancy to classroom materials (Albanese & Mitchel, 1993:52). This chapter gives an overview of the study and provides the background and rationale, problem statement, purpose and objectives, research significance, paradigmatic perspective, meta-theoretical and theoretical assumptions, central theoretic arguments, ethical measures and lastly the organisation of the study.

1.2 BACKGROUND AND RATIONALE

In today's ever changing and demanding healthcare environment, developing nurse students requires a move from traditional teacher-centred to learner-centred or participatory pedagogies. Therefore, problem-based learning approaches become a valuable and effective method of teaching that could replace other conventional methods that focused on teacher-centred approaches.

Problem-Based Learning (PBL) as a best strategy is defined as a teaching method in which students learn from problem-solving situations with great documented benefits for students (Baumann, 2014:3). In line with this definition, Gwee (2009:323) provides an operational definition as the learning that is discovered from the process of engagement in problem-solving and comprehension of the problem. The problem is encountered first in the learning process. In congruence with the definitions of PBL, Atrie, Farrugia, Hills, Oczkowski, Yoong and Zubairi (2009:4) have come up with the universal definition of this approach as one through which learning is initiated by the learner through contact with real-life and challenging problems. These definitions have been utilised and adopted for this study.

PBL is an instructional method that was designed worldwide for the transition in teaching and learning of medical and nursing students in colleges and universities offering health related programmes. The transition addressed by this approach is the shift from the conventional teaching method to a valued learner-centred approach which is perceived to stimulate the students to develop competencies which include integration of knowledge into practice to giving comprehensive health care and solving critical health related problems in the health care system (Yang & Yang, 2013:198).

The development and the practice of PBL in health-related institutions have a long history. It was firstly developed for medical students at McMaster University based on identified gaps of the teacher-centred medical training approach. However, with the perception that the approach has created wonderful benefits after its initiation, some other medical schools worldwide began to adopt it (Ates & Eryilmaz, 2010: 2325). Murphy, Hartigan, Walshe, Flynn & O'Brien (2011:141) cite that PBL emerged from the findings of Barrows and Tamblyn (1980) research studies and was first piloted in medical education in Canada.

In line with the same PBL development, Gwee (2009:231) documented that the approach was initially practised by McMaster University medical school in 1969 to effect a transition and provide an alternative way to the learning of medical students. This was perceived as a new educational trend and was adopted globally and beyond the healthcare disciplines. Dehkordi and Heydarnejaa (2008:224) and Bouhuijs (2011:18) maintain that in 1971, PBL was adopted by some European institutions, such as Maastricht Faculty of Limberg University which was noted utilising the strategy. In addition to the trends of this approach around the globe, Hung (2008:120) maintains that the PBL as an approach became a popular teaching method in medical and health science education around the majority of world countries such as North America, Netherlands, England, Germany, Australia, New Zealand, and India.

PBL approach continued to be adopted even continentally where both human and material resources are believed to be limited to cater for the PBL implementation process. In the study conducted by Giva and Duma (2015:9) it is reported that the University of Makerere in Uganda has successfully implemented PBL approach through collaboration system. This was due to the motivation from the external systems, such as the social, political and economic systems of the country.

Similarly, another resource-constrained country in African continent, namely Malawi, came to realise that they form part of global community; therefore, they saw a need to adapt to the

times in order to upgrade the nursing practice and the health state of their population, despite the challenges of resource constraints, (Giva & Duma, 2015:8). It is further documented by Giva and Duma(2015:8) further document that in resource-constrained institutions PBL implementation could be a success through the introduction and utilisation of a hybrid PBL model initiated by the University of Stanford and University of KwaZulu-Natal.

PBL approach has marked a great transition in health professional education with great benefits. It fosters life-long learning skills, and displays characteristics such as constructive, collaborative, self-directed and, contextual learning where a deeper approach to learning is stimulated (Gunn, Hunter & Hass, 2012:330) and Gwee (2009:231). Therefore, nursing education in nursing colleges ought to migrate from a teacher-centred curriculum to new methods that foster a student-centred approach to education, as no other teaching approach other than PBL could address the learning needs of students (Murphy et al, 2011:142). Therefore, strategies to implement this approach need to be developed in line with the philosophy of this approach. Dehkordi and Heydarnejaa (2008:224) maintain that in nursing education, the relationship between theory and service is emphasised. Nursing education and training maybe significantly better if new teaching practices are introduced.

In the development and implementation process of this approach as indicated by Gillund, Rystedt, Wilde-Larsson, Abubakar and Kvigne (2012:196) it is documented that careful and strategic planning is required, especially in institutions that have been significantly steeped in a traditional curriculum in the education of students. PBL requires commitment from the mediators, coaches and facilitators that they need to have more insight into this strategy as implementing process can be a daunting task (Gwee, 2009:235).

Wells, Warelow and Jackson (2009:195) cite that there are many facilitators who are not orientated in PBL approach in their education and training, and have not even been exposed to this approach during their teaching experience, therefore, they become resistant to participating in its implementation process. This comes as a challenge and would hinder the possibilities for implementing it. Therefore, proper and continuous mentoring of staff and lecturers is very crucial. The nursing college has to take the responsibility to transform nursing programme to the approach that best enhances self-directedness and long-life learning through reflective skills.

Reflections on experiences create self-awareness that lead to an improved practice and this yields a transition in an individual's cognitive enhancement relative to the development of

critical thinking abilities, (Peck, Stehle, Werner & Raleigh, 2013:400). This implies that nursing student would have an opportunity to utilise concrete experiences that provide the basis for learning (Lisko & O'Dell, 2010:107).

Following the trends of PBL, in South Africa nursing education has been structured according to principles which serve as guidelines or directives in developing the nursing programme. These principles and guidelines are stated by the country's education regulatory bodies, the South African Qualifications Authority (2002:6) and the South African Nursing Council (2001:12) which put emphasis on transformation of nursing education from teacher-centred to learner-centred methods which stimulate the development of learner responsibilities and leadership in their learning. Therefore, it is relevant for the nursing colleges to engage in the instructional strategy which would foster the production of competent professional nurses.

With the mandate of these regulatory bodies, professional competency is emphasized by the SANC (2001:12) in its nursing education policies regarding transformation of nursing education in the country, and has identified PBL as an education strategy of choice to enhance sustained learning and teaching. Transformation in nursing education has been perceived as a major transition by various institutions in various provinces of South Africa Rakhudu (2011:81). This implies that PBL should also prevail and be practiced in the nursing colleges.

SAQA (2002:6), on the other hand, has developed guidelines in the form of Critical Cross-field Outcomes (CCFOs) which are a set of competencies to be achieved for all curricula at any educational institution (Rakhudu, 2011:81). In her study, Rakhudu (2011:81) further clarifies that these CCFOs are the result or outcome that direct teaching and learning which, amongst the others, include the effectiveness of the group, problem-identification and solving through critical thinking skills, decision-making, organisation, effective communication, responsibility and self-management. These are positive attributes that define the formulation of the curriculum in nursing education to produce competent professionals in an environment that promotes sustained life-long learning.

In line with the development and the trends of this approach, it is evident that the period of implementation of this approach is significant. For many, the nursing college in North West has not perceived this PBL approach as an important approach for its nursing programme and also as a philosophy to structure the entire curriculum. The nursing college in the North West

Province is among the institutions which are characterised by a high intake of learners per year and this could be one of their challenges for not implementing this approach.

1.3 PROBLEM STATEMENT

Nurse educators in a nursing college of the North West Province attended several workshops and training on Problem-Based Learning (PBL) since 1994, but they are still utilising traditional lecturer-centred methods. This is despite the global and national calls for Higher Education Institutions and nursing institutions to move from teacher-centred to learner-centred learning. In addition, the Provincial Department of Health in collaboration with North-West University have taken an effort to empower the nurse educators about PBL at international workshops (McMaster University in particular) since 2009 to 2014 and even conducted local workshops regarding this approach. Regardless of these efforts, the nursing college is still utilising traditional method, namely lecture method. This encouraged the researcher to examine and determine the nurse educators' perceptions of PBL in preparation for curriculum implementation and review.

1.4 PURPOSE OF THE STUDY

The purpose of the study is to describe and explore the perceptions of nurse educators regarding the implementation of Problem-Based Learning as well as to make recommendations to be followed for nursing education and practice in the nursing college based on PBL philosophical and pedagogical constructs.

1.5 RESEARCH QUESTIONS

Burns, Groove and Gray (2013:140); Polit and Beck, (2012:81) describe a research question as a concise and interrogative statement that is stated in the present tense and includes one or more variables (concepts). In this study the following questions are addressed:

- What are the perceptions of nurse educators regarding the problem-based learning in nursing education?
- How best can the PBL approach be implemented in the nursing curriculum in a nursing college in North West Province?

1.6 RESEARCH OBJECTIVES

- To identify the perceptions of nurse educators regarding Problem-Based Learning in Nursing College.

- To make recommendations that can be utilised to implement PBL in Nursing Education.

1.7 SIGNIFICANCE OF THE STUDY

This study could assist in the implementation of PBL as a policy guideline in nursing college. The review of the policy in this instance focuses on the development of PBL curriculum which requires careful and strategic planning. The careful planning of this approach may enforce the professional practice of nursing to be improved because it embraces the correlation between theory and practice when students are in clinical settings. The whole process of policy reviewing and structuring of practice of nursing seeks to nurture the individual nurse practitioner who could be regarded as the core agent of the whole process and who would ultimately display competency, caring, ethical sensitivity, quality and significant commitment in the health care environment.

1.8 PARADIGMATIC PERSPECTIVE

The paradigmatic perspective of this study provides guidelines for research conclusions and consists of meta-theoretical, theoretical and methodological assumptions, (Alligood, 2014:96-115).

1.8.1 META-THEORETICAL ASSUMPTIONS

A meta-theoretical assumption in this study focuses on the researcher's understanding of human beings and their environment. Watson's philosophy and science of caring in nursing practice is used, (Alligood, 2014:96-115). The concepts addressed in this theory, as assumptions, are described as follows:

1.8.1.1 Person

Watson's philosophy and science of caring in nursing practice in Alligood (2014:103), view a person (personhood) as a holistic entity where there is a coordination between the body, mind and soul. In this study, person refers to nurse educators in nursing college who are faced with challenges in implementing problem-based learning curriculum.

1.8.1.2 Nursing

Watson's philosophy and science of nursing practice in Alligood (2014:104) view nursing as transpersonal practice that conveys and fosters human interaction and creation of relationships among individuals. In this study, nursing refers to the problem-based learning

curriculum that needs to be implemented in the nursing college, to enable learners to be competent and problem-solvers.

1.8.1.3 Health

Health is viewed by Watson's philosophy and science of nursing practice in Alligood (2014:106) as a harmonious relationship within the domains of a human being (i.e. the body, mind and soul) and enhancement of self-awareness and the environment where interaction with other people takes place. In this study, the focus is on perceptions of nurse educators on PBL implementation and its significance to the health component.

1.8.1.4 Environment

Watson's philosophy and science of nursing practice in Alligood (2014:107) views environment as the attention to the support, protection and transformation of the system to effect a transition in the nursing practice processes. In this study, the environment refers to the nursing college where PBL has to be implemented and practised.

1.8.2 THEORETICAL ASSUMPTIONS

In this study the theoretical assumptions incorporate:

1.8.2.1 Central theoretical arguments.

1.8.2.2 Conceptual definitions which are applicable to this study.

1.8.2.1 CENTRAL THEORETICAL ARGUMENTS

Perceptions of nurse educators on Problem-Based Learning (PBL) are explored and described. This seeks to give information into the phenomenon. Related to the insight provided in a central theoretical argument, recommendations related to the implementation of strategies for PBL are formulated so as to enhance a transition from traditional curriculum to a problem-based curriculum.

1.8.2.2 CONCEPTUAL DEFINITIONS

The researcher uses the following key concepts in the study:

Perceptions, Problem-Based Learning, Nurse Educator, and Nursing College.

1.8.2.2.1 Perceptions

Perceptions: refers to "the way of regarding, understanding or interpreting something; a mental impression" (Hornby, 2010:1087). It is largely how we view the world and its parts,

how we view and think about phenomena, experiences, and the components of the world, (Munhall, 2012:26). In this study perceptions mean understanding or interpretations of Problem-Based Learning by nurse educators in nursing college in the North West Province.

1.8.2.2.2 Problem-Based Learning (PBL)

Problem-Based Learning (PBL): refers to a teaching method that empowers learners to apply information or knowledge gained through correlating theory to practice so that a defined problem could be solved by engaging in research processes (Klegeris & Hurren, 2011:408). In this study the PBL approach means the phenomenon under study which fosters a transition from traditional teaching method to a better (PBL) approach that stimulates a deeper way to learning in nursing college in the North West Province.

1.8.2.2.3 Nurse Educator

Nurse educator: refers to a registered professional nurse who has education qualifications in the discipline of teaching and who specialises in the teaching of nursing and in planning and implementing nursing education programmes (Blackwell's Dictionary of Nursing, 1994:460). In this study nurse educators means professional nurses who have two years and above teaching experience and are engaged in teaching nursing students in a nursing college in the North West Province.

1.8.2.2.4 Nursing College

Nursing college: refers to an institution that provides training in nursing qualifications and is regulated by the nursing education authority (SANC 2001:12). Nursing college in this study refers to the institution under study which is the North-West Nursing College offering pre-registration programme.

1.9 METHODOLOGICAL ASSUMPTIONS

The methodological assumption focuses on the model of Botes (1995:6). This model focuses on nursing practice, nursing research and nursing education and these aspects are interrelated, for example, this research focuses on the exploration of perceptions of nurse educators on problem-based learning in nursing college in North West Province. The model consists of three levels:

- A) The first level is the nursing practice, which forms the research domain for nursing. The researcher identified a problem of challenges connected to nurse educators failing to implement Problem-Based Learning (PBL) in nursing college, therefore the

researcher seeks to assist the nurse educators with the ways to implement and practice PBL strategy in the nursing college.

- B) The second level is the nursing research where the researcher explores and describes the perceptions of nurse educators on Problem-Based Learning in the nursing college in order to consolidate data about this phenomenon, thereby providing recommendations regarding proper formulation of guidelines for this approach in the nursing college.
- C) The third level focuses on the paradigmatic perspective of nursing education. This research taps upon pedagogical practices already in vogue in nurse education institutions and attempts to reconcile their gaps with the positive contributions gained from PBL approaches. These are investigated in order to influence the practise of nursing at a nurse education site in the North West Province.

1.10 RESEARCH METHODOLOGY

Mouton and Marais (1996:35) describe methodology as the methods of working on logical steps of the research study. According to Burns and Grove (2009:488), methodology includes the design, setting, sample, methodological limitations, and the data collection and analysis techniques of the study. In this study a brief description of the research design and method is provided and a detailed description of these will be discussed in Chapter 3.

1.10.1 Research approach

A qualitative research approach was used in this study as explained by Polit and Beck (2012: 487), De Vos, Strydom, Foucheand Deport (2011:307) with the aim of exploring and describing the perceptions of nurse educators on Problem-Based Learning implementation. The research design is relevant to the study because the researcher seeks to obtain the perceptions of nurse educators regarding the implementation of problem-based learning in a nursing college. The research study was conducted in a nursing college in North West Province, where the nurse educators are working. A detailed discussion follows in Chapter3.

1.10.2 Research method

An explorative, descriptive and contextual method were utilised to collect data from purposively selected participants. The researcher selected the exploratory method to gain new insights, discover new ideas of nurse educators on implementation of PBL in the selected college. The researcher therefore entered the research environment without knowing the

participants' ideas (Burns & Grove, 2009:313; Creswell, 2013:145). The research method in this study also includes sampling, data collection and analysis as well as literature control.

1.10.3 Sampling

Sampling in this study was conducted with the following aspects:

1.10.3.1 Population

A study population is "that aggregation of elements from which the sample is actually selected" (Babbie, 2013:135). The population in this research study includes the nurse educators who are PBL trained and have two or more years of teaching experience at the nursing college in the North West Province. Nurse educators must be in possession of nursing education qualifications registered with SANC.

1.10.3.2 Sampling method

Purposive sampling was used in this study as described by Polit & Beck (2012:59); and Burns, Groove and Gray, (2013:37). This sampling method in this study was used to select the nurse educators who meet the criteria for participation and who wished to participate voluntarily and signed the consent form.

1.10.3.3 Sampling Size

The sample size in this research study was determined by data saturation (De Vos et al, 2011:391; Polit & Beck2012:521). Data saturation of this study was reached after 12 interviews were conducted with the nurse educators who have been trained on PBL and have 2 or more teaching experience.

1.10.4 Data collection

The researcher's role, the environments where data was collected as well as the methods of data collection are explained in this study section.

1.10.4.1 Role of the researcher

Before collecting data, the researcher received a written approval from the research ethics committee of the North West University (Mafikeng Campus) with the Ethics number: *NWU-00077-15-A9*, and further received written approval from North-West Provincial Department of Health. The topic and the purpose of the study were explained to the nurse educators with the aim of obtaining informed consent. The researcher issued participants information sheet to the nurse educators who met the requirements under the inclusion criteria.

1.10.4.2 The context

The research was conducted at the North-West Nursing College which is predominately a Setswana speaking community. The college caters for four regions where students are allocated, namely Bojanala, Doctor Kenneth Kaunda, Ngaka Modiri Molema and Doctor Ruth Segomotsi Mompati.

1.10.4.3 Data collection method

The researcher employed individual interviews to collect data from the nurse educators regarding their perceptions on Problem-Based Learning in the nursing college because it allows the participants to be open when answering the questions. The common language, which is English, was used to conduct the interview to avoid language barriers. The audiotape was used to record the interviews before the recorded interviews could be transcribed verbatim. The central question was “What is your view regarding Problem-based learning?” This central question was asked by the researcher.

1.11 DATA ANALYSIS

Data analysis was done by reading through all transcribed interviews with the aim of obtaining a sense out of them. Data recorded on audiotape from the participants (nurse educators) were transcribed verbatim and the analysis was done following Tesch’s eight steps of data analysis and open coding method.

1.12 LITERATURE CONTROL

Literature control in this study was done after the collection and analysis of data, as suggested by Polit and Beck (2012:61). After the data collection and analysis, findings were compared with the literature to determine similarities and differences. Prior to the conduction of the study, the researcher obtained ethical clearance from the North West University’s research Ethics Committee (Ethics number: *NWU 0007-15-A9*). The approval to conduct this study was also obtained from the North West Department of Health multi-campus principal as well as campus heads of both colleges who granted the researcher permission to conduct interviews on their campuses.

As the researcher utilised human participants in this research study, ethical principles were followed from the beginning to the end of the project. Ethical principles followed included principle of respect of persons, principle of beneficence and principle of justice. Quality measures were also maintained in this study by following Lincoln & Guba’s framework of

ensuring trustworthiness in a study (Lincoln & Guba, 1985:6). The following quality measures were ensured: Truth value (credibility), Applicability (transferability), Consistency (dependability) and Neutrality (conformability).

1.13 ORGANISATION OF THE SUDY

This study has five chapters. Chapter 1 provides an introduction to the study where background and rationale of the study, problem statement, research questions, research objectives, significant of the study, are explained. The definition of terms is also offered in Chapter 1.

In Chapter 2, literature relevant and connected to curriculum design and PBL was reviewed. Relevant literature on PBL has been explored using different search engines. The purpose of literature review and its approach are indicated. Several studies about PBL have been cited to buttress the arguments offered here and all such sources have been duly acknowledged.

Chapter 3 presents a detailed explanation of research design and methodology. Ethical considerations are also indicated and explained in this chapter.

In Chapter 4, the data analysis was performed on the recorded data. The captured data was be analysed by using open coding to come up with categories, themes and sub-themes. Findings are ultimately compared to the literature.

Chapter 5 provides findings, limitations and recommendations of the study.

1.14SUMMARY

This chapter consists of introduction, background and rationale, problem statement, purpose of the study, research questions, significance of the study, paradigmatic perspectives, conceptual definitions, brief description of research design and methods. The organisation of the study is also indicated. Chapter 2 provides literature review of the study.

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTION

This chapter presents an interrogation of literature linked to Problem-Based Learning. A literature review is a well organised written presentation of the findings of the researcher when she reviews the literature (Burns et al, 2013:97; Babbie, 2013:498).

In this literature review concepts that came out during the search process include:

- 1) The description of PBL (definition, historical background, the benefits of PBL, its characteristics, its challenges, and teaching methods, including alternatives to PBL, teaching techniques, comparison between PBL conventional methods and assessment in PBL, and
- 2) The existing knowledge and the current researches about PBL.

2.2 SEARCH QUESTIONS

The literature reviewed was guided by two primary questions:

- (1) How PBL is described in allied health literature between 2008 and 2016, and
- 2) The new knowledge related to PBL has emerged in the literature between 2008 and 2016.

2.3 METHODOLOGY

Approach: The researcher conducted an integrated literature review. The reason for conducting this review is that it is crucial because it explains the term PBL and therefore providing clarity about the concept for the disciplines of nursing and medicine in which problem-based learning is used. Whittemore and Knafl (2005:546), Fisher and King (2013:2376) explain that an integrative review is also closely connected to the tool development and the progress of knowledge regarding problem-based learning. Furthermore, an integrative review presents a summary of past empirical and theoretical literature to provide an exhaustive understanding of PBL (Whittemore & Knafl, 2005:546). The researcher reviewed both non-empirical and empirical literature. Non-empirical literature review was conducted to get the broader information regarding problem-based learning,

whereas the empirical literature review was done to obtain information from peer reviewed research articles which focus on PBL in nursing and medical education. Search key words were: *PBL, PBL Curriculum, Self-directed learning, Nursing Education*.

Method: Data search was conducted using following electronic database search engines: 1) Ebscohost, 2) Science Direct, 3) Google Scholar and 4) Journals of Advanced Nursing. The data from the articles were reviewed for the general direction that would reflect the current knowledge about Problem-Based Learning as a concept.

Sample: In this review, journal articles which are presented in English and published between January 2008 and 2016 were sampled in order to address the research questions. Inclusion criteria consisted of: 1) research articles which include qualitative and quantitative designs, and 2) articles that addressed PBL in nursing and medical education.

2.4 RESULTS

The results of this literature were presented following the two guiding questions: Firstly, how PBL is described in health science education, and secondly, what is already known on PBL in nursing and medical education.

2.4.1 DESCRIPTION OF PBL

The description of Problem-Based Learning in this chapter focuses on the following themes: definition, historical background, characteristics and attributes, benefits, challenges and PBL processes.

2.4.1.1 DEFINITION OF PBL

According to Ates and Eryilmaz (2010:2325) problem-based learning (PBL) is a learner-centred instructional approach that needs students to be actively involved through participation in their own learning, and by engaging in research so as to provide practical and theoretical solutions to the real problems. Khoshnevisasl, Sadeghzadeh, Mazloomzadeh, Feshareki and Ahmadiafshar (2014:1) maintain that problem-based learning is a commonly utilised educational method where students' critical thinking skills are tested and the students are involved in investigations into real life problems in order to become competent health care practitioners (Gwee, 2009:321).

2.4.1.2 HISTORICAL BACKGROUND OF PBL

A transition from content-driven curricula to PBL curricula was initiated around 1960s by McMaster University School of Medicine and followed by other medical schools in Canada.

The transition was made because learning was perceived as too restricted to lecturing mode and there was so much incongruence between curriculum evaluation and educational objectives set for the nursing profession (Crawford, 2010:124).

Similarly, Murphy, Hartigan, Walshe, Flynn and O'Brien (2011:141) agree with the above explanations that PBL was first initiated by McMaster University Medical School in 1969, implying that the implementation of this approach is expected to have been embraced and implemented a long time ago in the nursing college investigated in this study, so as to develop and produce competent professionals as this approach aims to build multi-skilled individuals.

2.4.1.3 CHARACTERISTICS AND ATTRIBUTES OF PBL

PBL is a learning system that recognises the importance of enhancing problem-solving skills and helping learners to benefit from the important knowledge and skills. In this process the students learn and develop skills necessary for learning through the utilisation of appropriate resources (Ates & Eryilmaz, 2010:2325).

Bastabel (2014:14) indicates some methods used in this approach and certain specific skills that are developed in the learning process which include, among others, critical thinking abilities, analysis and solving of complex and real-world problems, the use of appropriate learning resources, working in cooperative ways, demonstrating effective communication skills, and using content knowledge and intellectual skills to become continual learners who display a change in behaviour and a sense of ownership through the support of well-trained facilitators.

Contemporary health care environments demand nurses to have strong thinking abilities in order to challenge the sophisticated practices of nursing, and this would occur through the development of critical thinking abilities (Park, McMillian, Conway, Cleary, Murphy & Griffiths, 2011:41). This is supported by SAQA (2002:6) in its guidelines which suggest that the effective and critical use of science and technology would show responsibility and critical thinking towards the environment and health of others.

2.4.1.4 THE BENEFITS OF PBL

PBL approach has been recognised as valuable as it ensures sustained critical thinking of students than does traditional education. According to Sithole (2011:29) PBL orientates the students towards meaning-making over facts collection and rote learning. This is achieved by developing students into critical thinkers which encourages reflection. Yang and Yang

(2013:198) are of the same opinion that PBL promotes thinking abilities, self-directedness and abilities to solve problems by utilising health-related scenarios.

Reflective skills of the learners are triggered by a problem that they face in order to find most convenient and plausible solution. According to Gwee (2009:232) an important and basic tenet of PBL is that it focuses on solving problems in the first place where students attempt to solve medical case seven before any formal learning could be presented to them. The student's understanding would be enhanced as they engage in the problem independently or as a collective.

Valanis (2000) cited in Williams et al (2011:417) puts emphasis on reflection on a continuum of transition in the health care system and indicates that certain qualities of a competent nurse need to be privileged. Those qualities are:

- An independent practitioner showing willingness to pursue continuous learning through self-directedness and reflective skills.
- Encouraging other health care professionals to continue learning.
- Encouraging patients' autonomy and self-care.
- Managing care in collaborative effort.
- Promoting the health of the community.
- Maintaining quality assurance in the health care system and showing good leadership skills.

Following these pivotal qualities, it is therefore important that nursing education programs provide opportunities for graduates to enhance proliferation and extension of these qualities. Learning for nursing education encompasses engaging and appropriate guidance from experienced team mates (Grealish & Smale, 2011:52).

Problem-Based Learning is aimed at enhancing collaborative efforts, self-directedness, and reflective learning, Gwee (2009:321). In addition, Barrows and Tamblyn (1980) and Engel (1997) in Klegris and Hurren (2011:408) are of the view that PBL can, regardless of discipline, enhance students' achievement of:

- Being an agent for change.
- Applying problem-solving skills.
- Creativity, innovation and critical thoughts.
- Accepting holistic approaches to problems and situations.

- Accommodating viewpoints from others through effective communication.

2.4.1.5 THE CHALLENGES OF PBL

The PBL strategy is viewed as beneficial to both lecturer and students in that student's critical thinking is developed and the lecturer facilitates the process. Despite these benefits, it has also brought some challenges for the two parties involved in the teaching and learning process. According to Sithole (2011:29) some challenges faced by lecturers are a lack of skills to facilitate learning effectively and formulating real-life scenarios that trigger students into seeking knowledge, while on the other hand the student is faced with the responsibility of participating actively within a group, and also as an individual, in order to obtain relevant knowledge.

The change of mind-set amongst students could be another baffling challenge. Teachers may experience difficulties and problems in introducing students to the advantages of PBL, especially in the situation where a teacher-centred approach is dominant (Mansor, Abdullah, Wahab, Rasul, Nor, Nor & Raof, 2015:261). In PBL implementation process, especially in institutions that are deeply rooted in traditional teaching methods, most students become uncomfortable and frustrated especially at the early stage of learning and they tend to show negative feelings because they have been exposed to traditional "feeding-and-regurgitating" instructional methods (Hung, 2008:121).

In addition, it is further documented that PBL implementation is likely to encounter some challenges which include discomfort and agitation to facilitators also at the initial stages of its implementation especially in those institutions that are deeply grounded in traditional teacher-directed curriculum (Gwee, 2009:238). In line with the challenges of this approach regarding teachers, it is documented that it is sometimes difficult for the tutors to ask questions regarding their roles in PBL approach because it is believed to engage students in learning more than the facilitators. In an attempt to provide a solution to these questions Atrie et al (2008:7) declares that in PBL approach every tutorial group must be innovative and formulate group norms, and every tutor should create a preferred style of facilitation.

2.4.1.6 PBL PROCESS

PBL approach involves certain steps to reach its complete existence. In this study it will be looked into certain essentials, namely, curriculum design, its implementation stage, facilitator roles, student roles, the alternatives to PBL, the teaching techniques used in this approach and the comparison between PBL and conventional method of teaching.

PBL Curriculum Design

Curriculum design focus on collecting problems that serve as stimuli to affect learning. According to Lane (2010:3) students in PBL approach are led to learn the topics by solving problems. Lane, 2010:3) cites that a style of PBL approach is that “students are not expected to acquire predetermined series of right answers. Instead they are expected to engage with the complex situation presented to them and decide what information they need to learn and what skills they need to gain in order to manage the situation”. This implies that nurse educators need to revisit their curriculum and redesign it in the way that problems are incorporated to enhance stimulation of learning to the learners.

In designing or developing PBL curriculum, the designers need to dwell on a pedagogy that would address the following points as documented by Hallinger, Blackwood and Tannathai (2011:3):

- Focusing in effecting a transition.
- Positive reasoning and creativity.
- Focusing on more universal views.
- Others’ viewpoints need to be respected.
- Collaborative efforts in groups or teams.
- Self-introspection and undertaking appropriate remediation.

From the nurse educator’s point of view nursing education programme has the purpose of producing competent professional nurses who are ready at all costs to withstand the challenges that are facing the communities, thus learners need to have critical thinking skills, solve complex problems and have a sense of self-directedness in their learning curve. PBL is the best approach that is been identified to effect these attributes in nursing education. Therefore, the implementation of this approach is important in those institutions that are still embarking on traditional method and it should not be practiced by one teacher only (Saka & Kumas, 2009:1328).

Pagander and Read (2014:23) maintain that transition should not only be effected by one teacher only, but should be an institutional effort, to reach many advantages. PBL allows the teacher to recognise the abilities of students, what they already know and how they engage in learning and teachers provide interventions early if students have learning challenges. Marcangelo, Gibson and Cage (2009:11) are of view that when designing the curriculum, the

pedagogical characteristics and philosophies are important to be remembered. In their view they cite the following recommendations:

- The delivery mode of the course. This includes facilities such as classroom
- The type of students involved which includes full-time or part-time, work-based or campus-based.
- Student profile, which addresses gender, age, ethnicity, prior experience
- Course or module subject area
- Undergraduate or postgraduate.
- The nature of the course, which may include hybrid approach or one module PBL.

With all these recommendations the implementation process would be suggested.

Implementation of PBL approach

The implementation of PBL approach is a very important step that will result in satisfaction of both facilitators and students, (Hallinger & Lu, 2011:267). When the process of implementing PBL is at stake, the reflection of its defining characteristics must be significant as Hallinger and Lu, 2011:269) indicated that:

- Learning is initiated through a problem scenario.
- The problem is similar to the health related cases in the workplace.
- Pedagogical standards are put around problems rather than subject discipline.
- The student becomes responsible for managing their own learning.
- Small group are developed, and
- Students demonstrate their ability to solve problem.

Maurer and Neuhold (2012:3) point out that for the successful implementation of PBL, there should be a consideration that this approach enhances the construction of knowledge by the students. PBL should be based on the three philosophical vantages of constructivism, namely a student-centred approach, knowledge construction in an active manner and collaboration. From the nurse educator's point of view, PBL is closely related to cooperative learning where learner's motivation and retention of information are increased (Tarnizi & Bayat, 2010:385).

Another major problem that makes it difficult when using the PBL method is that there are too many students in one classroom. Large numbers of students in a classroom creates a challenge to effectively conduct a PBL session, (Pagander & Read, 2014:27). However, on the very same statement it is maintained that the minimum group size should be between five

to eight students (Pagander & Read, 2014:27). This stimulates the tutor to fully engage in facilitating roles.

The role of the tutor and facilitator

PBL emphasises learning as student-centred, but the teacher needs to convey the social values of the PBL processes. In PBL approach the facilitator is not just conveying the knowledge, but also guides the students to discover and learn on their own (Pagander & Read, 2014:24). It is documented in Holubova (2008:29) that the teacher needs to play multiple roles such as advising, mentoring, facilitating and evaluating, therefore has to credibly balance all these responsibilities.

The tutor has the responsibility to implement PBL sessions as part of their roles. Othman and Shalaby (2014:55) indicate some of the responsibilities that the tutor is obligated to in PBL sessions:

- In the first PBL tutorial session, students engage in an interactive orientation of lecture on PBL where the student practices three learning skills, 1) completing a learning plan, 2) concept mapping and 3) searching for information in library or database search.
- At the second tutorial session, the tutor helps students to establish the ground rules and to sort out the responsibility of each group member. The students in this case have to elect a chair who leads the group through the PBL process and a scribe to record the discussion. Then the tutor introduces the trigger scenario to the students.
- At the third session the students present their work on the given subject matter along with their solution to the problem.
- At the fourth session students present their solution about their assigned trigger scenario.

The role of the facilitator is to provide assistance to the students to identify concepts and help in the formulation of open-ended questions that encourage group discussions and emphasises what they need to do research on. The aim of facilitation in PBL is to help students discover information for themselves rather than answering questions generated by lecturers (Yang & Yang, 2011:198-199).

Student role

The paradigm shift towards PBL creates an atmosphere in which students show their character through social interaction and this yields the following, 1) social competency, 2) sharing of feelings and 3) establishing relationships among other students (Pagander & Read, 2014:24).

The relationship among students in PBL is directed at collaborative effort. Collaborative learning is defined as a complicated, unique, student learning strategy that emphasises a group educational approach (Pecka, Kotcherlakota & Berger, 2014:213). It is further documented in Pecka et al (2014:213) that in collaborative learning, group members work collectively to attain a common direction and they share experiences to construct and confirm meanings to concepts. When a group strives to achieve a shared understanding of a concept, learning occurs. Since PBL is regarded as student-centred approach, it has shown some implications for students which Murphy et al (2011:147) outline in the following manner:

- It guides students to become broad thinkers in order to discover knowledge that provides solutions to problems, thus making meaning to concepts.
- It enhances an exploration of group dynamics in learning and enhances students' cognitive growth, thereby improving their performance.
- It directs students through emotional and cognitive factors, thereby uplifting self-confidence in a peer learning situation.
- Students' boosted morale is embraced through mentoring in theoretical and practical situations.

2.4.1.7 TEACHING METHODS AND ALTERNATIVES TO PBL

PBL as an instructional method to learning enhances students' independence in learning and has several alternative methods that could be used by both teachers and students. Few of these alternatives are most commonly used in health science disciplines and other disciplines, namely: Case-Based Learning (CBL), Inquiry-Based learning (IBL), Project-Based Learning (PBL), (Rideout, 2001:80; Kunberger, 2013:256).

Case-Based Learning (CBL)

Case-Based Learning (CLB) method is, according to Thistlethwaite, Davies, Ekeocha, Kidd, MacDougall, Mathew, Purkis and Clay (2012:421) referred to as case study and is a long established pedagogical method that could be described in many ways following the

discipline and type of case employed. Thistlethwaite et al (2012:422) indicate that CBL aims at preparing students for clinical practice through the utilisation of medical cases. It enhances the integration of theory with practice, through application of knowledge gained in learning processes.

As Thistlethwaite et al (2012:422) explain, CBL prepares students for clinical practice. Raurell-Torreda, Olivet-Pujol, Romero-Collado, Malagon-Aguilera, Patino-Maso & Baltasabague' (2015:35) indicate that case-based learning is useful for various purposes such as:

- Proving principles of diagnostic processes and the results.
- Evaluating the relations between cues and diagnosis, analysing diagnostic possibilities, and evaluating diagnostic expertise.

Other researchers like Cronin (2014:20) identified the following advantages of case-study research:

- Students venture into situations where most of them would not have an opportunity to go.
- Allows students to offer their viewpoints as the researchers.
- Resistance to learning is alleviated and students do not become defensive when faced with novel challenges.

Case-Based Learning stimulates learners to develop cognitive thinking skills, thus students develop a sense of learning by inquiry.

Inquiry-Based Learning (IBL)

Inquiry-based learning (IBL) is viewed by Aditomo, Goodyear, Bliuc & Ellis (2013:1240) as a total student-centred approach to learning and teaching that is stimulated by inquiry or research. This method promotes student learning through active involvement in groups and instructor-guidance. Spronken-Smith, Walker, Bachelor, O'Steen and Angelo (2010:17) propose core elements of IBL that:

- Questions or problems are the main stimuli of learning.
- Based on exploring new knowledge and comprehension, and
- Students are self-directed and teachers act as facilitators.

IBL emanates from the students wanting to explore new knowledge. Effective learning occurs when students are presented with work they can own. Freedman, Crew, Caicedo, Besley, Weinberg and Freeman (2010:769) indicate IBL generates some benefits such as:

- Facilitating and assisting students in learning through critical thinking rather than through rote memorization.
- Encouraging students towards better comprehension of the learning process.

Students in inquiry-based learning are mostly engaged in tasks that involve projects that are given to them by the drivers of the PBL process. Nurse educators perceive that much of the work involving inquiry-based learning involves students working in pairs or groups to solve a problem, complete a project or design and build an artefact (Barron & Darling-Hammond, 2008:9).

Project-based learning (PBL)

Project-based learning is a teaching and learning method based on the tenets of progressive education. This strategy is often utilised interchangeably with other teaching alternatives, namely problem-based learning, inquiry-based learning and problem learning (Hovey & Ferguson, 2014:78).

Hovey and Ferguson (2014:78) and Exposito (2014:85) indicate that the following key components which constitute characteristics of Project-Based Learning (PBL):

- PBL utilises multiple projects as the central components of the curriculum.
- Projects focus on problem scenarios which provide direction to learning.
- Students are the major component of PBL with student involvement at all levels of the projects both individually and in collaborative teams.
- Projects should be focused on day today topics that stimulate students' involvement.
- Evaluation of learning occurs throughout the project, and
- Reflection and revision are continuous facets of learning.

Holubova (2008:254) maintains that in project-based learning (PBL) students have a role to play in that they use various tools to acquire knowledge. Students provide videos, reports, photographs, music, model construction, action plans, digital stories and websites. The nurse educators perceive that project-based learning will have a better chance to bring about the desired benefits for students (Lam, Cheng & Choy, 2009:3).

2.4.1.8 Teaching techniques in Problem-Based Learning

PBL allows the facilitator to employ several techniques of learning for students to enhance more critical thinking skills. When planning lessons, teachers have to be aware of appropriate teaching techniques that could be used to create meaningful learning opportunities, because

knowledge acquisition (Sithole, 2011:22). The common method could be group discussions.

Group discussions

Group discussions are the most common teaching strategy advocated in PBL. Problem-based learning encourages students to engage in small groups which could be manageable by both facilitators and students for discussions of problem scenarios.

Mansor et al (2015:261) explain that during PBL students are grouped and presented with the problem scenarios that would initiate their knowledge construction responsibilities.

In addition, it is documented that in PBL, the small-group discussions encourage students' development of a sense of maturity as critical thinkers, through developing a sense of belonging to the group in which their cognitive and emotional aspects are well catered for to enable them to be more productive, competent and independent professionals (Khalil & Rukban, 2010:237). Khalil and Rukban (2010:237) maintain that successful teaming breeds mutual decision making skills, discussion skills, team dynamics and diversity management. Students who are in possession of these skills have a better opportunity to learn and share information

Role-play

According to Chan (2012:22) role play in PBL is a learning technique which embraces the application and utilisation of physical senses involved in learning, namely visual, auditory and reading and writing preferences. It is further maintained in Chan (2012:22) that participating in role-play can make meaning of the roles that one plays in the nursing profession. It is documented that a combination of role play and PBL create an active learning environment. In this case the students get an opportunity to replicate a real situation that helps the student to solve the problem effectively (Bhattacharjee, 2014:1).

In confirmation of the benefits of role-play, Whitechair and O'Reilly (2010:1059) maintain that group role play is considered beneficial to the learning process as it encourages students towards self-direction and it displays the actions of the professional registered nurse work environment. Acting within a role-play affords the student have opportunity to practice as a registered nurse without a fear of failure and supported by their peers' contributions within an authentic setting.

Billings and Halstead (2009:254) maintain that role-play nurtures the following skills:

- Observational skills are improved, i.e. students become more passionate in watching looking at the correct procedures that are of more educative to them.
- Improvement of autonomy and decision-making skills, the students become involved in decision within the group.
- Enhances comprehension of human behaviour. The understanding ability become more enhanced they start to use critical thinking abilities.
- Immediate feedback about the interpersonal and problem-solving skills is improved, i.e. there is a feedback in return to their efforts.
- A non-threatening learning environment is promoted. Students learn with ease because learning becomes a share responsibility within a group.

Imagery

This refers to forming or creating a picture mental or engaging in rehearsal before the actual use of the information, and it can be best utilised in combination with physical acting and psychomotor skill acquisition (Billings & Halstead, 2009: 250).

Portfolio

Billings and Halstead (2009:251) further maintain that a portfolio is another teaching technique that could be linked with the PBL environment, and it encompasses series of documented evidence of processes of learning. Its advantages include:

- Typically high student motivation because of the individual control over learning, i.e. the students exercise power over their own learning as they own it.
- Students remain motivated and pursue learning. The students develop a feeling of continuous learning to gain more information.
- Teachers become aware of individual student's aims and interests. This makes them to continuously shaping the learning behaviour of students.
- Enables student to engage in reflective learning. This implies that the students are able to incorporate previous knowledge into the new knowledge.

In line with the functions of portfolios, Van Schaik, Plant and O'Sullivan (2013:139) maintain that portfolios enable the collection of evidence and feedback from various sources and functions as a stage for students to reflect upon their learning progress.

2.4.1.9 Comparison between PBL and conventional method of teaching with regard to teachers and students

In terms of the comparison between the methods of teaching, it is documented that PBL method seems to be the best method for nursing students. For the purpose of this study the comparison between these two methods is done following Kabir et al (2015:4-6) where the comparison was done following the academic process and program evaluation, students' attitudes, and staff members' satisfaction.

Academic process and program evaluation

In PBL approach students tend to focus on comprehension of knowledge gained rather than reproduction whereas in traditional method students focus on rote learning and memory. In order to seek knowledge, PBL students discover information in various sources such as journals and on-line database and library facilities are effectively utilised. The traditional students rely on the teacher's information which in most cases comes as notes prepared for them by the teacher (Kabir et al, 2015:4).

Students' attitudes

Students in PBL approach have a more positive attitude towards their learning, whereas more negative attitude is displayed in traditional method. PBL students have more positive attitudes towards their facilitators and their ability to stimulate learner's curiosity; hence a high level of motivation amongst PBL students and tutors is significant. Traditional students report better interaction with their peers, whereas PBL students tend to form several small groups to learn better, and it is perceived by educators that students generally favour PBL classes and therefore demonstrate increased attendance and attitudes than traditional classes (Kabir et al, 2015:5; Goh, 2014:159).

Tutors' satisfaction

Kabir et al. (2015:6) maintain that tutors find the PBL approach as providing a satisfying way to teach. PBL approach enhances high ratings specifically in the area of facilitating clinical reasoning. The most significant benefit is in making contact with small groups of students.

2.4.1.10 ASSESSMENT IN PBL

The assessment systems in PBL approach are the most powerful factors that influences the learning processes of students and they can enhance students' learning outcomes. Several assessment systems can be used to assess students' learning, therefore it is perceived by

educators that student knowledge and achievement may be better measured with these alternate methods (Goh, 2014:160). According to Noriega (2010:6) these methods include:

Formative assessments

In the formative assessment, there are observations which allow determinations of the extent to which students know or are able to display a given learning task, and which select a part of the task that the student does not know or is unable to do, all with the intention of identifying scope and potential for change and improvement through providing feedback (Noriega, 2010:05). Learning assessment may be formative in that through the provision of feedback the student is able to gauge their degree of knowledge, comprehension and skills to enable identification of additional learning needs (Marcangelo, Gibson & Cage, and 2009:15). This could add on to summative assessment.

Summative assessment

Noriega (2010:5) further points out that in summative assessment, processes are covered in which judgments are made by comparing performance against set criteria or standards. Marcangelo et al (2009:15) are of the opinion that assessment of learning is summative and is generally viewed as the traditional approach to assessment. It is used to allocate a grade to individual student work. Often in PBL these two strategies are used in combination and rarely are they used separately.

Marcangelo et al (2009:15) and Noriega (2010:5-6) maintain that both formative and summative assessment are fruitfully used in combination when assessing the students learning and this strategy is generally viewed as the more positive approach to assessment, and in itself is a pertinent domain for assessment which ensures that balance is optimally achieved. In most cases in nurse practise the assessment of student learning may be a well-structured approach that incorporates cognitive and psychomotor skills.

Objective structured clinical examination (OSCE)

Objective structured clinical examination (OSCE) has been used to assess medical students since the mid-1970s, and began to be utilised to assess students in other allied and health disciplines such as nursing, (Rakhudu, 2011:46), and it is further maintained that OSCE has been used following its benefits such as the following:

- Greater objectivity than in most assessment of practice. Here the tutors use the objectivity in assessing learners to avoid biasness.

- Wide range of different examiners hence reduced risk of examiner bias. This helps in concluding the students' outcome of assessment.
- Reduced risk of different students being assessed by different assessors. The same panel of assessors tend to evaluate or assess the same students.
- Positively viewed by students and lecturers. This reduces the risk that students may perceive tutors as hating them.
- Broader range of skills tested. Various skills are tested in this type of assessment, for example, cognitive skills, and psychomotor skills.
- High level of reliability and validity. The results reveal a true performance of the students.

2.4.2 WHAT IS KNOWN ON PBL IN NURSING AND MEDICAL EDUCATION

Data presentation is the final stage in the integrative review process. "Explicit details from primary sources and evidence to support conclusions need to be provided to demonstrate a logical chain of evidence, allowing the reader of the review to ascertain that the conclusions of the review did not exceed the evidence" (Whittemore & Knalf, 2005:552). In this literature review, the synthesis of both qualitative and quantitative studies was done with the following subheadings: author, design, purpose, study topic, results and recommendations.

In the Middle, East Ates and Eryilmaz (2010:2325) conducted a qualitative study which focused on the analysis of factors that affect tutors' performance at the stage of application of PBL on practice. In their study Ates and Eryilmaz (2010:2325) emphasised the adaptation of tutors to PBL processes as an important aspect before its implementation could take place. Therefore, the orientation of tutors in the form of an induction training program is very crucial. In PBL nurse educators perceive that instructor acts more as a facilitator than disseminator of information (Anderson, Bergstrom-Nyber, Dumbrajs, Dumbrajs, Martelin & Westerlund, 2010:34).

A similar study was conducted in Indonesia by Gillund, Rystedt, Wildelarsen, Abubakar and Kvigne (2012:192-193) with an emphasis on the empowerment of teachers as a critical point in PBL implementation. Van Schaik, Plant and O'Sullivan (2013:139) indicated the perceptions of portfolio mentors is on uplifting self-directed learning (SDL) of students. The findings of this study indicated the following:

- Mentors view SDL in different ways. That mentors view this as initiated by the students themselves.
- Self-Directed Learning is crucial for students and students tend to develop inner abilities, that they develop a sense to pursue learning.
- Self-Directed Learning may vary in some degrees but its important focus lies on the acquisition of knowledge and the identified gaps in learning situation.

In the United States of America, Fero, O'Donnell, Zullo, DeVito, Kitutu, Samosky and Hoffman (2010:2182) focused on a quantitative study which puts emphasis on critical thinking of students in relation to the simulation aided by high-fidelity human simulation. Therefore the indication made was that students' overall expectation was that they found it difficult in relation to problem recognition and reporting findings, but nursing students were viewed as the ones who initiate interventions related to high-fidelity human simulation.

In Canada a qualitative study was explored related to the outcomes of PBL strategy in a large classroom setting. In this study, Klegeris and Hurren (2011:408) explored students' perceptions and the way problems are managed by students. The results of this study yielded a significantly high attendance of students in PBL classroom than during traditional lectures. Although recommendations were not made in this study, it is therefore possible that PBL could be offered in classrooms with a large number of students. This was done presenting each PBL case to students over the course of three class sessions spaced at least one week apart to allow sufficient independent study time. Problem-Based Learning in a large classroom setting would yield the following advantages (Klegeris & Hurren, 2011:408):

- Exposure to the same information is significant to all students.
- Elimination of the need for the tutor to provide information to the student is emphasised.
- Consistency of information presented to students is ensured, resulting in less frustration for students during their independent research time and exam preparations.
- Improvement in problem-solving skills, and
- Improvement in overall motivation.

In Australia, Park, MacMillan, Conway Cleary, Murphy and Griffiths (2010:41-49) state the point that practice-based simulation model is an important aspect when curriculum innovation is carried out. This would enhance critical thinking skills of the students.

Grealish & Smale (2011:51-61) on the other hand point out that the emphasis should be on re-focusing of curriculum design on clinical settings which encompass the following:

- Involving students in nursing work,
- Team building among students is critical and continuous provision of feedback on behaviours that limit learning opportunities should be encouraged.

Therefore, collaboration in PBL environment is important as this generates important social skills necessary to interact with other members. In Switzerland Notari, Baumgartner and Herzogt (2013:132) explain that collaborative efforts in learning depend on the interaction of the learning group. In their quantitative study Notari et al (2013:132) indicated that students engaging in groups of the same gender tend to adapt easily and acquire more social skills easily as compared to the heterogeneous groups, therefore, increased openness in learning situation would be enhanced.

In the United Kingdom, Gunn, Hunter and Haas (2011:330) are of the view that the supervisors also noted the positive advantages of PBL for students' education as well as in clinical practice, and students were able to display transferable skills inherent in PBL approach.

In South Korea, a qualitative study was conducted by Yang and Yang (2013:198) with a focus on nursing students' experiences with facilitation in Problem-Based Learning class. In their study students were faced with interpersonal relationship challenges with facilitators and showed feelings of uneasiness, overcoming the uneasiness, and denying the help of facilitators. In their recommendations, Yang and Yang (2013:198) emphasise the need to engage in research related to facilitators' experiences in PBL, because the challenges indicated by the students were due to lack of PBL expertise by the teachers.

Similar studies in developing countries on the African continent related to students' experiences in PBL environment were conducted. In Egypt Ali and El Sebai (2010:188) investigated the effects of PBL on nursing students' learning approaches and their self-directed learning. Based on their findings, recommendations were made that PBL fosters deeper approaches to learning and offers direction to students to shape their professional practice.

In South Africa, in the North West province, Rakhudu (2011:81-89) also conducted a study on students' experiences in PBL. In this study exploration and description of students' experiences was done following a qualitative approach. The study was conducted in a

resource-constrained area despite the resource-intensive characteristics of PBL, but due to the collaborative and resource sourcing processes, the North-West University (Mafikeng Campus) institution made it possible to be implemented.

Following the various studies conducted worldwide on PBL, it is evident that the focus of the majority of these studies has been on students and with a few studies focusing on tutors who are already in the process of engaging with the PBL approach. Therefore, there is a significant gap in researches studies on nurse educators. There is a great need to explore and describe the perceptions of nurse educators on PBL in North West nursing college (as a resource-constrained institution), where this approach has been found challenging in both scope and implementation.

2.4.3 IMPLICATIONS FOR NURSING EDUCATION

Various researches into educational approaches to nursing education have been conducted with the intention to develop excellence in teaching and learning. PBL has been researched and was found to have educational merit that enhances and transforms nursing knowledge. PBL could be feasible within the curriculum when support and partnership between nurse educators and clinical practitioners is significant and becomes fundamental to the development and enhancement of this learner-centred pedagogy. The PBL curriculum intends to create learning abilities of students, therefore, nurse facilitators need to be strategic in their planning and introduction of this teaching-learning strategy. Furthermore, students learning experiences need to be explored to establish how they (students) transfer this learning style to graduate practice (Murphy et al, 2010:146).

2.4.4 SUMMARY

Chapter 2 presented a detailed literature review using integrative review that focus on two primary questions; firstly, how PBL is described in allied health literature between 2008 and 2016; and secondly, what new information or knowledge on PBL has emerged between 2008 and 2016.

Chapter 3 discusses the detailed research design and methodology.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The main focus of this chapter is on a detailed description of the research design and methodology that were used in this study. The aim of this study is to describe and explore the perceptions of nurse educators on PBL in a nursing college in North West Province.

3.2 RESEARCH METHODOLOGY

This segment of the research focuses on reflection on the planning, structuring and execution of the research in order to align it with the demands of truth, objectivity and validity, hence research methodology focuses on the processes of research and the decisions that the researcher took to take to execute the research project (Brynard, Hanekom & Brynard, 2014:38).

3.2.1 Research Design

A qualitative, explorative, descriptive and contextual research design with explanations from Burns et al (2013:43), Polit and Beck (2012:58) as well as McMillian and Schumacher (2010:20) was used in this research study with the purpose of exploring and describing nurse educators' perceptions on problem-based learning in a nursing college in the NWP, South Africa.

3.2.2 Qualitative Design

The goal of most qualitative research design is to develop a concrete comprehension of a phenomenon as it appears in the real world and as it is constructed by individuals in the context of that world (Polit & Beck, 2012:487). In addition, Rudnick (2014:246) explains that qualitative research typically encompasses the practical study of human beings and their experiences and behaviors. Qualitative research design in this study was relevant and effective as the purpose of the study was to describe and explore the perceptions of nurse educators on problem-based learning in a nursing college in North West Province.

3.2.3 Exploratory Design

Exploratory research investigates the phenomenon in totality and the way it is manifested and the other related factors. Exploratory qualitative research is designed to shed light on the various ways in which a phenomenon is manifested and the underlying processes (Polit & Beck, 2012:18). For the purpose of this study the investigation into the full nature of the phenomenon focused on an exploration of perceptions of nurse educators on PBL implementation in the nursing college.

3.2.4 Descriptive Design

A descriptive design is crafted to gain more information about characteristics within a particular field of study. Their purpose is to provide an image of circumstances as they naturally happen. A descriptive design may be utilized to create theory, select problems linked with current practice, provide justification for current practices, make judgments, or determine what others in similar situations have done (Burns et al, 2013:215). For the context of this study, the purpose of a descriptive research design was to describe the nurse educators' perceptions on problem-based learning and to make recommendations for their current practices in the nursing college.

3.2.5 Contextual Design

Contextual design refers to a study that is conducted within a specific area. The situational context is very important in understanding behaviors. This is based on the belief that human actions are strongly influenced by the setting in which they occur (McMillan & Schumacher, 2010:322). For the context of this study, the focus was on the perceptions of nurse educators on problem-based learning in the nursing college in North West Province. The details of the context used in this study are explained below.

3.3 CONTEXT

The research was conducted at the North-West Nursing College which is predominately a Setswana speaking community. The nursing college caters for both undergraduates and post graduate students in different programs where, on a yearly basis, the college admits 150 undergraduate students. The college further caters for four regions where students are allocated, namely Bojanala, Doctor Kenneth Kaunda, Ngaka Modiri Molema and Doctor Ruth Segomotsi Mompati. These regions are 120 kilometres apart. The college functions with the total number of 78 lecturers.

3.4 POPULATION

A study population is “that aggregation of elements from which the sample is actually selected” (Babbie, 2013:135). The target population in this study are the seventy two (72) educators at the nursing college. Data saturation was reached after interviewing twelve (n=12) lecturers who are trained on PBL and work at the nursing college.

3.5 SAMPLING METHOD, RECRUITMENT AND SAMPLING CRITERIA

The researcher utilized purposive sampling in this research study (Brynard et al, 2014:56; Polit & Beck, 2012:59). Purposive sampling focuses on the researcher’s knowledge about the population and this was utilized to hand-pick sample members. Researchers might purposely decide to select subjects who are judged to be typical of the population. This type of sample is entirely on the judgment of the researcher, in that a sample is comprised of the elements that show the most representative characteristics or attributes of the population that serve the purpose of the study (De Vos et al, 2011:392; Babbie, 2013:128; Creswell & Plano Clark 2011:173).

In this study, 12 nurse educators who are trained in PBL and work in the nursing college in North West Province were chosen to participate in the study. The campus heads in the nursing college on both campuses assisted the researcher in recruiting the participants because they have statistics of nurse educators who are trained on problem-based learning. The participants met the following selection criteria:

- Participants were all nurse educators who are trained in PBL and registered with the South African Nursing Council.
- Participants were all nurse educators who are trained in PBL and have 2 years and above of teaching experience.
- Participants were all nurse educators who are trained in PBL and teach at North West nursing college.
- Participants were all nurse educators who are trained in Problem-Based Learning (PBL).

The researcher had individual discussions with the nurse educators who met the selection criteria. The purpose of the discussion was to gather their personal contact details to keep them reminded about the dates and times of interviews.

3.6 SAMPLE SIZE

Data saturation determined the purposive sample size. The aim was to describe and explore the perceptions of nurse educators on Problem-Based Learning in a nursing college in the North West Province. In this study data saturation was reached after 12 nurse educator participants were interviewed in the nursing college, which meant face-to-face interviews until the information about Problem-Based Learning information became repetitive and redundant.

3.7 DATA COLLECTION

Data collection methods, communication skills and verbal cues used in this study are described in this section. The role of the researcher, as well as the physical environment is also described in this segment of the study.

3.7.1 Method of Data Collection

Semi-structured face-to-face interviews were utilized in this study to gather data from nurse educators with the purpose of describing and exploring their perceptions on problem-based learning. Semi-structured face-to-face interview method was deemed appropriate to this study because both the researcher and the participants were at liberty to explore the phenomenon under investigation, in this context, the perceptions on problem-based learning in nursing college. The researcher used probing techniques in order to elicit further explanations and clarification of responses from the participants (McMillian & Schumacher, 2010:355). The researcher asked the central question: "What is your view regarding Problem-Based Learning?"

Interviews were conducted at the nursing college, on both campuses, and on a convenient time for all nurse educators. Most interviews were conducted in the participants' offices with the aim of maintaining privacy, and only one participant was interviewed at her private home. The language used by both the researcher and the participants was English, because it is a common language that is used by the participant on daily basis during their work period. The researcher wrote field notes as each interview was conducted and these notes reflected observations by the researcher, mannerisms of the participants, like hitting the table with a fist, playing with fingers, hitting the table with fingers and tone of voice. A voice recorder was utilized with the permission of the participants to record the interviews and these recorded interviews were transcribed verbatim.

The researcher conducted semi-structured interviews where communication techniques were utilized in order to encourage the nurse educators to tell more about their knowledge regarding problem-based learning and its implementation. The researcher in these semi-structured interviews utilized communication techniques as explained by De Vos et al (2011:345):

- Minimal verbal responses: these are verbal responses that correlate with nodding. For example, the researcher in this study utilized verbal cues such as “mmmhhh!”, “Ok!”, “Yah!” which showed the participant that the researcher was listening.
- Paraphrasing: this involves a verbal response in which the researcher enhances meaning by stating the participant’s words in another form with the same meaning.
- Clarification: this embraces a technique that is utilized to get clarity on statements. In this study the researcher sought clarity from participants by voicing, “Okay! When you say reaching the child at the end, what do you mean?”
- Reflection: refers to looking back on something important that the person has just said in order to get them to elaborate more on that idea. For the context of this study, an example of reflection would be “So meaning they would show some kind of...”
- Encouragement: refers to encouraging participants to pursue a line of thought, for example, the researcher in this context utilized this verbal cue “That is a very good input by the students, neh!
- Asking questions: the researcher in this study asked open-ended questions, for example, “What is your view regarding Problem-Based learning?”
- Probing: In this context the researcher utilized the following probing methods with the aim of persuading the participant to give more information about the issue under discussion:
 - Encouraging: for example, “They are...they are... it shows they are innovative as well!”

- Direct question: for example, “Was it recorded in the audio?”
- Procuring details: In this context the researcher asked further questions to see if more information could be obtained, for example, “How can this approach change the current system of offering the program in your institution?”
- Faking puzzlement: in this context the researcher pretended to be confused, indicating elaboration is needed, for example, “When you say that thing what are you...which...what are you referring to?”

The researcher recorded field notes on separate sheets and records were kept at the end of each interview session to describe the “What”, “Who” or “How” of the situation. Field notes consist of descriptive (or observational notes) and reflective notes.

3.7.2 Field Notes

According to Polit & Beck (2012:548) field notes are “broader, more analytic, and more interpretive than a simple listing of occurrences.” Field notes represent the participant observer’s efforts to record information and also to synthesize and understand the data. Immediately after conducting each interview, the researcher recorded observational and reflective notes so as not to forget some aspects that might affect research findings.

Descriptive (Observational notes): These are objective descriptions of observed events and conversations, information about actions, dialogue, and context which are recorded as completely and objective as possible (Polit & Beck, 2012:548).

Reflective notes: These document the researcher’s personal experiences, reflections, and progress while in the field (Polit & Beck, 2012:549).

3.7.3 The Researcher Role

Ethics approval letter was granted to the researcher, before the data collection by the ethics committee from the North West University with the ethics number NW-00077-15-A9. The approval from the North West Department of Health was also granted to the researcher.

The researcher issued research participant information sheet and consent form to the participants and explained the title and the purpose of the research to the participants. Some participants signed the consent form after reading the participants’ information sheet and

returned them immediately to the researcher to confirm their voluntary participation. The time during which the researcher issued the consent forms to the participants was not a convenient time for them to be interviewed immediately, because it was the time of marking learners' examination script, in both campuses, and the participants requested the researcher to conduct interviews at a more convenient time to them. As the researcher happened to be one of the nurse educators in this college, he was always available to hear a response from the participants. For nurse educators in Dr. Kenneth Kaunda campus the participants' information sheet and consent form were sent to them through an email system for them to read at their convenient time and sign the consent to participate. The participants were encouraged to provide their view about the interviews and the topic. The researcher clarified to the participants that all of their views were valid and helpful.

3.7.4 Physical environment

The researcher conducted interviews at the nursing colleges, where nurse educators are working in order to maintain their privacy and confidentiality as well as their comfort. The time of collection of data was convenient to both researcher and the study participants. The management of both colleges made other staff members aware of the interviews on their campuses so that the respective participants are not disturbed during the scheduled times of interviews. On the respective dates and times of interviews a notice was placed on the door stating "research interviews in progress, please do not disturb." The researcher took an effort to look for a quiet place when the interviews started. The first two interviews started in the boardroom of the campus in Ngaka Modiri Molema. The researcher checked the conditions of the room and made it a conducive environment by switching on the heaters because it was a winter season. Lights were also checked to see if they were in good working order. Other interviews were held in the participants' offices. All interviews conducted at Dr. Kenneth Kaunda campus, were held in the participants' own offices, individual cell phones and landline phones were switched off. One tape recorder was used for the interviews and was put on record mode when each interview started. This was to allow the participants realize that their voices are been recorded. One interview was held at a participant own private home in Ngaka Modiri Molema District between 19h00 to 20h00.

3.8 DATA ANALYSIS

According to Creswell and Plano-Clark (2013:182-183) the data gathered by qualitative methods are high volume, therefore, the researchers found it difficult to deal with massive

volumes of information and setting down to make sense out of files and field notes. After the collection of data from the twelve participants interviewed, recurrent themes emerged and data saturation was assumed to have been reached. Semi-structured, face to face interviews were utilized in which a voice recorder was also utilized which. The data was independently analyzed by the researcher and the independent co-coder was selected on the basis of his expert knowledge of qualitative research and he is holding a master's degree in qualitative research. The coding of data by the researcher and an independent co-coder was done in separate locations and a meeting was scheduled where an agreement on major themes and sub-themes was done. In this study the transcription of the recorded data was done following Tesch's method of data analysis, and open coding was carried out in the following manner, (De Vos et al, 2011: 345):

- 1) The researcher carefully read through the entire transcripts to make a sense of the data as a whole.
- 2) Short transcript files were picked up and were read, and ideas were jotted down as they come to mind where thoughts were written in the margin and the major categories were identified.
- 3) The entire transcript files were read again and the units of meaning related to the identified major categories were underlined.
- 4) The units of meaning were put into major categories while at the same time; identified subcategories were put within the major categories.
- 5) Identification of the relationship between major and subcategories was done and formulation of new patterns as conclusions was drawn.
- 6) The researcher decided on the final abbreviations for each category and placing these codes in alphabetical order.
- 7) The assembling of related data material of each category in one place was done.
- 8) The existing data was recorded and a preliminary analysis was conducted.

3.9 LITERATURE CONTROL

In this study literature control was done after the data analysis. The literature was consulted prior collection and analysis of data. This was done by the researcher because of the type of questions asked (Polit & Beck, 2012:61). A comparison was made between the relevant

literature after the collection and analysis of data where findings on similarities and differences were made on perceptions of nurse educators on Problem-Based Learning. Literature searches were done through internet and relevant articles.

3.10 TRUSTWORTHINESS

Trustworthiness in this study was used as explained by Polit & Beck (2012:584-586), De Vos et al (2011:419-422) as a “truth value of a qualitative research project”. Trustworthiness is a method establishing rigor in qualitative research. Four criteria for trustworthiness in qualitative research as suggested by Lincoln & Guba’s framework in (Polit & Beck, 2012:584) were utilized. The four criteria of Lincoln & Guba (1985) framework for trustworthiness in qualitative research include: truth value (credibility), applicability (transferability), consistency (dependability) and neutrality (conformability).

3.10.1 Truth Value (Credibility)

Lincoln and Guba’s (1985) framework in Polit and Beck (2012:585) cited credibility as a first criterion which refers to “confidence in the truth of the data and interpretation of them”. According to Lincoln & Guba (1985) framework, credibility involves two aspects: first carrying out the study in a way that enhances the believability of the findings, and secondly, taking steps to demonstrate credibility of the findings in the research reports. The researcher utilized the following techniques to ensure credibility of the information gathered from the nurse educators in the nursing college:

- **Prolonged engagement:** prolonged engagement was attained by building trusting relationship with the nurse educators who qualified for the inclusion criteria. The researcher happened to be the part of the staff establishment of the college, hence engaging with the participants was not problematic and this helped the researcher in understanding the participant’s challenges. Participants were offered enough time during interviews to say their perceptions on Problem-Based Learning and its possibilities to be implemented. Interviews were conducted in different times, days and in different settings, which included other participant’s private home. The interviews took two months and each interview lasted thirty to forty five minutes.
- **Peer debriefing:** This technique involves sessions with peers to review and explore different aspects of the inquiry. It exposes researchers to the searching questions of others who are experts in either the method of constructivist inquiry, the phenomenon

being studied, or both, (Polit & Beck, 2012:594). In this study a taped interview, transcript and a written summary of analyzed data with themes, categories and sub-categories that emerged were handed over to the expert of the phenomenon under study at the North West University. Regular contact sessions with the supervisor were made.

- **Member checking:** the technique involves asking the participants to review and react to the study data and emerging themes and conceptualizations. (Polit & Beck, 2012: 599). The engagement with nurse educators after the analysis of the collected data was made, so as to reveal the findings of the study, to make clarities and to make confirmations of the interpretations of the researcher. The findings were confirmed by the participants as the true data.

3.10.2 Applicability (Transferability)

The second criterion in Lincoln & Guba's framework in Polit & Beck, (2012:585) is applicability which refers to the degree to which findings from the data can be transferred to other settings. In this study transferability was ensured through the following techniques:

- **Data saturation:** saturation of data occurs when the participants do not give new information and themes deduced become ineffective and repetitive (Polit & Beck, 2012:594). In this study, data was continuously collected and analyzed until the themes deduced from the data become repetitive and ineffective. Twelve interviews were conducted and data saturation was reached.
- **Thick description:** this refers to "a rich, thorough, and vivid description of the research context, the people who participated in the study, and the experiences and processes observed during the inquiry", (Polit & Beck, 2012:595). In this study the researcher provided a detailed description of the research design and methods and the verbatim capturing of the interview on audiotape, including field notes of each interview smooth auditing purposes.
- The stability (reliability) of data over time and condition. Credibility cannot be attained in the absence of dependability, (Polit & Beck, 2012:585). The researcher in this study attained this criterion through a detailed description of the research methodology and code-recode process during data analysis.

3.10.3 Consistency (Dependability)

Dependability refers to “the stability of data overtime and conditions. Credibility cannot be attained in the presence of dependability, meaning that the data obtained was subject to the evaluation by other researchers. All techniques that apply to the strategy of credibility i.e. prolonged engagement, persistent observation, triangulation, peer debriefing and member checks, all indirectly impact on the strategy of dependability, (Lincoln & Guba,1985 in Polit & Beck, 2012: 585). The following techniques applied to dependability in this study:

- **Inquiry Audit:** This technique involves scrutiny of data and supporting documents by an external reviewer. It refers to a process whereby the researcher describes the exact methods of data gathering, analysis and interpretations to allow another researcher to be able to evaluate the raw data, data reduction and analysis to come to conclusion about the consistency of the data, (Polit & Beck, 2012:594). In this study the research co-coder was selected after collecting and analysing data to confirm the findings of the researcher. The study supervisor guided the study from the beginning to the end, and experts in nursing research will examine the study before publication could be made.

3.10.4 Neutrality (Conformability)

The third criterion in Lincoln & Guba’s framework in Polit & Beck, (2012:585) is conformability which refers to the objectivity, that is, the potential for congruence between two or more independent people about the data’s accuracy, relevance, or meaning. This criterion is concerned with establishing that the data represent the information participants provided, and that the interpretation of those data are not invented by the inquirer. Findings must reflect the participant’s voices and the conditions of the inquiry. Conformability was utilized to ensure neutrality. The technique utilized to ensure conformability was inquiry audit (3.10.3).

3.11 ETHICAL CONSIDERATIONS

Ethical principles in this study were ensured throughout as explained by Burns, Groove and Gray (2013:163-182), Polit and Beck (2012:153-172), De Vos et al, 2011:115-120). Prior to conducting the study, the researcher obtained permission from the Ethics Committee of the North-West University (the Ethics certificate number: 00077-15-A9, Annexure A). A letter of application for permission was sent to North West Provincial Health authorities (Annexure

B). Furthermore, approval from the North West Provincial Department of Health was granted (Annexure C). The participants were provided with the research information sheet and consent form before taking part in the research study (Annexure D). The ethical principles maintained in this study include the principle of respect of persons, principles of beneficence and principle of justice.

3.11.1 PRINCIPLE OF RESPECT OF PERSONS

The principle of respect of persons was attained through the following criteria:

- Firstly, the researcher obtained written approval from the ethics committee of the North West University. Secondly, the North West Provincial Department of Health granted the researcher written permission to conduct the study.
- **Informed consent:** A research participant's information sheets and consent forms were issued to the participant to sign and confirm their voluntary participation.
- **Ensuring understanding:** Explanation of the research topic, which is the "Perception of Nurse Educators on Problem-Based Learning", as well as the purpose of the research, which is to describe and explore the perceptions of nurse educators on Problem-Based Learning were explained to the participants in the language that all the participants understand.

In this study, the participants were fully told that they are not forced to take part and they had a right to withdraw during the process of research with no penalty.

3.11.2 THE PRINCIPLE OF BENEFICIENCE

The researcher maintained this principle in that nurse educators were respected for their right to protection from harm and discomfort. To further maintain this principle, the researcher explained the research to nurse educators and consent was obtained from them. The researcher was always ready to discontinue the interview whenever there would be any discomfort experienced by the participants.

3.11.3 THE PRINCIPLE OF JUSTICE

In this study, this justice principle was maintained by the researcher through fair selection of the participants. The participants in this study were nurse educators who have challenges in implementing Problem-Based Learning in the nursing college, therefore the participants were selected directly in relation to the research problem.

The researcher did not force the participants to schedule the interviews at times suitable to him, but agreement was reached with the participants to schedule suitable interview times. Punctuality was fully adhered to by the researcher and interview sessions lasted at the agreed time.

Right to privacy: The participants' right to privacy was maintained by interviewing them in their private offices and one interview at the participant's own home. The message that says "Interview in progress, Please do not disturb" was placed on the door.

Right to confidentiality: The researcher took effort to maintain confidentiality of participants' information. Confidentiality is the researcher's management of private information shared by a participant that must not be shared with others without the authorization of the research participant (Groove, Burns & Gray, 2013:172; De Vos et al, 2011:119). In this research, the researcher maintained confidentiality by not disclosing participants' information with the members of the community, except divulging the information to other researchers at the school of nursing at the North-West University (Mafikeng Campus) which included the study supervisor and co-supervisor, as well as an independent qualitative researcher who was appointed as a co-coder. The names of the participants were not used, but instead code numbers were utilized. Upon the completion of this research study, the research project was examined by both the internal and external examiners and published as a mini-dissertation.

Ensuring anonymity: the names of the participants were not used, but instead code names were utilized.

Bias: All participants who met the selection criteria were selected and no act of favoritism was shown by the researcher.

3.12 SUMMARY

In Chapter 3, a detailed description of the research design and methodology was provided. Chapter 4 presents the discussion of the results and the literature control on the perceptions of nurse educators on problem-based learning.

CHAPTER 4

RESULTS AND LITERATURE CONTROL

4.1 INTRODUCTION

The previous chapter provided a detailed description of the research design and methods employed in this study. This chapter presents data analysis, interpretation and the results of the participants' perceptions on PBL implementation. During the discussion of the results the researcher provides verbatim quotations from the interviews and comparison is made with the literature.

In this study semi-structured interviews were followed on the perceptions of nurse educators on Problem-based Learning. Data saturation was reached after twelve semi-structured interviews were conducted where a voice recorder was used. The interviews were then transcribed verbatim by the researcher. Interview field notes were also taken during each interview.

The analysis of data was done immediately after all transcribed interviews were read with the aim of gaining a sense of the whole. Tesch's eight steps of data analysis were utilised to analyse data. Independent data analysis was done by the researcher and a co-coder in separate locations after which a meeting was arranged to finalise on the emergent categories and sub-categories from the data.

4.2 OBJECTIVES OF THE CHAPTER

The objectives of this chapter include:

- To analyse data, and reduce that into themes, categories and sub-categories to reflect participants' views through quotations.
- To discuss the findings in relation to the relevant literature already reviewed in Chapter 2.

4.3 DEMOGRAPHIC PROFILE OF PARTICIPANTS

The gender, years of teaching, age difference and qualifications of the participants of the study are shown in Table 4.1 below:

TABLE 4.1 Participants' profiles

Gender	Number of Nurse Educators	Years of Teaching		Age Differences		Qualifications		
		0-2	2and more years	Between Ages 30 -45	Between Ages 45 -60	Dip.in Nursing Educ.	Bachelor's Degree in Nursing Educ.	Master's Degree in Nursing Educ.
Females	10	0	10	1	8	1	9	1
Males	2	1	1	1	1	1	1	1
Total	12	1	11	2	9	2	10	2

As the researcher conducted face-to-face interviews with the participants, each participant was found at ease to provide information regarding the Problem-Based Learning implementation. The participants spoke about both the positive and negative perceptions of PBL implementation.

4.4 THEMES, CATEGORIES AND SUB-CATEGOTIES

The following themes, categories and sub-categories emerged during data collection from the participants regarding Problem-Based Learning (PBL), and are depicted in Table 4.2

Table 4.2 Themes, Categories and Sub-categories from the collected data.

Themes	Categories	Sub-categories
4.4.1 Positive attributes of PBL	4.4.1.1 PBL improves Knowledge Skills	4.4.1.1.1 PBL develops critical thinking.
		4.4.1.1.2 PBL improves problem-solving skill
		4.4.1.1.3 PBL promotes independence in learning process.
		4.4.1.1.4 PBL motivates students.
4.4.2 Perceived Challenges of PBL	4.4.2.1 Inadequate resources	4.4.2.1.1 Inadequate human resources
		4.4.2.1.2 Inadequate facilities.
	4.4.2.2 Change of mind-Set	4.4.2.2.1 PBL improve staff development
		4.4.2.2.2 PBL improves students orientation
4.4.3 Perceived Benefits of PBL	4.4.3.1 Students benefits	4.4.3.1.1 PBL increases ownership of learning
		4.4.3.1.2 PBL improves information seeking skills.
		4.4.3.1.3 PBL boosts confidence and morale
		4.4.3.1.4 PBL improves team work.
	4.4.3.2 Staff benefits	4.4.3.2.1 PBL reduces staff work load
		4.4.3.2.2 PBL improves staff confidence and morale
		4.4.2.3 PBL increases reading by staff
4.4.4 Factors for success	4.4.4.1 Improved Infrastructure	4.4.4.1.1 Adequate library
		4.4.4.1.2 Adequate Computer laboratory and internet services
	4.4.4.2 Increased staff	4.4.4.2.1 Continuous training and empowerment of staff
	4.4.4.3 Commitment of College leadership	4.4.4.3.1 Requesting funds from Provincial Department of Health (PDoH)

The emergent themes, categories and sub-categories in this study are represented on Table 4.2. Literature control was done and participants' remarks were quoted to support the findings. During the interview with the participants, there was an indication that some participants were willing to implement PBL in the nursing college.

Wish to implement PBL in the college curriculum

Participants verbalised the wish to implement PBL approach in their curriculum. To confirm this statement, one of the participants submitted the following:

“The only thing I say we have actually tried it at the lesser extent, I have tried it personally with my first year of group 2015. So... I assigned that work 3 days before. Because I know on that particular day I was supposed to facilitate that, but instead I gave it as a work for students and in between there was a weekend. So they actually had from Friday, Saturday, and Sunday and Monday so the presentations were on a Tuesday. And they were lovely presentations... And they were lovely presentations. They even brought IT which the college does not have because they brought on the music and the...mmmhhh! Audio system so that we can hear (pauses) and it was eh! Eh! Extremely, lovely presentations.”

“So we were about to write motivation to request that but unfortunately we... I mean at the moment all the.... the funds are under administration and all those things, so it was not possible but we plan to take this forward as a college.”

This concurs with Lam, Cheng and Choy (2009:488) findings that educators need to be innovative and they should show eagerness to improve their teaching methods. They should remain enthusiastic and persistent until the process is fully integrated. In addition to these findings Beane (2016:33) documented that teachers need to be more diverse and innovative in their roles and must set up clear objectives and guidelines for students' learning.

4.4.1 Positive attributes of PBL

The participants' perceptions regarding positive attributes of PBL are depicted in Table 4.3

Table 4.3 Positive attributes of PBL as seen by research participants

Theme	Category	Sub-category
4.4.1 Positive attributes of PBL	4.4.1.1 PBL improves knowledge skills	4.4.1.1.1 PBL develops critical thinking.
		4.4.1.1.2 PBL improves problem-solving skill
		4.4.1.1.3 PBL promotes independence in learning process
		4.4.1.1.4 PBL motivates students.

In this study, the participants insisted that PBL is replete with positive attributes. These positive attributes are: it develops critical thinking, promotes independence in learning.

4.4.1.1 PBL improves knowledge skills

The participants indicated in semi-structured interviews that PBL has positive attributes as compared to the traditional method of teaching that is currently practiced at the college.

PBL develops critical thinking

The nurse educators indicated that Problem-Based Learning develops critical thinking skills of the students. To confirm the perception that PBL develops critical thinking, the following direct quotations were derived from the transcripts:

“...this prepares the learner to be an independent and critical thinker.”

“...you are not going to give the matter to the student. You are just going to guide the student process.”

“The students go deep...to dig deep into the matter that is been done, so I...in the process the learner becomes very independent, he is able to get information for himself, to analyse it and able to take decisions.”

“What is important is for the student to extract the knowledge themselves.”

“Students’ needs to bring information on their own, you give them broad scenario with no outcomes and they will bring the outcomes for you.”

“It involves or it increases the student’s... aahh...critical thinking”

The finding is in line with Hung (2008:118) who documented that problem-based learning is an instructional method that was innovated and practiced in higher institutions to enhance the students' abilities to apply knowledge skills and self-directedness in their learning processes, thus improving a sense of continuous learning in their careers. Advocates of PBL (Rideout, 2001: 240), Hung, (2008: 118) and Billings& Halstead, (2010:253) maintain that it is more effective than traditional methods in alleviating students' problem-solving and self-directed learning skills. In the study that implemented structured group PBL activities in a graduate nurse program, researchers reported improved critical thinking, clinical judgement, and knowledge acquisition skills (Vittrup & Davey, 2010:91).

In addition to the findings, this concurs further with Fero et al (2010:2183) whose findings documented that critical thinking is the key feature of this approach as students are empowered to look for information on their own and explore several alternatives to provide solutions to problems encountered.

PBL improves problem-solving

During the interview with nurse educators there were indications that PBL improves the problem-solving skills of the students. To confirm that PBL really improves problem-solving skills, direct quotations were derived from the transcripts:

"...learners they participate actively and they take a lead in their studies."

"They find the problem within the situation and they come up with the solution on how to solve that particular problem."

"Students can be directed to a problem and then they will come up with their own strategies on how to intervene..."

"... This problem-based learning is learner-centred and it encourages students to think out of the box."

"...according to problems, patient's problems...the students will then eh!do some concept mapping on the problem."

"We give students a problem to sort out on their own and they come up with a solution."

"A method of learning where the student is given a problem on his own or independently."

“...it encourages the students to be able to solve problems on their own.”

These findings concur with Price and Felder (2007) in Aditomo, et al (2013:1240) findings that teaching is ‘inductive’, which begins from a real-life challenge that is presented to them. In addition, it is documented in Baumann (2014:4) that PBL approach invites the entire range methods of teaching such as inquiry-based learning where students would have questions directed towards a problem presented. Tarmizi and Bayat (2010:385) documented further and confirm the finding that in PBL approach, learners are motivated to channel their cognitive domain in resolving the main problem scenario.

PBL promotes independence in learning process.

The participants indicated that PBL promotes independence in the learning process. Direct quotations from the transcripts were made to confirm this:

“...problem-based learning is self-driven...”

“They should be leaders in their education”.

“This strategy assists a learner to own his study... all what is done in this strategy is self-directed study.”

“...in the process the learner becomes very independent, he is able to get information for himself, to analyse it and able to take decisions.”

“We need people who are going to be able to solve problems on their own, not to depend on somebody else.”

All these submissions and statements concur with the findings of Murphy et al (2011:142) where it is documented that students engage in aspects of self-directedness with greater responsibility for their own learning as their priority. Bullock, (2013:106) further confirms these findings and documented that learners become independent and self-directed, not as individual entities, but as groups in the learning situation because the PBL approach encourages team work.

These findings further confirm Al-Kloub, Salameh and Froelicher (2014:143) who pointed out that students show certain abilities that indicate their independence in learning:

- Students are responsible for most of the course, they develop the course content.
- They develop skills to look up things using the e-library and searching the net.
- They learn to organise their time and they become more organised.

- They feel more involved in learning. This means that students active in their learning environment.
- They know different sources of information and how to look for information they need.

PBL motivates students

The nurse educators at the NW training school indicated that PBL motivates students. To confirm this, direct quotations were derived from the transcripts:

“...that problem-based learning is self-driven.”

“...you are not going to give the matter to the student. You are just going to guide the student process.”

Wizinia, Korom, Marzuk, Safdieh and Grafstein (2012:01) established results that are in line with the findings in this study that PBL enhances students' love for the learning content and strengthen their self-direction in learning process. In addition, this concurs with the findings of Acar (2013:82) where PBL is documented as a motivator to learning and causes the generation of required behaviours to meet a need. Similar findings are cited by Gillun et al (2012:196) that motivation is an essential factor for empowerment.

Al-Kloub et al. (2014:145) also establishes findings that are in line with this finding where it is documented that motivation becomes evident in PBL students when they:

- Have responsibility for their learning and trust in their abilities.
- Experience different challenges.
- Perceive learning as stimulating, interesting and exciting learning environment.
- Perceive learning as more interactive, more dynamic and very vital.

This concurs with Kabir, Mohammed, Kabir, Kallachil & Dissanayake (2015:5) who documented that Problem-Based Learning students have more intrinsic interest in learning where they engage in solving clinical cases, new concepts are learned and this results in increased subsequent retention of information.

In addition, Barge (2010:14) documents that students demonstrate certain degree of self-motivation and personal maturity towards learning because they are able to find ways in shaping their school work as they focus on the objectives of their *learning program*.

4.4.2 Perceived Challenges

In this category, two themes emerged, namely resources and mind-set. These are shown in Table 4.4 below:

Table 4.4 Perceived Challenges of PBL

Theme	Category	Sub-category
4.4.2 Perceived Challenges of PBL	4.4.2.1 Inadequate Resources	4.4.2.1.1 Inadequate human resources
		4.4.2.1.2 Inadequate Facilities
	4.4.2.2 Change of Mind-Set	4.4.2.2.1 Improved Staff development
		4.4.2.2.2 Improved Student orientation

4.4.2.1 Inadequate Resources

Under this category, two sub-categories have emerged, namely human resources and inadequate facilities.

Inadequate human resources

It is stated by the participants that challenges with staffing and human resources pose a great hurdle in the implementation of PBL when there is a lack of human resource. To confirm this, direct quotations were derived from the transcripts:

“Problem-based learning depends on availability of resources such as manpower. In our instance we should be having adequate lecturers or educators who will facilitate or who will be there to support learners as well as guiding them as far as this strategy is concerned”.

“Even the staff that is in the library should be in a position also to contribute towards PBL”

“Let me say the way that... (Pauses) we are taught PBL, how we should implement it, it doesn't take a facilitator only to facilitate PBL, it has to take the management of the institution, eh! In to say at what point should PBL be introduced...”

“The other thing is other than lecturers I should think also... let me...maybe I should have started right from an upper level where I would say we need support from the...the...the...the universities that we are affiliated to, especially the North West University Mma...Mma...Mmabatho Campus, because they eh! Eh!

Implementing the...the...the PBL and they are the once...thanks to them they are the ones that eh! availed this opportunity for us to go and...and...and see what is all about in Canada, so they really need to play a major role in how best can they support the colleges, the two colleges... the very same managers of the... of the college, college, let me say multi-campus college...multi-campus principal together with the principals of the college. They also need to give support because money has been spent to go and...and, you know witness this so... we have...the information is there, but it is the support that we need from the very same people that I have mentioned, that we can see it being implemented.”

“Human resource, firstly, by human resource I mean eh...The very lecturers that will be there to guide.”

This is in line with the findings by Giva and Duma (2015:8) where it is documented that the important characteristic for successful implementation of PBL is the availability of both qualified human resources for teaching, management and administration of the programme and other resources, including good infrastructure and adequate finance. The authors further documented that these must be emphasised in a resource-constrained country. In addition to these findings, Gwee (2009:235) documented that PBL is a highly resource-intensive educational strategy that requires a large range of logistical support which include the availability of well-trained and committed tutors and support from of skilful administrators.

Inadequate Facilities

The participants indicated that they lack facilities to practice PBL fully. The facilities indicated by participants include library, books and computers. Direct quotations from the transcripts were made to confirm this:

“A library that is well equipped and that has relevant books with recent information and the library that is also having ehh...computers...”

“We need a library which is fully equipped with books which learners will refer to when they are given work...”

“If they do not have libraries! (Stresses the word library) that are big enough to accommodate students.”

“...infrastructures like the library...”

“Having enough resources like if you...you...give students a task to go and do on their own in the media centre...”

“Problem-based learning eh!Why I am saying that is because mmmhhh! It would say it needs facilities that are equipped with so that eh! Problem-based learning can be effective; it does not need eh!Like in the institution that I am ah! The classes eh!The number of students is so big neh! It so bad in that Mmmhhh! (pauses for a second) it gives a challenge to implement eh!This PBL and because it would need eh!An environment where you are sure that students would (pauses for a second) students hear effectively when you are (hitting the table with a finger) when you are facilitating. It would also require facilities that help the students to adapt easier.”

This concurs with Murphy et al. (2011:141) whose findings show that the learner in PBL needs to be supported through organising the use of equipment and technology as well as an array of clinical equipment and resources. In addition, Hung, (2008:496) establish findings that concur with the finding that it is much more challenging, therefore for individual teachers to independently design PBL problems for their classes without resources and support from administration.

Murphy et al, (2011:145) in alignment with the findings, further document that a nurse educator’s role in PBL process is to provide instructional support for the learning process and further to provide a variety of means to understand and solve problems and these include PBL triggers, online materials, debates, and discussions, as well as an array of clinical equipment and resources. In line with the findings Barge (2010:20) documented that library and technological resources provide current and comprehensive access to information and systems that enable students to achieve the institutions educational objectives.

4.4.2.2 Change of mind-set

Under this theme, two sub-themes emerged, namely staff development and student orientation.

Improved Staff Development

The participants indicated that staff development regarding PBL is very important before the implementation process could begin. To confirm this statement, direct quotations were made from the participant’s verbal statements:

“If all lecturers could understand what Problem-based learning is all about.”

“Lecturers or nurse educators that have been ehm! (Participant thinks) trained on problem-based learning so that they can implement it very well, understanding it...”

“The first factor it is the... change of mind-set for our nurse... our lecturers because (pauses for a second) it...it...the...the... actually it is... we have been doing some form of...of...of problem-based although it was not to the point, so our lecturers first need to know that when you teach the students you are teaching them as...as a collective, they are not actually, each one looking at her own or him own space of content and must see to it that...that content is achieved.”

These statements concur with Ates & Eryilmaz, (2010: 2329) whose findings are that in the overall process careful preparation and planning is needed before PBL can be implemented and it should be maintained afterwards. Moreover, tutors should not be involved in PBL cursorily until they are familiarized with their roles, the processes, and the learning environment thoroughly. In order to do this, tutors training programs should be given more importance and tutors should be trained about their responsibilities, i.e. how to write a scenario, how to assess students.

Othman & Shalaby (2014:55) establish findings that are in line with the finding of Ates and Eryilmaz (2010:2329) who documented findings emphasised the fact that extensive tutor preparations are very crucial where explanations are made to them regarding their responsibilities during PBL sessions, group dynamics, timeframes, and learning contents of each PBL package.

Improved Student orientation

The participants in this study indicated that student orientation to PBL approach is important as they are the end users of this approach. To confirm this statement direct quotations are made from the participants' verbal statements:

“The learners would be empowered), let us start at it when, when the group is new at the first phase.”

“if all lecturers could understand what Problem-based learning is all about, if they are all trained on this strategy as well as introducing it to learners.”

“It would be the...the... readiness of the students, this whole eh!A team I forgot to mention students, they are important part of the...of the... team, so the students also

should buy in into this, meaning that eh! They should be ready that this can be the time of eh! Approach that we use...”

Student preparation to the PBL approach should be properly done because that would make them ready to accept the challenges of PBL, hence they would remain motivated. Barge (2010:14) establishes findings that are congruent with this finding that through student orientation and provision of appropriate services, students get to understand the problem based educational model and through that understanding, are able to successfully engage in order to achieve the institution’s educational objectives, and in their work students maintain an institutional culture of authentic collaboration, self-motivation, peer learning and personal responsibility.

4.4.3 Perceived Benefits of PBL

In this category two themes have emerged, namely student benefits and staff benefits. These are shown in Table 4.5 below.

Table 4.5 Perceived Benefits of PBL

Themes	Category	Sub-category
4.4.3 Perceived Benefits of PBL	4.4.3.1 Student benefits	4.4.3.1.1 Ownership of learning
		4.4.3.1.2 Improves information seeking
		4.4.3.1.3 Boosts confidence and morale
		4.4.3.1.4 Improves team work
	4.4.3.2 Staff benefits	4.4.3.2.1 Reduces work load
		4.4.3.2.2 Improves staff confidence
		4.4.3.2.3 Increases reading by staff

4.4.3.1 Student benefits

The participants in this study indicated that PBL as an instructional approach has benefits for the students.

Ownership of learning

The participants indicated that in PBL students take ownership of their learning. To confirm this statement direct quotation is made from direct verbal statements:

“Learning is self-driven...”

“Students should be actively involved in their learning, actively involved in such a way that they should be... (Pauses) they should be leaders in their education.”

“...the honours lie on the student to go and look for information on their own.”

“They will come up with their own strategies on how to intervene.”

“They become aware that I am responsible for my own education and these are my strengths.”

“If we use this approach all students would actually own their education.”

“Whereby we...we... we give students a problem to sort out on their own and then they come up with a solution.”

“The learner actually is sort of in charge of the learning process, is the one who is in charge of the learning process.”

“We need people who are going to be able to solve problems on their own, not to depend on somebody else.”

This concurs with Dahms and Stentoft (2008:10) who show that PBL engages the student in learning activities by establishing ownership of the problems and the responsibility of decision making about the learning process. In addition to these findings, it is documented that to successfully solve a problem, the learner has to see the problem as their own. As a result, the learner takes responsibility of overcoming the obstacles (Hung, 2008:120). In addition to these findings, Dahms and Stentoft (2008:10) documented that a PBL approach may contribute to the students' sense of ownership, not just of their educational projects but also of their societies and the country and thus may inculcate in the student a sense of responsibility for the development of these societies as well.

Improves information seeking skills

All participants indicated that PBL improves students' information seeking skills. To confirm this statement direct quotations from the participants' verbal statements are made:

"When the students look for information it's not easy for them to forget that particular information and they learn more. The students will be more informed and then the students will know how to dig for more information."

"They...it would instil in them a sense...a sense of doing for themselves, they would not be dependent on the facilitator, they would be almost close to a level of the...of the facilitator in...in terms of knowledge."

"He is able to get information for himself, to analyse it and take decisions which will really need in the clinic...especially in the clinical practice because he will have sieved this problem-based learning in the theoretical programme and will be able to apply it because he has dugged the information for himself."

"...because, you know, information that you have searched for yourself, i...i...its more retained than..."

This concurs with Tarmizi and Bayat (2010:385) whose findings demonstrate that PBL approach encourages learners to engage with problems and to seek the knowledge needed to develop a possible solution for the main problem. In line with these findings, Dowing (2013:623) documents that need for using peers as a means of information seeking and emphasise that peer teaching keeps the students engaged, as they know they would be teaching their classmates what they are learning themselves.

In consonance with the findings above, Pagander and Read (2014:6) document that the search for information may be done individually and with emphasis on mutual learning objectives, and this provides the students with a more profound knowledge regarding the problem they are working on. In addition to the findings regarding improved information seeking skills, Rideout (2001:59) indicates that information management is important and it refers to the skills of searching, retrieving, and filing information and it allows students to gain competence in the use of computers and appraisal of large volume of information.

PBL boost confidence and morale

Three participants in this study indicated that PBL boosts students' confidence and morale. To confirm this statement direct quotations are made from the participants' verbal statements:

“We would have students that are so fulfilled in terms of their training... will allow our students are...are...are more goals oriented.”

“Their confidence will also be increased because if you go and search for something and you know that it is there in the ward, you... it boosts your...your morale and confidence.”

“Therefore, it will somehow develop them in becoming more eh!eh!eh! Enthusiastic and wanting to search for more information.”

This concurs with Dehkordi and Heydarnejaa (2008:225) whose findings show that improved learning and a heightened self-confidence is evident among PBL students as significant attributes. In line with the finding, Kaphagawani and Useh (2013: 182) have in addition suggested that students have to be given opportunities to produce different tasks to gain confidence, become perfect and learn from the mistakes they make.

Furthermore, the findings are consistent with Kaphagawani and Useh (2013: 182) who further documented that good interpersonal relationships, communication and support between staff and students create conducive environment which is essential for students' learning in clinical settings, and such behaviours reduce anxiety and foster socialisation processes, boosting confidence and self-esteem, and thus promoting learning.

In addition, Fisher and King (2013:2382) agree that students in PBL environment, especially when exposed to simulation, have increased levels of confidence due to their ability to repeat skills during simulation.

PBL improves team work

All participants indicated that PBL improves team work amongst the groups of students. To confirm this statement direct quotations are made from the participants' verbal statements:

“...encourages eh! Relationship skills because they are interacting, they are working as groups.”

“so our lecturers first need to know that when you teach the students you are teaching them as...as a collective, they are not actually, each one looking at her own or him own space of content and must see to it that...that content is achieved.”

“With this approach you are not be dealing with the individuals, you are always dealing with the group of students where you can group them into small groups and then there is more team work because people are working together.”

Notari, Baumgartner and Herzog (2013:132) document similar findings that in problem-based learning students learn by collaborating with each other and they learn together to solve a problem, and complete a task. In line with the findings, it is further documented by Crawford (2010:127) that in PBL approach students work in small, collaborative groups to solve a series of problems that are presented in the context which students are likely to encounter.

In addition, Tarmizi and Bayat (2010:386) also document that everyone in the group is working to achieve a mutual goal, and any reward or praise is shared. The collaboration provides an avenue for individuals to indicate or test their abilities without fear of failure or criticism, and on the other hand they recommend some hints, and encourage each other for improving performance without judgment.

4.4.3.2 Staff benefits

The participants in this study indicated that PBL as an instructional approach has benefits for the staff as well.

Reduces work load

All participants indicated that problem-based learning reduces the work load of the facilitators. Confirmation of such views is perceptible in the following submissions, which are actual statements made by the research participants:

“Nurse Educators will be... that they will have (participant takes a deep breath) ample time as compared to what is currently done let eh! Educators don’t have time, most of their time they are preparing for lessons...lessons. For the lecturer; he won’t be sitting or standing in front of the learners’ hhh!(Participant breathing in) teaching (with a bold voice) or spoon-feeding them as we are doing now.”

“... give the lecturers and a more... less...less work, less work and more determination because they would really be... bebe... only looking at monitoring and evaluation of the students.”

“It will also give time to the... eh! Lecturer, time to concentrate more on the learner’s problem.”

“For lecturers also there... it will really reduce the... the workload and there... the issue of being in class from the morning and you know, yah! I think it will be reduced

because giving them a task and then they go and do that task on their own. It reduces your work time as a lecturer to... to be in class."

This concurs with Dahms and Stentoft (2008:5) findings that drawing upon the students to teach in a peer teaching scheme may reduce the workload on staff dealing with large numbers of students, and also the time spent on lecturing and marking of examination papers may be reduced considerably leading to more efficient use of staff resources.

PBL improves staff confidence

Participant 08 indicated that PBL improves staff confidence. Confirmation of this statement was done by quoting the participants' direct verbal statements:

"Meaning is able to put a cont...cont... to contribute and say this if there is something more that could have been missed out, so they are always working in this environment that they are always together and it boosts the moral of the lecturers."

In line with the findings, Hung (2008:125) indicates that PBL boosts the morale of the tutors thus promoting effective tutoring and for expert tutors, the guide can help them improve their tutorial skills. In addition to the findings, in a study conducted by Rideout (2001:37) regarding faculty perception of PBL, it is indicated that the tutor's morale was boosted because their experience with PBL was positive in the sense that they had opportunity to interact on more personal level with learners and a feeling of satisfaction was increased.

PBL increases reading by staff

Participant 04 indicated that PBL increases reading on the part of the educators and facilitators. To confirm this statement direct quotation was derived from the participant's verbal statement:

"Educators will always try to be ahead of students that they have, have more knowledge, read further, and seek for eh! Eh! New information, search for changes in, you know, for example, management of conditions make sure that they are abreast on..."

The findings are congruent with Rideout (2001:247) who documented that the staff should be role models, demonstrate strong clinical skills and judgment, assume responsibility for their own actions, and have breadth of knowledge in nursing. Their job is to externalise the largely internal knowledge and thought processes underlying practice and facilitate the acquisition of depth and breadth in subject knowledge.

4.4.4 Factors for successful PBL implementation

In this category, three themes have emerged, namely infrastructure, staffing and managerial commitment. These are shown in Table 4.6

Table 4.6: Factors for successful PBL implementation

Theme	Category	Sub-category
4.4.4 Factors for successful PBL implementation	4.4.4.1 Improved Infrastructure	4.4.4.1.1 Adequate Library
		4.4.4.1.2.2 Adequate computer laboratory with internet services
	4.4.4.2 Increased Staff	4.4.4.2.1 Continuous training and empowerment of staff
	4.4.4.3 Commitment of College Leadership	4.4.4.3.1 Requesting funds from Provincial Department of Health (DoH)

4.4.4.1 Improved Infrastructure

Participants indicated that improved infrastructure would enhance successful implementation of problem-based learning.

Adequate Library

Although participants indicated earlier that a library is one of the challenges for implementing PBL, they also indicated the library as a success factor for PBL implementation that allows effective learning of students. To confirm this statement direct quotations were derived from the participants:

“A library that is well equipped and that has relevant books with recent information and the library that is also having ehh! Computers...”

“We need library which is fully equipped with books which learners will refer to when they are given work...”

The findings concur with Rideout (2001:275) that while a well-resourced and staffed library is a necessity in any educational setting, use of the problem-based, self-directed, and small group learning approach adds some extra qualities and attributes to the candidates receiving training through PBL methodologies.

Adequate computer laboratory with internet services

All participants indicated that PBL approach needs computer laboratory with internet services to allow effective learning of students. To confirm this statement direct quotations were derived from the participants' verbal statements:

"We cannot implement problem-based learning if we don't have a computer lab, because when we give students work to go and look for information there must be a resources eh! With regard to where students will look for information especially the internet"

"Computers, which are having networks because with this strategy we need learners to eh! Search information from internet so if the institution does not have such resosh (rolling of the participant's tongue in the mouth) those resources, this strategy will just be fatal".

"It's not optimally enhancing education; don't even have the Wi Fi".

These findings concur with Giva and Duma (2015:9) finding that the availability of technological and material resources such as clinical and computer laboratories where students could access information and work on their own in the process of learning could enhance successful implementation of PBL.

In addition to the findings, it is documented in Rideout (2001:276) regarding the computer technology that most educational institutions provide computer laboratory for students, allowing access to communication tools such as e-mails and electronic conferencing, utility software such as word processing and graphics, presentations and statistical packages.

4.4.4.2 Increased Staff

The participants in this study have indicated that increased staff is needed for successful implementation of problem-based learning. To confirm this statement, direct quotations were made from the percipients' verbal statements:

Continuous training and empowerment of staff

All participants indicated that continuous and empowerment of staff is important because they will remain empowered.

"Lecturers actually make the face of the... eh!eh! the...the...the education system here at the college, they are actually the face, so if they are not well capacitated about

the method, then there is no point that we think of implementing it... development generally of educators here, either coming from personally or even from the system itself, because this PBL needs you as an educator to be an expert in what you will be doing, so if you are not an expert and you are supposed to facilitate it, it will not be successful, it just going to bring in conflict between students and educators”.

“Even the staff that is in the library should be in a position also to contribute towards PBL”

In line with the findings, it is documented in Bouhuijs (2011:22) that workshops and seminars also provide a platform to shape new behaviour to provide teachers with a standard of performance for a teacher in PBL. Continued support process is vital when a transition is taking place. In additions, Bouhuijs, (2011:22-23) further documented that a training of several days, and continued monitoring and support for teachers are part and parcel of successful implementation of PBL.

4.4.4.3. Commitment of College Leadership

Participants in this study indicated that commitment from the management is needed to make PBL possible for implementation.

Requesting funds from the Department of health (DoH)

Some participants in this study indicated that provision of funds by the department of health would enhance a success in the implementation of this approach. To confirm this direct quotation were made from the participants’ verbal statements:

“Let me say the way that... (Pausing) we are taught PBL, how we should implement it, it doesn’t take a facilitator only to facilitate PBL, it has to take the management of the institution, eh!in to say at what point should PBL be introduced...”

“Okay! May I just say something? Okay! We... we... Yaahh! We... just wanted to emphasise the bad of the budgetary constraints because as a team that came... the recent... the last team that came from Canada, we would really have let to... to see this being implemented”.

“Economic factors then I would...I would broaden it as to what I mean the government of the day should be (he pauses for a while), should be in a position to know, the financial ah! The financial logistics that would come with the implementation of PBL by that amhhh!For PBL to be effective it would also sheet on

the economic factors. The economics factors being okay! What amount of pie do we allocate to these institutions that are...that are giving a primary eh! (Swallowing saliva) eh! Problem-based learning.

In line with the findings Giva and Duma (2015:9) findings support these findings in that even in resource-constrained institutions, the college management could source financial assistance and support from different organisations, including the Provincial Health Ministry. This is influenced by the fact that the college budgetary processes are controlled by the ministry of health.

In addition to the findings, Rideout (2001:273) documented that sufficient funding for an operating budget is a requirement for a well-implemented PBL approach. In her findings Rideout (2001: 273) further aligns the findings with the above findings that various teaching and clinical supplies need to be purchased, state-of-the-art diagnostic equipment should be available so that students learn by using the institutional equipment that they could be using in the future.

4.5 SUMMARY

In this chapter the discussions were done based on the findings, supported by quotations from the participants and the comparison with relevant literature. The results reflected positive attributes, challenges, benefits and factors for success for PBL implementation at a training institute in the North West Province in South Africa. In Chapter 5, these findings, limitations and recommendations for nursing education, nursing practice and further nursing research are discussed.

CHAPTER 5

SUMMARY OF FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter, the summary of findings, conclusions and limitations are discussed and recommendations for nursing education, research as well as nursing practice are also indicated. The themes, categories and sub-categories are also used to frame the discussions.

5.2 PROBLEM STATEMENT

Nurse educators in a nursing college of the North West Province attended several workshops and training on Problem-Based Learning (PBL) since 1994, but they are still utilising traditional lecturer-centred methods. This is despite the global and national calls for Higher Education Institutions and nursing institutions to move from teacher-centred to learner-centred learning. In addition, the Provincial Department of Health in collaboration with North-West University have taken an effort to empower the nurse educators about PBL at international workshops (McMaster University in particular) since 2009 to 2014 and even conducted local workshops regarding this approach. Regardless of these efforts, the nursing college is still utilising traditional method, namely lecture. This encouraged the researcher to examine and determine the nurse educators' perceptions of PBL in preparation for curriculum implementation and review.

5.3 PURPOSE OF THE STUDY

The purpose of the study was to describe and explore the perceptions of nurse educators regarding implementation of PBL as well as to make recommendations for to be for nursing education and practice in the nursing college based on PBL philosophical and pedagogical constructs.

5.4 THE RESEARCH QUESTIONS

The guiding questions that were posed and negotiated with the participants during the semi-structured interviews included the following:

- What are the perceptions of nurse educators regarding problem-based learning (PBL) in nursing education?
- How best could the PBL approach be implemented in the nursing curriculum in the nursing college in North West Province?

In pursuit of answers to these research questions, the nurse educators were requested to:

- Explain their perceptions on PBL in nursing education and
- Describe their perceptions on how best the PBL approach could be implemented in nursing education for the nursing college in North West Province.

5.5 RESEARCH DESIGN

The importance of capturing the perceptions of nurse educators motivated the utilization of qualitative design. In this study, qualitative design was very helpful in producing a holistic perception, subjective and rich understanding of the situation in the context that may occur. A qualitative, explorative, descriptive and contextual approach was used. This approach was best suited, therefore, to determine the participants' perceptions regarding the phenomenon of Problem-Based Learning (PBL).

5.5.1 Sampling

A purposive sampling (Burns, Groove and Gray, 2013:37) was used wherein nurse educators who were exposed to PBL were recruited to participate. Nurse educators who met the inclusion criteria of the study and willing to participate voluntarily were interviewed.

5.5.2 Data collection

The researcher collected data and was personally involved in interviewing, observing, perceiving, and reflecting, attaining meaning from the research participants. Semi-structured interviews were conducted between the researcher and the participants. The participants were encouraged to add on information or to clarify certain aspects. Probing increased detailed exploration (Brink, Van Der Walt & Van Rensburg, 2011:158). Interviews ended when participants believed that they had exhausted the descriptions.

5.5.3 Data analysis

Data analysis was conducted by the researcher and an expert in qualitative research who holds PhD qualifications. In this study, Tesch's method of open coding was utilised to analyse data. Identification of categories was done first where similar codes and themes were grouped. The reporting utilised includes quotations from the participants that illustrate categories.

5.5.4 Literature review

An integrated literature review was important because it elucidated problem-based learning and thus clarified the concept for the discipline of nursing and other professional disciplines in which problem-based learning is used. In this study literature was reviewed both before and after data collection.

Two primary questions guided this review: (1) how is problem-based learning described in the allied health literature between 2008 and 2016, and (2) what new knowledge or information related to problem-based learning has emerged in the literature between 2008 and 2016. This assisted in comparing findings from the study with the literature to determine current knowledge of PBL.

5.5.5 Trustworthiness

Trustworthiness in this study was ensured by ensuring truth value (credibility) through prolonged engagement with the participants. The aim was to build a trusting relationship with the participants to ease nurse educators during the interviews. Literature control was done because it aided in the validation process.

5.5.6 Ethical considerations

Written permission to conduct a study was obtained from the North West University's Ethics Committee, North West Department of Health, multi-campus principal and campus heads of the two campuses. Participants information sheet and consent form were received from the participants who volunteered to participate, and participants were allowed to withdraw from the study at any time if they wished to do so.

No coercion was used on participants to participate in the study. The researcher ensured that the participant understood the research topic. The participants were protected from harm and discomfort as there were no invasive procedures that were utilised. Privacy, confidentiality and anonymity were ensured.

5.6 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In this section, the themes, categories and sub-categories of the findings were selected according to connectedness are discussed. Conclusions are made from the findings, the literature review and field notes.

5.6.1 THEME 1: POSITIVE ATTRIBUTES OF PBL

5.6.1.1 CATEGORY 1: PBL IMPROVES KNOWLEDGE SKILLS

Sub-category 1: PBL improves critical thinking

Finding

In this study, all nurse educators indicated that PBL enhances critical thinking skills.

Conclusion

All participants perceived PBL as necessary for nursing education because of its popularity in enhancing knowledge skills. This is influenced greatly by the fact that most nurse educators have attended summer institute on PBL in McMaster University who are champions and experts in PBL. Therefore, a change in the way teachers teach, grounded in an understanding of how students learn, merits the consideration.

Recommendation

In curriculum implementation and review, the nurse educators require consideration of PBL in an attempt to move away from teacher-centred to learner-centred teaching and learning modalities, including PBL. This could be done in collaboration with and guidance from the affiliated university that is using PBL pedagogy for the pre-registration programme. By extension, PBL must be the pedagogical base in the curriculum and not just a part of a didactic curriculum.

Sub-category 2: PBL improves problem-solving skills

Finding

When educators are exposed to PBL they appreciate that PBL is also beneficial to students as it improves problem-solving skills in clinical settings.

Conclusion

In this approach, specific skills are developed, which encompass the ability to think critically, analyse and solve complex and real-world problems.

Recommendation

PBL needs to be initiated, using it as a teaching-learning strategy in a study unit or a module especially in the clinical setting. Nursing practice has a lot of health problems that could be used as a stimulus for learning.

Sub-category 3: PBL promotes independence in learning

Finding

When educators are exposed to PBL they recognise that PBL is beneficial to students in that they feel emancipated to engage in learning activities in both theoretical and practical settings.

Conclusion

In PBL approach, there is acquisition of new knowledge through self-directedness and ability to take initiative in clinical reasoning in clinical environment.

Recommendation

The PBL approach needs to be implemented as it provides a way of allowing correlation of theory and practice. Learning occurs through reflection of learned content in class and then getting this reflection applied in clinical settings.

Sub-category 4: PBL motivates students

Findings

In this study all nurse educators indicated that PBL motivates nursing students.

Conclusion

In PBL both intrinsic and extrinsic motivation prevail as the need to solve problem scenarios in class and case study problems in clinical environments are manifest for students to practically deal with.

Recommendation

Introduction of the PBL strategy is critically important as this enhances research capabilities among students. It also encourages social adaption and development of social skills in group settings.

5.6.2 THEME 2: PERCEIVED CHALLENGES OF PBL

5.6.2.1 CATEGORY1: INADEQUATE RESOURCES

Sub-category 1: Inadequate Human Resource

Finding

In this study, all nurse educators indicated that PBL needs human resources to be successfully implemented.

Conclusion

PBL approach is resource-intensive, so it needs more facilitators and librarians because each of these facets has major positive impact in making the implementation process of this strategy a success.

Recommendations

In PBL implementation processes, the institution needs to recruit more facilitators who would be trained as facilitators of this process. More librarians are needed to assist students with the information in undertaking research in library.

Sub-category 2: Inadequate Facilities

Findings

All nurse educators indicated that implementation of PBL is difficult without facilities.

Conclusion

The nursing college needs to be restructured in a way that ensures that it should have enough classrooms to divide the nursing students into manageable groups. The library should have enough space to accommodate large numbers of students as the college is characterised by a huge intake of students. Installation of audio materials is also vital to allow effective learning.

Recommendation

Proposal by the college management to the Provincial Department of Health to assist with funds to restructure the college facilities would enable the implementation of PBL approach.

5.6.2.2 CATEGORY 2: CHANGE OF MIND-SET

Sub-category 1: Improved staff development

Finding

The nurse educators in this study indicated and emphasised the need for empowering all facilitators on Problem-Based Learning as it is viewed nationally and internationally as a valuable strategy for continued nursing education.

Conclusion

All nurse educators at the nursing college in this study are still practising traditional lecturer-centred methods of teaching. The nurse educators indicated that they still feel overwhelmed by work as they continue to seek information on behalf of the students rather than allowing students to seek information for themselves.

Recommendation

Staff development programmes are crucial for the nurse educators. Few nurse educators have been empowered on PBL; their number does not guarantee the successful implementation of the process. The remaining facilitators who have not undergone the workshops on this strategy must be sent to relevant institutions, and in tandem, the college management could collaborate with the PBL mentors to come to the college to conduct the training. All other facilitators who have been trained on this strategy could attend an induction on PBL as an ongoing process.

Sub-category 2: Improved Student orientation

Finding

All nurse educators indicated that PBL should not be known by the facilitators alone, but students as well need to be orientated on it.

Conclusion

The orientation of students to this strategy is important as this could avoid negative perceptions by students if they are not well inducted. Such induction eradicates negative perceptions of a didactic delivery method that the students do not take full ownership of.

Recommendation

Orientation of PBL approach should be started at first level of the nursing education studies in the college. The college management and the Provincial Department of Health should engage with the PBL mentors from the University of Affiliation to provide induction of this strategy at the lower level so that students cascade the process in their entire learning course.

5.6.3 THEME 3: PERCEIVED BENEFITS OF PBL

5.6.3.1 CATEGORY 1: STUDENTS BENEFITS

Sub-category 1: PBL increases ownership of learning

Finding

In the study, the nurse educators indicated that PBL would benefit the students in the sense that they would own their learning and have a sense of self-directedness.

Conclusion

The PBL approach is well known with its attributes of enhancing self-directed learning amongst nursing students. Students would develop a sense constant and continuous knowledge search aided by technological advancements.

Recommendation

PBL needs to be initiated so that students have control over their learning process, directed by problem scenarios encountered in real life which serve as stimulus to learning. The control over learning could be aided by a well-designed PBL curriculum which provides more direction related to the specific objectives of the course content. The sense of ownership would be assisted by continuous mentoring from the PBL trained facilitators.

Sub-category 2: PBL improves information seeking skills

Finding

In the study, nurse educators perceived Problem-Based Learning as a powerful approach that encourages engagement with information-seeking and focused research undertaken by the students.

Conclusion

Students who use learner-centred learning approaches are more conscious about their learning situation. They continuously engage in different methods of obtaining information relevant to the course content.

Recommendation

The implementation of PBL in the institution is important as it would assist extended research and information-seeking by students using computers-based learning materials and, more recently, the use of smart phones during self-study which ought to be emphasised.

Sub-category 2: PBL boost confidence and morale

Finding

All nurse educators indicated that PBL boosts students' confidence and morale in a learning environment. Results from the interviews indicated that confidence and morale are enhanced when students are in study groups.

Conclusion

Problem-Based Learning is one of the instructional methods that is often used to help students enhance interactions and higher-order thinking. This strategy is useful in enhancing motivation and meta-cognition, apart from enhancing learners' performance.

Recommendation

PBL should be implemented at the nursing institution. This approach would generate a community of determined learners who would show competency in both theoretical and practical components of the course. The learners would be ready to face challenges when they are in contact with the real-life situation.

Sub-category 3: PBL improves team work

Finding

In this study all nurse educators perceived PBL as an approach that improves team work among students.

Conclusion

PBL is a teaching method that provides social interaction, feedback and problem-solving opportunities as students strive to explore and solve real-life medical problems and

developing critical thinking. It empowers students to develop a variety of diverse management skills in multicultural settings and contexts. Learners are able to adapt to the dynamics of the group during learning.

Recommendation

PBL should be initiated and strengthened by the institutional management where continuous support is deemed necessary to alleviate tensions that students may encounter when they are engaged at discussion level.

5.6.3.2 CATEGORY 2: STAFF BENEFITS

Sub-category 1: PBL reduces staff workload

Finding

All nurse educators indicated that PBL reduces work load from facilitators.

Conclusion

PBL approach is a teaching strategy that drives more work towards students, and facilitators are merely act as coaches or mentors in the learning process as they are not expected to stand in front of the students and regurgitate information to them.

Recommendation

The PBL approach is the most relevant instructional approach that needs to be implemented and practised by the management and its stakeholders in collaboration with the experts of this approach. The facilitators prepare the content and provide more work to the students to work in groups.

Sub-category 2: PBL improves staff confidence morale

Finding

All nurse educators indicated that PBL approach would improve staff confidence once this approach is implemented.

Conclusion

The implementation of PBL approach would create a sense of conquering a challenge that has been hindering and retarding the new development in nursing education. The facilitators would remain motivated.

Recommendation

The Provincial Department of Health in partnership with the management, need to ensure proper implementation of this approach and confirm collaboration with the university of affiliation to provide continuous support for the facilitators in practicing the approach. This would have positive impact in nursing education in the college.

Sub-category 3: PBL increases reading by staff

Finding

All nurse educators indicated that PBL increases reading by staff or facilitators.

Conclusion

PBL approach enhances more reading of the content and thorough preparation of specific tasks by the facilitators. As they act as mentors, they need to master the content that they present to the students. Strong support for the students is the goal of this valuable approach, therefore, they need to be experts in the specific subject before they could expect similar expertise from the students in training.

Recommendation

Continuous mentoring and workshops or training of facilitators on PBL in collaboration the experts are bound to reinforce the spirit of hard work with the aim of assisting and supporting students in their learning environment. This prepares the staff to assume their roles as mentors.

5.6.4 THEME 4: FACTORS FOR SUCCESSFUL IMPLEMENTATION

5.6.4.1 CATEGORY 1: ADEQUATE INFRASTRUCTURE

Sub-category 1: Adequate Library

Finding

All nurse educators in this study indicated that PBL is possible in an environment that has full support with relevant infrastructure which include adequate library with enough recent books, adequate computer laboratory with internet services to enhance information search by both facilitators and the students.

Conclusion

PBL environment is really not possible in poor infrastructure where library is small, but yet the intake of students is very high. There should be erection of computer laboratory with full internet services to facilitate smooth learning process of students.

Recommendations

The college management together with the Provincial Department of Health have the responsibility to upgrade the existing college infrastructure to an environment that will enhance positive learning abilities. The library can be operated on times which will accommodate both campus and off campus learners.

Sub-category 2: Adequate computer laboratory with internet services

Finding

All nurse educators indicated that PBL implementation warrants the erection of adequate computer laboratory with the internet services fully installed to enhance proper information seeking.

Conclusion

Problem-based learning requires that students who are open-minded, who would be able to visit different search engines when they are solving problem, and this would broaden their minds and therefore their critical thinking skills are increased.

Recommendation

It is proper and relevant for the management of the institution and its stakeholders to encourage the erection of new computer laboratory with a full package of internet services to allow the PBL process reach its main objectives. The college management can alternatively suggest for collaboration with some companies, such as MTN or Vodacom companies to donate computers for the institution.

5.6.4.2 CATEGORY 2: INCREASEDSTAFF

Sub-category 1: Continuous training and empowerment of staff

Finding

It is indicated that for PBL approach to be successful regular training to staff is very much important. This includes the academic staff, the administrative staff as well as the library staff.

Conclusion

PBL implementation process requires regular training and mentoring of staff on regular basis so as to maintain the standard of teaching in the college and also to improve the outcomes from the students.

Recommendations

The regular training of staff should be an on-going process and this could be achieved through collaboration of local experts of PBL. The college management should take an effort to engage relevant stakeholders to come a collective so as to make the process a success.

CATEGORY 3: COMMITMENT OF COLLEGE LEADERSHIP

Sub-category 1: Requesting funds from the Provincial Department of Health (PDoH)

Finding

It is indicated in the study by some participants that the government need to provide funds to enable the successful implementation of PBL approach in the college.

Conclusion

Problem-based learning is an instructional approach that requires commitment of the institutional management and its stakeholders to embrace its success. Since the institution is under the control of the public sector, motivation has to be done to request funds so as to ensure proper implementation process.

Recommendation

The institution management alone cannot provide funds for the implementation process of PBL approach; therefore, the Provincial Department of Health has a huge responsibility to ensure implementation of this approach in the college since their mandate is to train large numbers of nurses so as to overcome shortage of skilled nurse professionals.

5.7 LIMITATIONS OF THE STUDY

The limitations of the study as experienced by the researcher are discussed in the following manner:

In this study the researcher happened to be a part of the facilitation group of the nursing college. The research focused only on nurse educators who have been trained on PBL. Some nurse educators who qualified under the inclusion criteria showed resistance in participating

in the study. At the time of scheduled interviews, the participants were engaged in marking of examination papers.

5.8 RECOMMENDATIONS FOR NURSING EDUCATION, RESEARCH AND NURSING PRACTICE

Based on the findings, conclusions and literature, recommendations for nursing education, research and nursing practice are provided in this section.

5.8.1 Recommendations for nursing education.

The purpose of recommendations for nursing is to assist the nurse educators to create fruitful learning environment that will be beneficial to both facilitators and students.

The recommendations for nursing education are provided below:

- Following the findings of this study, the nursing college needs to design a curriculum that moves from the traditional-based pedagogy to a learner-centred pedagogy which addresses the requirement of nursing education as stipulated by the nursing education authorities, namely the South African Nursing Council (SANC) and the South African Qualification Framework (SAQA).
- The findings of the study should also assist in the creation of continuous mentoring and support programmes to all nurse educators, ensuring regular practice of the approach. This will result when the adequate human resource and facilities are implemented.
- Students' engagement with the approach is very crucial. This could be done through induction of the PBL students into this approach from their first level of study, because this will create students' ownership of learning, improve their information seeking skills.
- The results assist in collaboration of nursing education in both nursing college and the clinical settings where learner develops critical thinking skills.
- Sustained collaboration with the local experts in PBL approach, namely the North West University (Mafikeng Campus) would be ensured. This will ensure continuous training and empowerment staff.
- The findings also would help the college leadership in engaging the Provincial Department of Health to assist in funding models to upgrade the nursing institution for the PBL approach to be successful.



5.8.2 Recommendations for nursing research

Based on the findings, conclusions and literature of this study, there is a need for conducting further research related to PBL approaches after its implementation in the nursing college that was the research site in this study.

- Further research needs to be conducted on the clinical nurses/clinical nurse educators to hear how they value the importance of PBL approach.
- The nursing college students' views regarding their orientation on PBL approach in both theoretical and clinical environments needs explored.
- The effects of PBL on community service nurses after graduating from nursing college needs to be researched in order to establish the efficacy and quality of the approach in a South African context.

5.8.3 Recommendations for nursing practice

The results of this study indicate the need for proper implementation of a Problem-Based Learning approach in the nursing college investigated.

There is a need for continuous training of staff (staff development), mentoring and guidance so that these professionals become acquainted with their facilitation roles as drivers of the PBL approach. This could be achieved through collaboration of PBL experts (Centre of Excellence in PBL) within their region.

The Provincial Department of Health should take an initiative to develop clinical professional nurses substantially grounded in the PBL approach so that they attend to the learning needs and objectives of the students during their clinical placement in the areas where SANC accredited professionals are available for on-the-job-training of nursing students.

5.9 RECOMMENDATIONS FOR IMPLEMENTATION OF PBL IN NURSING COLLEGE

The following recommendations for a successful PBL approach implementation are indicated in Table 5.1

Table 5.1 Recommendations for implementation of PBL approach

COMPONENT	RECOMMENDATIONS
Curriculum review	<p>-Collaboration with local Centre of Excellence in Mafikeng on PBL approach to assist in reviewing and developing a PBL curriculum for the nursing college.</p> <p>-The review of curriculum should cater for all levels of the nursing students, i.e. it should start at 1st year level to the 4th year level so that they become acquainted with the philosophy, values and beliefs of PBL approach.</p>
Extensive training of lecturers/ staff (staff development)	<p>-Continuous workshops and regular mentoring of lecturers by PBL experts is very crucial. This could be achieved through collaborative trainings with the North-West University as they are the current users of PBL approach for nursing students.</p> <p>-The PBL trained lecturers in the institution should take an initiative to assist the other lecturers who are not yet empowered through this approach. This would strengthen the spirit of peer support among staff.</p> <p>-The Provincial Department of Health should develop a funding model for workshops and training of nurse educators as this demands funds for training.</p>
Training of clinical nursing personnel on PBL approach	<p>-There is a need for clinical nurses in clinics and hospitals where students are allocated for further training on the PBL approach so as to assist in meeting the needs and objectives of the students. This is strengthened by the fact that both education and health care sectors play a major role in shaping the undergraduate nursing student to become competent and critical thinking health care workers.</p>
Limited material resources, facilities and infrastructure	<p>-The PBL approach is resource-intensive. The management should buy in that more staff employees are hired to assist in the implementation of PBL approach. This is influenced by the fact that the Provincial Department of Health made recommendations that nursing colleges should enrol more student nurses per annum, so more staff is definitely required.</p> <p>-Furthermore, both management and the Provincial DoH need to rebuild the North West college facilities to create an environment that is aligned to the PBL strategy. This would be achieved through increasing the number of classrooms, installation of audio materials in each lecture hall, provision of audio-visual teaching aids, building computer laboratory with internet service to assist in research and information gathering by both staff and students.</p> <p>-The current library facility needs to be extended as the existing library is very small in that the space is not in proportion to the number of students in the college.</p>
Student orientation of	<p>-The management and the tutorial staff have to take the responsibility to induct the students on this approach. The induction process should include learning skills such as</p>

<p>the approach</p>	<p>problem-solving skills and critical thinking skills. It should further social skills such as communication skills, self-awareness skills and ownership skills.</p> <p>-Emphasis should also be on the formation of robust study groups as the PBL approach is characterised by learners learning in small groups. This encourages them to learn:</p> <ul style="list-style-type: none"> • Group dynamics • Cultural diversities • Time management • Peer respect and cooperation among group members. • Leadership roles. <p>Cooperative learning has been suggested as an excellent method of helping students to learn. This experience gives an opportunity to students to work together, develop the sense of teamwork and pride (Tarmizi & Bayat, 2010:386).</p>
<p>Managerial commitment</p>	<p>-The college management together with the Provincial Department of Health need to include the process of PBL implementation into their budget processes, because PBL approach is resource-intensive which implies a lot of money is required that should be spent from the point of initiation to the point of implementation.</p>

5.10 CONCLUSION

The main reason for conducting this study was to describe and explore the nurse educators' perceptions on Problem-Based Learning and to come up with strategies that enhance success in implementing the PBL approach in a nursing college in North West. In the study, the nurse educators' perceptions on PBL are indicated and the views on possibilities of implementing the strategy in the nursing college are made.

The study seeks to engender a complete transformative curriculum that ensures transition from traditional lecturer-centred methods of teaching to learner-centred methods of teaching premised on the philosophical orientations of PBL and review of the current curriculum. The response from the participants indicates clearly that the current situation merits an introduction of this strategy through curriculum review and staff empowerment.

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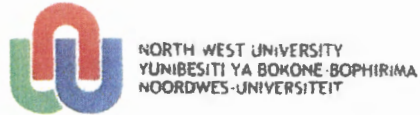
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ANNEXURE A: Ethical Approval



Private Bag X6001 Potchefstroom
South Africa 2520

Tel: (018) 299-4900
Faks: (018) 299-4910
Web: <http://www.nwu.ac.za>

Ethics Committee

Tel: +27 18 299 4849
Email: Ethics@nwu.ac.za

ETHICS APPROVAL OF PROJECT

The North-West University Research Ethics Regulatory Committee (NWU-RERC) hereby approves your project as indicated below. This implies that the NWU-RERC grants its permission that provided the special conditions specified below are met and pending any other authorisation that may be necessary the project may be initiated, using the ethics number below

Project title: Perceptions of nurse educators on problem-based learning (PBL) in nursing colleges in North West Province.

Project Leader: MA Rakhudu & Ramolebatsana

Ethics
number:

N W U - 0 0 0 7 7 - 1 5 - A 9

Approval date: 2015-05-22

Expiry date: 2020-05-21

Special conditions of the approval (if any): None

General conditions

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The project leader (principle investigator) must report in the prescribed format to the NWU-RERC
 - annually (or as otherwise requested) on the progress of the project
 - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-RERC. Would there be deviation from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-RERC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the NWU-RERC retains the right to
 - request access to any information or data at any time during the course or after completion of the project
 - withdraw or postpone approval if
 - any unethical principles or practices of the project are revealed or suspected
 - it becomes apparent that any relevant information was withheld from the NWU-RERC or that information has been false or misrepresented,
 - the required annual report and reporting of adverse events was not done timely and accurately,
 - new institutional rules, national legislation or international conventions deem it necessary

The Ethics Committee would like to remain at your service as scientist and researcher and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

Yours sincerely

Linda du
Plessis

Prof Linda du Plessis

Chair NWU Research Ethics Regulatory Committee (RERC)

Digitally signed by Linda du Plessis
DN: cn=Linda du Plessis, o=North West University, ou=Vice Rector
RERC
email=ldp@nwu.ac.za, c=ZA
Date: 2015.05.28 13:09:42Z

ANNEXURE B: Request for Permission- NW Department of Health



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
MAFIKENG CAMPUS

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Enquiry: M.D Ramolebatsana (Mr)
Tel: 018 392 0600 Ext: 0617
Cell: 073 728 1971
E-mail: nramolebatsana@nwpwg.gov.za
Ethics no.: NWU-0007-15-S9

The Director
Research and Planning Department
North West Department of Health
Provincial Head Office
MMABATHO
2735

Dear Sir/ Madam

Request for permission from the North West Department Health

With reference to the above subject, I hereby request to conduct research study on Nurse Educators of North West Multi-Campus Nursing College (Mmabatho College of Nursing and Excelsius Nursing College). I am M Cur student at the University of North West under the guidance of Dr. A.M Rakhudu (Supervisor) and Mr M. Matsipane (Co-supervisor). The permission from the North West University has already been granted to conduct the study.

The topic of my research study is "Perceptions of Nurse Educators on Problem-Based Learning (PBL) in the nursing college in North West Province. The purpose of the study is to explore and describe the nurse educators' perceptions regarding the implementation of PBL approach in nursing education.

With your permission data will be obtained by face-to-face interview and with the use of audio-tapes from the nurse educators who are eligible in the inclusion criteria at the two nursing colleges in the North West Province. The researcher will ensure that the right to privacy and confidentiality are maintained, i.e. the identity of the participants will be protected, as their names will not be mentioned during the interview sessions. The participants will not be forced into participation and should they wish to withdraw from the study, they will not face any penalty.

The researcher is committed to honour participants and no biasness will be made. The research results will be made available, should you request to have them. Should you have any queries regarding this project, I will be pleased to answer them.

I hope that my request will be taken into consideration

Thanking you in advance
Yours Sincerely

Researcher

Date: -----

ANNEXURE C: Approval from Department of Health



health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

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POLICY, PLANNING, RESEARCH, MONITORING AND EVALUATION

Name of researcher : Mr M.D Ramolebatsana
North West University

Physical Address : MABATINO COLLEGE OF NURSING
(Work/ Institution) Dr. Mberh Luthuli Drive
Mabatino, Unit 2, 2735

Subject : **Research Approval Letter- Perceptions of nurse educators on
problem based learning in nursing colleges in North West
Province.**

This letter serves to inform the Researcher that permission to undertake the above mentioned study has been granted by the North West Department of Health. The Researcher is expected to arrange in advance with the chosen facilities, and issue this letter as proof that permission has been granted by the Provincial office.

This letter of permission should be signed and a copy returned to the Department. By signing, the Researcher agrees, binds him/herself and undertakes to furnish the Department with an electronic copy of the final research report. Alternatively, the Researcher can also provide the Department with electronic summary highlighting recommendations that will assist the department in its planning to improve some of its services where possible. Through this the Researcher will not only contribute to the academic body of knowledge but also contributes towards the bettering of health care services and thus the overall health of citizens in the North West Province.

Kindest regards

Dr. FRM Reichel
Director: PPRM&E

07/07/2015
Date

Researcher



08/07/2015
Date

Healthy Living for All

ANNEXURE D: Information Sheet

RESEARCH PARTICIPANTS INFORMATION SHEET AND CONSENT FORM

PROJECT TITLE: PERCEPTIONS OF NURSE EDUACTORS ON PROBLEM-BASED LEARNING IN NURSING COLLEGE IN NORTH WEST PROVINCE.

INVITATION

You are kindly invited to participate in this research study. This information leaflet provides you with the necessary information for participation. I would like you to take a few minutes to read this information sheet before making up your mind about whether or not you would like to help in to this study.

The purpose of this study is to explore and describe the perceptions of nurse educators regarding the implementation of Problem-Based Learning in the nursing college in North West Province.

I am a Masters student at the University of North West (Mafikeng Campus) under the supervision of Dr M.A Rakhudu and Mr M.J Matsipane. The research study has been approved by the School of Agriculture, Science and Technology of the North West University.

WHAT WILL HAPPEN

In this study, your participation is voluntary. I would like you to consent to participate in this research study as I believe that you can make an important contribution to this research study. If you do not wish to participate, you do not need to do anything in response to this request. I request you to take part in the research because you are a registered professional nurse educator and I believe you can provide important information to me that may be relevant to the purpose of this study.

TIME COMMITMENT

You are expected to undergo a face-to-face interview sessions with the researcher which last for about 20 to 30 minutes and the researcher will timeously visit you if there is a need for clarity regarding data.

PARTICIPANTS' RIGHTS

You may decide to stop being a part of the research study at any time without explanation. You have the right to ask that any data you have supplied to that point be withdrawn. You have the right to refuse to answer or respond to any question that is being asked from you.

You have the right to have your questions about the procedures answered (unless answering these questions would interfere with the study's outcome). If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

BENEFITS AND RISKS

All information provided by you will be kept confidential at all times. The information provided by you will be anonymous i.e. no personal details relating to you or where you work will be recorded anywhere. The research members only will have access to the information you provided. The information provided by you will be beneficial in the sense that it will help improve the practice of teaching-learning in nursing education.

COST, REIMBURSEMENT AND COMPENSATION

Your participation in this study is voluntary. You will not receive any compensation in return for your participation.

CONFIDENTIALITY/ANONYMITY

The data we collect do not contain any personal information about you. No one will link the data you provided to the identifying information you supplied (e.g., name, address, email) The information provided by you will be beneficial in the sense that it will help improve the practice of teaching-learning in nursing education and the finding of the research will be presented at the conference and also published.

FOR FURTHER INFORMATION

If you have any questions regarding this research study, please feel free to contact the researcher or his supervisor and the co-supervisor on the following contact details:

Researcher : Mr M.D Ramolebatsana (018) 392 0600/ 073 728 1971
Supervisor : Dr M. A. Rakhudu (018) 389 2530
Co-supervisor : Mr M. Matsipane (018) 389 2364

ANNEXURE E: Consent Form

**ANNEXURE E: PATIENT CONSENT FORM
PARTICIPANT'S INFORMED CONSENT FORM**

PROJECT TITLE

PERCEPTIONS OF NURSE EDUACTORS ON PROBLEM-BASED LEARNING IN NURSING COLLEGE IN NORTH WEST PROVINCE.

PROJECT SUMMARY

By signing below, you are agreeing that: (1) you have read and understood the Participant Information Sheet, (2) questions about your participation in this study have been answered satisfactorily, (3) you are aware of the potential risks (if any), and (4) you are taking part in this research study voluntarily (without coercion).

Participant's Name (Printed)*

Participant's signature*

Date

Name of person obtaining consent (Printed)

Signature

ANNEXURE F: Interview Guide



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ANNEXURE F

SEMI-STRUCTURED RESEARCH INTERVIEW QUESTIONS.

1. What is your view regarding the phenomenon 'Problem-Based Learning'?
2. What are the factors that can contribute to the successful implementation of PBL?
3. What are the factors that may contribute to failure of implementation of this approach?
4. How can this approach change the current system of offering the programme in your institution, i.e. the current teaching-learning approach to students?
5. What do you think could be the benefits of this approach to the nurse educators as well as the learners in this institution?

ANNEXURE G: Field Notes for Nurse Educator Participants

INTERVIEW 1 (TB)

DEMOGRAPHIC NOTES

This first semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Mafikeng, North West Province on 22nd June 2015 between 16H00 and 17H00. It was conducted in a new boardroom with the door closed, but not locked as other staff members were off the college campus after work. The atmosphere in the boardroom was refreshing at room temperature. The outside temperature was around 22 to 24 degrees Celsius. The demographic conditions were suited for the interview to take place effectively with no disturbances.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent form to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the consent form that is signed by the participant to confirm the voluntary participation by the participant. The nurse educator is holding a bachelor's degree in nursing education and administration and has more than 10 years teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was in the relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand the question. The researcher reminded the participant not to mention her name and the name of the institution during the interview session. Both the researcher and the participants switched off their mobile cell phones to avoid interruption during the interview.

INTERVIEW 2 (LN)

DEMOGRAPHIC NOTES

This second semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Mafikeng, North West Province on 23rd June 2015 between 16H30 and 17H10. It was conducted in a new boardroom again with the door closed, but not locked as it was after work and no disturbances could be anticipated. The atmosphere in the boardroom allowed the interview to take place. The outside temperature was around 22 degrees Celsius as that was a winter month.

DESCRIPTIVE NOTES

A male nurse educator submitted a signed research participant information sheet and consent form previous day, 22nd June 2015 to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed immediately the consent form to confirm his voluntary participation in the study. The nurse educator holds a diploma in nursing education and has 2 years teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was in the relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that few questions will be asked during the interview and was asked to ask for clarity if he does not understand any of the questions. The researcher reminded the participant not to mention his name and the institution's name during the interview session. Both the researcher and the participants switched off their mobile cell phones to avoid interruption during the interview.

INTERVIEW 3 (JM)

DEMOGRAPHIC NOTES

This third semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Mafikeng, North West Province on 23rd June 2015 between 16H30 and 17H10. It was conducted in the participant own office with the door closed and locked with the notice put on the door. The outside temperature was around 22 degrees Celsius as that was a winter month.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent a week ago, to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed receipt of the consent form that was signed by the participant to confirm her voluntary participation in the study. The nurse educator holds a Bachelor's degree in nursing education and administration and has more than 10 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was in the relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that few questions will be asked during the interview and was asked to ask for clarity if he does not understand any of the questions. The researcher reminded the participant not to mention his name and the institution's name during the interview session. He further thanked the participant to create time for interview session. The message which reflected the following words "Interview session in progress please! Do not disturb" was put on the door outside, because other staff members were still around college premises. The atmosphere in the office allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone as well as the office telephone line.

INTERVIEW 4 (SM)

DEMOGRAPHIC NOTES

This fourth semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Mafikeng, North West Province on 30th June 2015 between 17H00 and 18H00. It was conducted in the participant own office with the door closed and locked with. The outside temperature was around 23 Degrees Celsius as that was a winter month.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent a week ago, to confirm participation in the research interview titled "Perceptions of

Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed receipt of the consent form that was signed by the participant to confirm her voluntary participation in the study. The nurse educator holds a Bachelor's degree in nursing education and has more than 10 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was in the relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that few questions will be asked during the interview and was asked to ask for clarity if he does not understand any of the questions. The researcher reminded the participant not to mention his name and the institution's name during the interview session. He further thanked the participant to create time for interview session. The message which reflected the following words "Interview session in progress please!" Do not disturb" was put on the door outside, because other staff members were still around the college premises. The atmosphere in the office allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone as well as the office telephone line.

INTERVIEW 5 (NM)

DEMOGRAPHIC NOTES

This fifth semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Mafikeng, North West Province on 23rd July 2015 between 08H00 and 08H45. It was conducted in the participant own office with the door closed and locked with. The outside temperature was around 19 Degrees Celsius as that was a winter month.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent a week ago, to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the consent form to confirm her voluntary participation in the study. The nurse educator has more than 5 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant, just like other previous participants, was in the relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that few questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. The researcher reminded the participant not to mention his name and the institution's name during the interview session. He further thanked the participant to create time for interview session. The message which reflected the following words "Interview session in progress. Please! Do not disturb" was put on the door outside, because it was the time of knocking in by other staff members for that day. The atmosphere in the office allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone as well as the office telephone line.

INTERVIEW 6 (NS)

DEMOGRAPHIC NOTES

This sixth semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Klerksdorp, North West Province on 03rd August 2015 between 08H00 and 08H30. It was conducted in the participant own office with the door closed and locked. The outside temperature was around 19 Degrees Celsius as that was a winter month. The office of the participant is not far from the tutorial classes as the learner's noises could reflect on the audiotape.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent on the day of interview to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the concerned form immediately on receipt to confirm her voluntary participation in the study. The nurse educator holds Master's degree in Nursing Science and is part of the management of the college, and has more than 10 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant, just like other previous participants, was in the relaxed mood and was ready for the interview as she kept on saying "I am ready sir, I am all yours. The participants said this words before the interview could be recorded. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. The researcher reminded the participant not to mention her name and the institution's name during the interview session. He further thanked the participant to create time for interview session. The atmosphere in the office allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone and she requested her personal assistant not to allow any calls to her office because she had an interview in the office.

INTERVIEW 7 (SB)

DEMOGRAPHIC NOTES

This seventh semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Klerksdorp, North West Province on 03rd August 2015 between 08H45 and 09H10. It was conducted in the participant own office with the door closed. The outside temperature was around 19 degrees Celsius as that was a winter month.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent on the day of interview to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the concerned form immediately on receipt to confirm her voluntary participation in the study. The nurse educator has more than 3 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant, just like other previous participants, was in the relaxed mood and was ready for the interview. The participants said this words before the interview could be recorded. The researcher explained the topic to the participant before asking the questions.

The researcher explained to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. The researcher reminded the participant not to mention her name and the institution's name during the interview session. He further thanked the participant to create time for interview session. The atmosphere in the office allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone. The notice was put on her office door that reflected "Interview in progress. Please!" Do not disturb. Other staff members were informed of the interview that is conducted in their institution.

INTERVIEW 8(ER)

DEMOGRAPHIC NOTES

This eighth semi-structured individual, face-to-face interview with a nurse educator was conducted at the nursing college in Klerksdorp, North West Province on 03rd August 2015 between 09H25 and 09H40. It was conducted in the participant own office with the door closed. The outside temperature was around 19 degrees Celsius as that was a winter month.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent on the day of interview to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the concerned form immediately on receipt to confirm her voluntary participation in the study. The nurse educator has more than 3 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was also in the positive mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. The researcher reminded the participant not to mention her name and the institution's name during the interview session. He further thanked the participant to schedule time for this interview session. The atmosphere in the office allowed the interview to take place because the researcher switched

his cell phone off and requested the participant to switch off her cell phone. The notice was put on her office door that reflected "Interview in progress. Please!" Do not disturb. Other staff members were informed of the interview that is conducted in their institution. Despite the notice that was put on the door, one staff member just got inside the participant's office without being given a permission to come in and that made the participant to pause for few minutes, but she continued with her story.

INTERVIEW 9 (ML)

DEMOGRAPHIC NOTES

This ninth semi-structured individual, face-to-face interview with a nurse educator was conducted in Mafikeng, North West Province on 05th August 2015 between 14H00 and 14H30. It was conducted in the participant own office with the door closed. The outside temperature was around 23 degrees Celsius as that was approaching summer season.

DESCRIPTIVE NOTES

A male nurse educator submitted a signed research participant information sheet and consent on the day of interview to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the concerned form immediately on receipt to confirm his voluntary participation in the study. The nurse educator holds Master's degree in Nursing Science with more than 10 years' teaching experience in the institution, and he is a part of the college management team.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was also in a relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if he does not understand any of these questions. The researcher reminded the participant not to mention his name and the institution's name during the interview session. He further thanked the participant to schedule time for this interview session. The atmosphere in the office allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone. The participant

could not switch his cell phones off, but he had put them inside the cupboard. The notice was put on his office door that reflected "Interview in progress. Please! Do not disturb.

INTERVIEW 10 (KM)

DEMOGRAPHIC NOTES

This tenth semi-structured individual, face-to-face interview with a nurse educator was conducted in Mafikeng, North West Province on 17th August 2015 between 19H00 and 20H00. It was conducted at the participant own private house with the door closed. There could not be disturbances because she was alone in the house. The outside temperature was around 25 degrees Celsius as that was approaching summer season.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent in June month to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. Due to other responsibilities the interview could not take place on the very same month. The researcher also signed the concerned form immediately on receipt to confirm her voluntary participation in the study. The nurse educator holds diploma in nursing education and has 2 years' teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was also in a relaxed mood and was ready for the interview. The researcher explained the topic to the participant before asking the questions. The researcher explained to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. The researcher reminded the participant not to mention her name and the institution's name during the interview session. He further thanked the participant to schedule time for this interview session. The atmosphere in her allowed the interview to take place because the researcher switched his cell phone off and requested the participant to switch off her cell phone and she agreed.

INTERVIEW 11

DEMOGRAPHIC NOTES

This 11th semi-structured individual, face-to-face interview with a nurse educator was conducted in Mafikeng, North West Province on 20th of August 2015 between 09H00 and 10H00. It was conducted in the participant's' own office. The outside temperature was around 25 degrees Celsius as that was approaching summer season.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent on the 17th of August month to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the concerned form immediately on receipt to confirm her voluntary participation in the study. The nurse educator holds a Bachelor's degree in nursing education and has more than 6 years teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was also at ease and was ready for the interview. The topic was explained to her before asking the questions. Explanation was made to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. She was reminded not to mention her name and the institution's name during the interview session. He further thanked the participant to schedule time for this interview session. The atmosphere in her office was conducive and allowed the interview to take place. Researcher's cell phone was switched off and requested the participant to switch off both her cell phone and the office telephone and she agreed.

INTERVIEW 12

DEMOGRAPHIC NOTES

This tenth semi-structured individual, face-to-face interview with a nurse educator was conducted in Mafikeng, North West Province on 20th of August 2015 between 11H15 and 12H00. It was conducted in the participant's' own office. The outside temperature was around 25 degrees Celsius as that was approaching summer season.

DESCRIPTIVE NOTES

A female nurse educator submitted a signed research participant information sheet and consent on the 20th of August month to confirm participation in the research interview titled "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province. The researcher also signed the concerned form immediately on receipt to confirm her voluntary participation in the study. The nurse educator holds a Bachelor's degree in nursing education and has more than 12 years teaching experience in the institution.

REFLECTIVE NOTES

The researcher introduced himself and greeted the participants during the start of the interview. The participant was also in a relaxed mood and was ready for the interview. The topic was explained to her before asking the questions. Explanation was made to the participant that 5 questions will be asked during the interview and was asked to ask for clarity if she does not understand any of these questions. She was reminded not to mention her name and the institution's name during the interview session. He further thanked the participant to schedule time for this interview session. The atmosphere in her office was conducive and allowed the interview to take place. Researcher's cell phone was switched off and requested the participant to switch off both her cell phone and the office telephone and she cooperated.

ANNEXURE H: Interview Transcripts

Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province

INTERVIEW WITH PARTICIPANT TB

I: = Interviewer

P: = Participant

I: Good evening mam!

P: Evening sir!

I: How are you? (With a deep sigh)

P: Fine and you?

I: Oryt! Let me just welcome you in this interview session, I am Mr Ramolebatsana (interviewer coughing). As I indicated in the...Ehh! Research participant information sheet and you concerned to take part in study.

P: Yes!

I: I will be asking few questions, please if you need to ask some questions don't hesitate to do so.

P: Mmmhhh!

I: The questions will base on the title that says "Perceptions of Nurse Educators on Problem-Based Learning in nursing college in North West Province" Without wasting your time mam, let me just ask you first questions, what is your view regarding the phenomenon "Problem-Based Learning?"

P: Ahh! Problem-Based Learning it's learning where learners eh! Participate mostly, eh! The learners they participate actively and they take a lead with regard to their studies and with regard to problem-based learning I have realised that you know when the students are doing problem-based learning or nurse educators are f... doing problem-based learning, it encourages learners to be involved actively, yes!

I: Is there anything you can add on problem-based learning?

P: And then what I can add again with regard to problem-based learning it's that problem-based learning is self-driven, eh! the students they look for information themselves and what I have realised is that when the information, when the students look for information it's not easy for them to forget that particular information and they learn more, eh!with regard to problem-based learning the students they...they find the problem within the situation and they come up with the solution on how to solve that particular problem, that is what I can say regard to problem-based learning.

I: Okay mam!

I: What are the factors that can contribute to the successful implementation of PBL in the college?

P: Factors that can contribute to the successful implementation of problem-based learning (participant repeating the same question in order to internalise it) its resources, if we can have ehh!ehh!enough human resources as well as enough material resources, material resources referring to a library that is well equipped and that has relevant books with recent information and the library that is also having ehh!Computers because you know we cannot implement problem-based learning if we don't have a computer lab, because when we give students work to go and look for information there must be a resources eh! with regard to where students will look for information especially the internet and also there should be a person in the library who will be able to guide learners because if the students go to the library and they don't have the direction on how to look for information, it won't be successfully implemented basically we need both material and human resources.

I: Okay mam!

I: third question! What are the factors that may contribute to the failure of implementation of PBL in the nursing college?

P: Failure? (participant asks a question in order get clarity)

I: Yes! That can contribute to failure.

P: Basically is the resources, e ka re is the same question as the one that have just answered, kana for the first question you said factors that can contribute... (Participant wanting clarity in order make sure that she is not answer for the previous question)

I: To the successful implementation.

P: Yah! Yah! I said eh!if we have material and human resources and then again factors that can contribute to failure its lack of resources, both material and human resources.

I: Okay!

P: Mmmhhh!

I: is there anything that you want to add on eh!The factors that are contributing (stops because the participant talks whilst the interviewer is still talking).

P: The factors that can... and another factor that maybe can contribute eh! to successful implementation I think its big group you know in the college we are in taking large number of groups although I heard other its even easier to implement problem-based learning with a big group but to me it seems as if it will be a challenge when you are having a big group because eh!Where I have seen people implementing eh! Problem-based learning, the groups are not as large as in our colleges.

“I Okay!

P: Mmmhhh!

I: Eh! how can this approach this approach change the current system of offering the programme in your institution, i.e. the current teaching and learning approach to students that has be used in the...the...the college? (Interviewer staggers), how can the PBL change the situation... yes if it is implemented.

I: The situation (talking concurrently with the interviewer), you know I think PBL can change the situation if it is implemented successfully in the sense that our learners will be more informed and will have that, you know, that they will own their own their teaching because if they... the problem-based learning is implemented and is been successfully implemented eh!Students will own their teaching, their... I mean their learning or their studies, unlike when we are still doing this eh! What we call traditional method of teaching.

I: Oka mam!

P: Mmmhhh!

I: What do you think could be the benefits of this approach to the nurse educators as well as, as well as the learners in the institution?

'P" Eh! Benefits on the side of the students, Okay! Is that the students will be more informed and then the students will know how to dig for more information even when they are at high... tertiary level, it will not be a problem because they will be used to eh! Look for information for themselves and on the other side of the educ...and again on the other side of the students, eh!students again will be...you know, what can I say about the students? Okay!the nurse educators will benefit in the sense that eh! will be able to cover a broader scope within the short period of and as well as the students will be able to cover more work within a short period of time and again the educators will benefit in the sense that they will go an extra mile with regard to reading because when you are implementing a problem-based learning it means as an educator you must go an extra mile so that you are able to guide and direct the students and it needs a lot of preparations on the site of the lecturers.

I: Are you done with the...eh!benefits? (pauses because the participant interrupted).

P: Benefits (participant is talking whilst the interviewer is still talking).

P: and under the benefits I can say problem based learning it benefit us in the sense that we become more informed. You know to be informed is very, very important to have more information on the content that you are teaching. It makes you to feel confident in yourself and that in itself is the benefit. I think that is all.

I: Okay mam! If that's all related to the questions that I asked...

P: Mmmhhh! (Hamming whilst the interviewer is still talking)

I: I just want to take this opportunity to thank you for participating in this eh!eh!session...

P: Mmmhhh! (Hums whilst the interviewer is still talking).

I: I hope your information will contribute much in this research study.

P: Thank you very much, mam!

P: Thank you rreRamolebatsana for helping you.

Perceptions of Nurse Educators on Problem-Based Learning in a Nursing College in North West Province.

Interview with participant LN.

I: = Interviewer

P: = Participant

I: Good day sir!

P: Hallo! Hallo!Ntate!

I: How are you? (With a deep sigh)

P:Ae! Am good, I am alright

I: Alright! Let me just welcome you in this interview session as agreed to schedule it eh!today

P: Okay! (and he is swallowing saliva)

I: Yes! Eh! Let me just again say thank you for participating in research study. I think your information will be valuable.

P: Okay!

I:Referring to the project title, it says "Perception of Nurse Educators on Problem-Based Learning in Nursing College in North West"

P: Okay! (Speaking simultaneously with the interviewer)

I: Much as you concerned to take part in this, eh!interview session I will be asking you few questions.

I: Alright, without wasting your time, sir! What is your view regarding the phenomenon "Problem-Based learning"?

P:Mmmhhh! (Patient starts by laughing) and (he takes deep breath) the phenomenon ah! Of problem-based learning (pauses for while) my understanding of it (pauses again for a while) Mmmhhh! Is that students should be actively involved in their learning (with a bold voice). Students should be actively involved in their learning, actively involved in such a way that they should be... (Pauses) they should be leaders in their education, eh!facilitators should only be seen as facilitating the content rather than facilitators previously seen as those who

would be spoon-feeding the content, ahh! How it applies, how it should be implemented. I think PBL say like in an institution it ssssh! It should start, can I say that...!

I: Yes sir!

P: Okay! Okay!

P: Yah! Let me say the way that... (Pausing) we are taught PBL, how we should implement it, it doesn't take a facilitator only to facilitate PBL, it has to take the management of the institution, eh! in to say at what point should PBL be introduced, when I say at what point, I mean pertaining to a certain group because what I have seen is , say maybe you getting a group of third year learners who will finish at 4th year (he takes a deep breath) eh! they are already exposed to a different method, now when you start PBL at that it might come with, it might come with rejection, it might come with resistance, but if the management says maybe let us start it at inception (pauses for less than a second), let us start at it when, when the group is new at the first phase I think then it will become easily implementable. It will become feasible, it will become easy for them to adapt because it would be something that they are taught at primary, yes! (Participant swallows).

I: What are the factors that can contribute to the successful implementation of PBL?

P: Mmmhhh! Factors that can contribute...

I: to the successful implementation, yes!

P:Ahh! (Pauses for less than a second) that would take oooh! Can I say aah! (Pausing again) economic factors then I would...I would broaden it as to what I mean (He hits the table with the finger), the social factors, ahhm! The let me also visit political factors neh! Okay! Let me start with political factors, (takes a deep breath), political factors in the sense that eh!the government of the day should be (he pauses for a while), should be in a position to know, they financial ah! The financial logistics that would come with the implementation of PBL by that ammhh!for PBL to be effective it would also sheet on the economic factors. The economics factors being okay! What amount of pie do we allocate to these institutions that are...that are giving a primary eh! (Swallows) eh! Problem-based learning eh! Why I am saying that is because ammhh! It would say it needs facilities that are equipped with so that eh! Problem-based learning can be effective; it does not need eh!like in the institution that I am ah! The classes eh!the number of students is so bi neh! It so bad in that Mmmhhh! (He pauses for a second) it gives a challenge to implement eh!this PBL and because it would need

eh!an environment where you are sure that students would (pauses for a second) students hear effectively when you are (hitting the table with a finger) when you are facilitating. It would also require facilities that help the students to adapt easier (with a high pitched voice) Mmmhhh! In terms of eh!let me say a social...social factors it would need eh!students who are taught (with a high pitched voice) who have the responsibility of doing work for themselves because ammh! I would say the old genre of education is that the teacher does, say 60%, the student does 40% whereby you find that students are dependent on the teacher's notes, now with PBL that says... that is a reverse of the situation in that to say eh!now students should be eh! (hits table with fingers) the academic culture that the students (pauses for a second) has incepted throughout learning.

Now it would take that eh! Academically this student knows that okay! What is that I have to change, those...that...would be the challenges (Participant is speaking with a bold voice) the students would see the type of facilitation, would approach it with a rejection attitude (pauses for a second) they would see it as another system that makes their learning eh!eh!less effective or eh!lessfaceable (in a deep voice) mmmhhh! Those are the things and what is more important on the side of...on the side of tutorial staff it would be if the political dispensation understands the challenges which facilitators are faced with , which institutions are faced with, then it would be easy if that is understood so that eh!they are given...we are the resources which we need, when we say we want a... k!maybe classes of 60 capacities, they should be fitted with eh! audio equipments, when I speak every student should be able to see me, the type of projectors where say maybe that's why am emphasising the class of 60, that's where all the students can fit in and that's where the students can equally see what eh! Reflecting the visuals on the projectors thus it would be effective learning to students, now with that it came with...there are already building that do not fit (speaking with high pitched voice) to (Pausing for a second) to this type of learning, now it would become a challenge when you say now we want such and such classroom, becomes because what it means now it means to say eh! Change the current setting of classes (pauses a second) either you cut them or you increase them, do them in a way that eh!it is effective for the learning of the students. That is where the political dispensation comes in place and you find that practically they would say there is no money, there is no money and still you as a facilitator you still have to dispense PBL to those students under those conditions, under those circumstances, that is eh!that is the major challenges in there because mmmhhh! When it comes to the academic attitudes, academic attitudes can be, can be easily negotiated with the students, we can

navigate around that, we can show them the... eh! The reason, the purpose and the objective of eh! Problem-based learning (the participant pauses).

I: Okay!

P: Mmmhhh!

I: What are the factors that may contribute to the failure of implementation of this approach?

P: Factors that may contribute to the...! (Participant wants to clarify the question)

I: Failure to the implementation... to the implementation in your institution.

P: Okay! (Participant pauses). I would say I do not think that eh!the students or learners would be a problem as such, I think that the problem would emanate from eh!who do I ... how do I put it? The... would emanate from (participant swallows saliva) political factors, political factors in saying that the institution or the institutional manager can come up with a plan saying this is the model, this is a model that I would require, the model in terms of infrastructure and the model in terms of a financial resources that would be needed (participant pauses for a second). It would only be eh! (Pauses again), The incongruence between the government of the day and the...and the educational plan. If we could reach a congruence around that, I do not think that would be a problem because (participant is continuously hitting the table with a finger). I would give you an example of the institution where I am at, you...you get a political mandate that we want so many, and so many students, that political mandate is to...is to serve or to accomplish a political objective neh! That political objective is not easily implementable when it comes to...to academic purpose. You will find that it defeats the ends, it defeats the objectives of polic...eh!academic implementation but you will find out that eh! what the government is saying it prevails over what you should do irrespective of whether you show them the reasons that this will not be feasible under this circumstance (participant pauses), mmmhhh!

I: How can this approach change the current eh!system of offering the programme in your institution i.e. the current teaching-learning approach to students that is been...

P: How...how can it...? (Interfering whist the interviewer is still clarifying)

I: How can it change the system of offering this programme? (silence for a minute before the participant could give an answer).

P: Mmmhhh!

I: Once it is implemented.

P: How can it change the system? I don't think I understand that question.

I: Okay! (hits table with a finger) recently as I understand the institution is offering traditional method...

P: Yes!

I: Now (silence prevails for a minute) upon implementation of PBL, how...what could be the changes to the system that is been offered now?

P: Mmmhhh! (takes a deep breath), you know I do not think that there will be a change in system, there will be a change only in the method of facilitation (pauses for a minute), the system would still be eh! the facilitators should know their content, the facilitator...I don't think (pausing for a less than a minute) it will change the...the system per se, it...think but the methods of assessment will gain rigor, there will be more vigorous...there would be more challenging to the students (continuously plays with fingers on the surface of the table) the...I think it is more of the effects rather than the...the system, because I think it...can I call it a style? It would be a style, the aim won't change, the aim would be the students to understand this, the students to reach this goal but I think the pattern that is going to change now it is eh!more work will be shifting to the learner, the learner would be more empowered eh!the previous...the traditional method made that the learner should be dependent on the facilitator. I think that is the only aspect that is going to change, mmmhhh!

I: What do you think could be the benefits of this approach to the nurse educators as well as the learners in this institution?

P: Mmmhhh! (Participant pausing for a minute) with the implementation for PBL... Can I start with learners?

I: Yes!

P: The learners are the...are the most to benefit from it. The learners would be empowered. If it starts well, mmmhhh! (Participant is swallowing saliva) you do not see results till the end, so when it starts, the learners would be...say may be reluctant, but as it goes they would see that they are being empowered in terms of problem-solving, they would...they would now start realising that they are more in a...in a capacity field position than those who would still be (with a bold voice) eh!eh!facilitated in the traditional method. They...it would instil in

them a sense...a sense of doing for themselves, they would not be dependent on the facilitator, they would be almost close to a level of the...of the facilitator in...in terms of knowledge, Yah! It...it... to me it is an opportunity to say eh!learners should draw water from the well rather than waiting for the...for the facilitator to draw water for them. That is my...my interpretation and my understanding of problem-based learning and now when it goes to...to the...to the facilitator, the facilitator would benefit (participant pauses for less than a minute) eh!eh!can I say intellectually as to say eh!if say maybe I...I get to teach a...a group that has been PBL...PBL facilitated, it becomes easy for me...I will not be struggling because now I would say without due respect these are will houses now. I do not have to say strain to...to have them understand, they would be understanding that if I say this is your work tomorrow, eh! when...when come tomorrow we would have progressed beyond that work with the expectation that they have covered that area and they have assimilated that area, that is their advantage will be on us, it would be a thing to say now we are moving, we are fast-tracking... we are fast-tracking learning (participant pauses) mmmhhh!

I: Is there anything that maybe you want to add as far as benefits are concerned?

P: Which benefits?

I: To both students and educators, is there anything you can add on?

P: Yah! The benefits...the benefits won't be...won't be a tangible benefit (participant talking with a high pitched voice and ending with bold voice) it would be a perceived benefit in that eh! When you do PBL you would know that eh!you are empowering these students beyond what the syllabus says. You are taking them into the future, so I think as a...educator eh! I derive...I derive, should I say pleasure of benefit from that when I see that Okay! What I am giving has been understood and is going to be implemented at a further level, (participant has been hitting the table with a finger).

I: Okay! Is that all sir!

P:ayah! That would be all, well (hitting the table with a finger) mmmhhh! In summary I am concerned mmmhhh! (Participant taking a deep breath) there should be a congruency, maybe I think mmmhhh! As we want to introduce PBL we should take forth our leaders. When I say our leaders I am referring to the government. The government should not aah! (Participant grasp the microphone of the audio-tape into his hand) should understand that it is not only about political power (bolding the voice). It is political power in line with eh! social

objectives, in line with academic objectives (pauses) which...which finance will impact on them, all these will be...will be heavily dependent on the financial resources available for the effective implementation of PBL, like if I can give you an example, if now we saying ok! In 5 years we need to build (participants breaths in) eh! a nursing institution (Pausing for a second) you would build it with a PBL model in mind, you would know that instead of having halls as lecturers, you have classrooms, say maybe we saying maximum 60 students, we saying, Ok! How... how is our basic classroom (in a deep voice), our basic classroom is where you find...you have to...to make shifts, to make where you can fir a projector if you...you build such a class with PBL in mind knowing that okay! This is where the projector will be, this is where the...the audio system will be, then you know that it is built in such a way that you can reach all the...all the...all the lecturers (pauses for a second) Yah! Like you would be like there is this institution, can I mention institutions by names? (Participant pauses and waits for response from the interviewer.)

I: (shaking the head to show the participant not to mention institutions by names)

P: Okay! There is this institution (pauses for a second and hitting the table with fingers) it's our university, you would see...you would look at the classes neh! The classes...I do not know how to say that, that shape is neh! Eh! it would be like a U or a more of a V shape.

I: Okay!

P: When you look at this V shape, it says to you and it's not about...it's not more than 15 metres broad, I mean about more than 15 metres long, is not more than 8 metres wide. When you are standing in front there as a lecturer you are sure that you are accessing even a child at the end that is...that is what I see as a convenient lecture or presentation... (hitstable with a finger) method.

I: Okay! When you say reaching a child at the end, what do you mean by...? (Interviewer seeks clarity from the participant)

P: Nooo! The child at the end of the row (in a high pitched voice).

I: Okay!

P: You...you...she can...he or she can easily hear you, the one at the front row and the one at the back row (pauses for a less that second) they are benefiting equally.

I: Okay!

P: Is not like the classes that we are in, so that you know when...when you s... when you speaking or when you showing them something is only a fewer at the front who benefit, you have to make an extra effort to go at the back to reach that one.

I: Okay!

P: I do not think that eh! Problem-based learning would be a problem as such, yah! Incepted eh!eh!implemented at inception, it should be a problem (participant pauses).

I: Okay!

P: Mmmhhh!!

I: Is...is that all?

P:Eyaah! That would be all (playing with fingers on the table and hitting the table).

I: Alright! Thank you very much sir for taking part in this session, eh! I hope the information supplied by you would be beneficial to the study.

P: Mmmhhh!

I: and thank you very much again!

P: Mmmhhh!! Thank you!

Perceptions of Nurse Educators on Problem-Based Learning in a Nursing College in North West Province

Interview with participant JM

I: = Interviewer

P:= Participant

I: Good evening mam!

P: Evening sir!

I: I am Mr Ramolebatsana, eh! Much as you consent to participate in this study by the time when you were reading the participant information sheet you could see the title that says "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province". So I just want to remind you that during this session do not mention your name and the name of the institution where you are working.

P: Okay

I: Without wasting anytime mam! What is your view regarding the phenomenon "Problem-Based Learning?"

P: Problem-based learning it's a teaching and learning strategy which prepares a learner to be an independent and critical thinker (participant pauses).

I: Is there anything you can add on? On your understanding?

P: Eh! (talks at the same time with the interviewer) Okay! And then this strategy eh! This strategy assists a learner to own his studies. The facilitator is only there to guide and support these learners, all what is done in this strategy is self-directed study (pauses).

I: Ok mam! What are the factors that can contribute to the successful implementation of PBL in the nursing College?

P: Successful implementation of problem-based learning depends on availability of resources such as manpower. In our instance we should be having adequate lecturers or educators who will facilitate or who will be there to support learners as well as guiding them as far as this strategy is concerned. Apart from manpower, we also need resources such as eh infrastructure, the classrooms and as well as equipment such as ashhh!! desks, we need library which is fully equipped with books which learners will refer to when they are given

work to do as well as computers, which are having networks because with this strategy we need learners to eh!search information from internet so if the institution does not have such resosh (rolling of the participant's tongue in the mouth) those resources this strategy will just be fatal.

I: What are the factors that may contribute to the failure of implementation of this approach?

P: Failure of this approach is the opposite of what I said. Hhhh (participant taking deep breath) hhh!Unavailability of resources will cause this strategy to fail and apart from that lack of resources such as funds because we need to have to fund in order to buy the resources that we need like books, like computers so if we don't have resources, mainly human and material this strategy will definitely fail.

I: How can this approach change the current system of offering the programme in your institution, i.e. the current teaching-learning approach to students?

P: How can this Problem-based learning change the current method that we using (participant repeating the question together with the participant in order to get clarity about the question.)

I: Yes mam!

P: It will...Problem-based learning will change the traditional method of teaching if understand, if all lecturers could understand what Problem-based learning is all about, if they are all trained on this strategy as well as introducing it to learners because our learners right now ooh! The...the strategy that they know is this traditional method so it should be introduced to them so that they know that there is this strategy which they are supposed to be... (Participant pauses for less than a second) which is supposed to be implemented to them, so I think if lecturers as well as ll!Ehh! Learners are introduced to this eh!Strategy. Sssshh! (The noise produced when the participant is grapping the microphone which produces an irritating sound) at the present moment.

I: What do you think could be the benefits of this approach to the nurse educators as well as the learners in the institution?"

P: One benefit for nurse educators will be... that they will have (participant is taking deep breath) ample time as compared to what is currently done let eh! Educators don't have time, most of their time they are preparing for lllessons...lessons (participant dragging the word) with this strategy I don't think they will have to do what they currently doing because

(participants shifting the microphone) the honours lies on the student to go and look for information on their own so the lecturer is only there for guidance. Most of the information is brought by the learners, so that is the benefit for the lecturer; he won't be setting or standing in front of the learners' Hhhh!! (Participant breathing in) teaching (with a bold voice) or spoon-feeding them as we are doing now (with a low voice) and then for the learners the benefit is that it will just stimulate their interest they will be... like I said initially, they will be critical thinkers because they will know how to fend for themselves (participant pauses).

I: Is that all regarding benefits for the both educators and learners?

P: Yah! For now, I think that is all (with a low voice)

I: Okay! If that is all mam thank you very much to participate in the study, I believe information supplied by you will add value to the study, and thank you very much!

P: Thank you sir!

**Perceptions of Nurse Educators on Problem-Based Learning in a Nursing College in
North West Province**

Interview with participant SM

I: = Interviewer

P:= Participant

I: Okay! Good evening mam!

P: Evening!

I: How are you?

P: I am well thanks and you?

I: I am alright! Let me welcome you in this a... interview session as schedule it today for this afternoon.

P: Okay!

I: Much as you concerned to take part in this study I...I belief you understood the (pausing for a while), the title of the project that says "Perceptions of Nurse Educators on Problem-Based Learning in nursing educ... (Interviewer miscoding the part of the title) nursing eh!College in the North West Province.

P: Mmmhhh!

I: So am going to ask you few questions related to this eh! topic then if you need clarity on any questions don't hesitate to do so and then one thing that I can say again please let me remind you not to mention you name.

P: Okay! (Talking whilst the interviewer is still explaining)

I: And also the name of the institution neh!

P: Okay!

(The interviewer and the participant paused for a second whilst the interviewer was looking at the questions).

I: Without wasting your time mam what is your view regarding the “Problem-Based Learning?”

P: Eh! Problem-Based Learning is one of the... (Participant pauses for less than a second) best strategies that can be implemented to ensure that you produce eh! (Silence again for less than a second) learners that can be able to uncover or discover management of certain issues regarding care of the patients. It's a good one because these eh! Students can be directed to a problem and then they will come up with their own strategies on how to intervene or help patients to help themselves, so I regard it as one of the best strategies that nurse educators can use in order to teach students.

I: Okay! Do you have more on this, on your view regarding this problem-based learning?

P: Okay!

I: Anything you can add (Interviewer and participant talking simultaneously)

P: Eh! I think if eh! (Pausing for less than a second) institutions are well resourced then they can easily adapt to this model of ah! Teaching unless whereby they are not well resourced for example, if they do not have libraries! (Stressing the word library) that are big enough to accommodate students so that they can search for information on their own that can be the best method that can be implemented unlike the old way of teaching, directing students where to get information or giving them information, for example, in a lecture method whereby you are the source of information and learners are not able to search for their own information, so... (Pausing for less than a second) I... I prefer that method but as long as we have got eh! Resources, human and material resources like I have mentioned eh!Eh!Well-resourced, library that will be the first thing that we need to have before implementation of this problem-based learning.

I: Okay mam! Moving to the second question, what are the factors that can contribute to the successful implementation of PBL in your institution?

P: Eh! The first one can be eh! (Pausing for less than a second) lectures or nurse educators that have been eh! (Participant is thinking) trained on problem-based learning so that they can implement it very well, understanding it (pauses again for a second) the other factor can be eh!eh! Well-resourced institution like I have mentioned the very library with eh! (Pausing) enough material for the number of learners that they have so that they can be able to search for the information, of course the curriculum that is well structured for this eh!strategy,

because if you have curriculum that does not tally with the PBL, that maybe can give one a problem to implement it and of course the...the...the attitudes of educators towards the problem-based learning, you know sometimes lecturers they want to stick to the old way of doing things, so the way it is introduced them maybe can motivate them if it was well introduced it can motivate them to adapt to the strategy of problem-based learning.

I: Okay! Let me get clarity on the attitudes, you mean it should positive or negative?

P: it should be positive.

I: Okay!

P: they should accept it; they should understand it so that they can be able to implement it (Pausing for less than a second) eh! Eh! Can I say old lecturers that are used to the old way of teaching? They have a tendency to reject this strategy of teaching because learners to search for information but teachers prefer to give information to the lecturers, so that is why I say the attitude of lecturers, it is positive, then they will implement the problem-based learning. (The participant hits the table with the fist when talking the last sentence).

I: Okay! What are the factors that may contribute to failure of implementation of this approach in your institution?

P: Okay! Let me just start with the very attitudes that I talked about that can be one factor if they do not approve it or they have got fear to change their way of teaching that can make them not to use PBL and or may fail (Participant hits the table with a fist) eh! (Hitting the table again) the infrastructure also of the institution if it does not eh! allow or is not conducive for PBL like I have mentioned previously, the library, if you have small library that is not well-resourced that can also make the PBL to fail because you want to implement the PBL as a lecturer but you do not have resources like library and books, so (hits the table with a fits) learners will start eh!eh!becoming frustrated not getting (pauses for less than a second) eh!books to search for information, so they also need a variety of books to search for information, so that it is not eh!eh!information from one source whereby they will repeat the same information time and again. It does not give them a chance to compare eh!information from different eh!books.

I: Okay! Mam!

P: Mmmhhh!

I: How can this approach change the current system of offering the programme in your institution, that is current teaching-learning approach to students that is been used at the moment?

P: Okay!"

I: How will be PBL make a change to the system (Interviewer clarifying by repeating the question to the participant) and there was a moment of silence before the participant answers).

P: Eh! It will change the system in a way that we will have learners that are self-directed, that are motivated to search for information as I said that in PBL learners have to go and find out information on their own eh!without being that so it will trigger their thinking, it will make them easier to search for solutions or answers for whatever questions that are asked so in that way we will have these learners that are self-directed in learning.

I: Okay! It is that all regarding eh!the change of system by this eh! PBL (Interviewer talking whilst paging the pages for recording or writing the field notes)

P: I think also it will help eh! Eh! Educators especially in reviewing the curriculum because it will change the way of learning of eh!learners as I said that they will be self-directed so that is going to influence a change in the curriculum whereby even questions will not be eh!eh!structured in the way that it encourages rote learning where students can cram or memorise information because eh!eh! Problems and their solutions will not be the same, so when we review the curriculum that eh!eh! (Pauses for less than a second) the way learners eh!eh! Develop in the learning will help us in eh!The development of the curriculum and the implementation of changes within that curriculum.

I: Okay mam! Eh! The last question what you think could be the benefits of this approach to the nurse educators as well as the learners in this institution?

P: Okay! Benefits to the nurse educators might be that educators will always try to be ahead of students that they have, have more knowledge, read further seek for eh!eh! new information, search for changes in, you know, for example, management of conditions make sure that they are abreast on...on as compared to students and also with students, it will motivate them in a way that they will always make sure that they read broadly, they are able to direct (with a bold voice) their own learning, unlike to be told to go and search information before they are even told, so they will try and get some solutions to the problems that they

have before they can consult eh!eh!the lecturers, therefore it will somehow develop them in becoming more eh!eh!eh!Enthusiastic and wanting to search for more information.

I: Okay! Is that all mam! What you can provide?

P:Eyaah! (With a deep voice) I think so, I think that is all.

I: Okay! If there is nothing to add on mam, thank you very much for taking part in this eh!research study, I believe you information that...that you supplied will (Pauses for a while) add value into eh!the study and then also it will make us to make changes in...when the study is finished. Thank you very much once again.

P: Thank you sir, I hope eh! We will get feedback regarding your findings on the study, thanks!

I: Yes that's true mam! Thank you very much!

**Perceptions of Nurse Educators on Problem-Based Learning in a Nursing College in
North West Province**

Interview with participant NM

I: = Interviewer

P: = Participant

I: Okay! Good morning mam!

P: Morning!

I: How are you?

P: I am Okay and yourself?

I:Oryt!

P: Mmmhhh!

I: I am Mr Ramolebatsana, the researcher, as we agreed to meet today, eh! To...conduct this session, interview session, let me welcome you once more in this session this morning neh! And as you read the... (Coughing) participant information sheet (There was a noise caused by paging the papers for note taking) eh! You could see the title that says "Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in North West Province" and I believe you read it and you understood it clearly.

P: Yes! I did (Participant talking whilst the interviewer is still talking)

I: Where you need clarity during the interview session, you are allowed to do so, arty! Without wasting your time mam eh! (Swallowing saliva) What you... What is your view regarding phenomenon "Problem-based learning"?

P: Ah! I think a...mmmhhh! It's a good strategy, different from the conventional methods which are still being used in some higher education institutions, so... this problem-based learning is learner-centred and it encourages students to think out of the box so it's a good method, it's in line with the current trends.

I: Okay! Eh! Is it...is it all about your understanding regarding problem-based learning?

P: No with...with...mmmhhh! With problem-based learning the approach is unlike before where the educator is basically doing everything but encourages the students to deep...to dig

deep into the matter that is been done, so i...in the process the learner becomes very independent, he is able to get information for himself, to analyse it and take decisions which will really need in the clinic...especially in the clinical practice because he will have received this problem-based learning in the theoretical programme and will be able to apply because he has dugged the information for himself.

I: Okay! I am moving to the second question. What are the factors that can contribute to the successful implementation of PBL in this college?

P: Proper planning (pauses for less than a second) eh! Mmmhhh! I think this method is very resource intensive and eh! There should be proper preparations to enhance or to promote its successful implementation. Presently we are lacking a lot honestly; this is my view, eh! the infrastructure, we are looking at classrooms because we are having large number of students, so that would not be able to place in group, especially that when this PBL started, it was actually accommodative to a lesser number of students, so where the groups will be smaller groups, hhh (participant talking deep breath) so we have large number of students from different backgrounds in the sense that (participant is coughing) others are... (swallowing saliva) millennium students, some are those students who are born before the 80s, they are not that capacitated towards an information technology, so the method actually encourage students to go and learn himself, to dig information for himself, so if the learner does not have the process to do that, that will be problematic. The college itself does not have infrastructure, apart from the class sizes we thinking of infrastructure like the library. It's not optimally enhancing education, don't even have the Hi Fis, our curriculum presently does not even allow... inv...allow IT tutorials, so it will be a problem and the...the kind of curriculum which we have entered into the South African Nursing Council, would not allow that presently, so there are many things which will need to be done so that the method can work, but it itself (pauses for less than a second) it's a transformative strategy eeh! To a lesser...eeh!eeh!it encourages, it encourages quality teaching-learning, but the structures that we have are not enough or will not be supportive towards the...the strategy.

I: Okay mam! (Coughing) What are the factors that may contribute to the failure of implementation of this eh!approach?

P: Eh! Lecturers actually make the face of the... eh!eh! the...the...the education system here at the college, they are actually the face, so if they are not well capacitated about the method, then there is no point that we think of implementing it, and the...the infrastructure that we are

talking about, that we are requesting it and so on, they need also to be capacitated about that and the...development generally of educators here, either coming from personally or even from the system itself, because this PBL needs you as an educator to be an expert in what you will be doing, so if you are not an expert and you are supposed to facilitate it, it will not be successful, it just going to bring in conflict between students and educators (participant pauses)

I: Okay mam! Eh!are you done with the failure of implementation?

P: Okay! We have talked about the infrastructure neh! And the...mmmhhh! The system the...the...the students' population itself because we are having the RPLs as well which are the...eh! Recognition of Prior Learning, learners, that is the students who have a clinical background of nursing. Most of them are in their fifties and the... they have taken... the have been stackend for many years between 10 to 20 years they haven't been studying, so as educators we also need to be accommodative of those learners.

I: Okay!

P: And looking at our province it's a rural province and our intake we actually target as well the rural villages and those rural villages the learners are not maximally exposed to IT andthe...even those who are from the urban areas maybe the parents do not have enough, so enough money (participant raises the voice).

I: Mmmhhh!

P: So they don't have the gargets which will help them in their teaching and learning, so that will also pose a problem, and the big number themselves (raising the voice) because we are having bid number of students. If we have to divide them into groups, the minimum groups, hhh! I mean our classes compose of up to 160, at times 190 so if we have to do that it is very time intensive and the...the way our modules are...are allocated, our time-tables, within a week...a week a particular module should have been done and completed, and that would not give you enough time for you as an educator to say to students have this work, go and research, come after 2 days, by the time they come and present, the time allocated for the module is finished.

I: Okay! Mam! How can this approach change the current system of offering the programme in your institution, i.e. the current teaching-learning approach to students?

P: It can change it greatly (pauses for less a second) eh! Mmmhhh! The PBL will actually promote independent learning in our students who will be able to link practice and theory in the clinical institutions and who will be able to take decisions independently which is great need for nursing education because the patient can change the condition right now and what comes into our causalities, is not what we are expecting, so if it is a learner who has been trained through this PBL system he will be able to take decisions right then there unlike the conventional methods where basically students are just doing rote learning (with high pitched voice) now when they are faced with situation it is difficult to take a decision.

I: Okay!

P: And again of course it will empower students as individuals because they become aware that I am responsible for my own education and these are my strengths so that those strengths continue to be embraced and in those areas where there are weaknesses is able to work at them, and actually encourages eh! Relationship skills because they are interacting, they are working as groups.

I: Can I get clarity, what did you say about relation...relational skills?

P: Am saying it will eh! Pro...it will improve interrelationship skills between the students themselves between students themselves and it... because they are working a group, and they will take that to the clinical services and be able to relate better with members of multi-disciplinary team as well as the patients.

I: Okay (silence prevails whilst the interviewer was noting down some notes) Okay mam! What do you think could be the benefits of this approach to the nurse educators as well as learners in this institution?

P: To the nurse educators (pauses for less than a second) it will (participant coughs) lessen the time you spend there in class with the students and that time you can use it profitably for other things when your students go and search and the...because your students are doing research, it will also benefit you as an educator to be eeh! To be a researcher and the...it will also strengthen your abilities because you are able to see diversity of students (pausing for less than a second) and you embrace it and you know that getting there for facilitations you should be an expert as well not undermining your students, so you are also going to dig deeper because...because as a facilitator you are supposed to be an knowing everything, that you should be able to guide them through and the...with the students it will benefit them

greatly as we have said, our education needs to be very relevant to the needs of the community and if the students go and do a searching themselves, they are able to learn a lot of things to bring it into class and to see the gaps between what we are offering against what is needed and the...it eh! adds a lot of confidence in themselves, they become very confident and they become a better clinicians as well because they are able to take decisions in the clinical areas, and the...it enhances eh!Ehm! Responsibility in them because they are given work then they know they have to go and do the work, so they actually become adult students responsible for the own education (silence prevails for less than a minute whilst the interviewer is taking field notes).

I: Okay mam! Is it all regarding the benefits of educators and students?

P:Eeeh!Eeeh! I think when students and educators are benefited that will actually be a bonus to the institution itself even to the funders of nursing education which is the provincial government because better students are going to be produced and the... I suppose there will be lesser complaints from the community and the institution itself will be viewed better by the society because its products are of good quality.

I: Okay! (Silence prevailed again whilst the interviewer was noting down some notes) Oryt! Mam! I think...it is all that you can bring into this interview session?

P: Oh! That was the last...?

I: Yes that was the question

P: Okay! The only thing I say we have actually tried it at the lesser extent, I have tried it personally with my first year of group 2015

I: Okay!

P: And that was something beautiful, but eh! The other... think it's...ah! The workshops that we got a few educators who are at this college of PBL, it was through our affiliate University, North West University (Mafikeng Campus).

I: Okay!

P: I think... more collaborations still need to be there (with a soft voice) we need to go and see how they are actually unfolding it in their classes, because just a week's workshop is not enough of something that you don't even see.

I: Mmmhhh! Mmmhhh!

P: Yes! That's what I am thinking, so if our affiliate can intensify to see how much they can further strengthen us, it can be done.

I: Mam! To get clarity on something here, you said you tried it personally with the first year students, particularly which year or which group?

P: it was group June 2015

I: Ooh! This year basically neh!

P: Yes!

I: Okay!

P: Group June 2015.

I: Okay!

P: So... I assigned that work 3 days before.

I: Okay!

P: Because I know on that particular day I was supposed to facilitate that, but instead I gave it as a work for students and in between there was a weekend.

"I Okay!

P: So they actually had from Friday, Saturday, Sunday and Monday so the presentations were on a Tuesday.

I:Oooh! Okay!

P: And They were lovely presentations. They even brought IT which the college does not have because they brought on the music and the...mmmhhh! Audio system so that we can hear (pauses for less than a second) and it was eh! Eh!Extremely, lovely presentations.

I: So this eh! Audio system was brought by the particular students?

P: By the yes... it was from that group which was assigned that work so it was their presenta... they brought those things because we not have them at the college.

I: So the purpose was... What was the purpose basically for bringing the audio in class?

P: So that eh! the...the...the students actually they did the preparations and then, they recorded themselves now they were just there for clarity giving and clarity seeking, but the presentations were given through the audio system and we were just listening.

I: It was recorded in the audio?

P: Yes it was recorded.

I: Alright! This is a very beautiful thing neh!?

P: Mmmhhh!

I: Okay!

P: So I actually encouraged them that it should not stop there after my b... because I had only 2 days left with my... my allocated time that with the coming educators if they are given work they should continue in that fashion.

P: And the... You should not actually restrict the students as well, not look just at the textbook, allow different databases as long as this authentic sources and the students are extremely broad because the book that I have been using for anatomy, for example, and the references, they brought something different which I have not read and I could not dispute that, but needed a source which said that and it was there.

I: Okay!

P: So it was a... finally it was a two-way thing, instead of you regurgitating information to the students, you allow students to open up, to talk and you learn from them in the process.

I: Okay that's a very good input by the students' neh!

P: It was!

I: They are... they are... it shows they are innovative as well!

P: It was!

I: Okay mam! In absence of further explanation regarding eh!the questions that I asked, I just want to take this opportunity to say thank you very for you inputs in this interview session. I belief it will add value in the res earch study.

P: We hope so, thank you!

I: Thank you very much mam!

(a noise produced at the end of the interview when the interviewer takes the audiotape from the table to switch is off).

**Perceptions of Nurse Educators on Problem-Based Learning in a Nursing College in
North West Province**

Interview with participant NS

I: = Interviewer

P:= Participant

I: Okay! Good morning mam!

P: Good Morning!

I: How are you?

P: Am fine thanks and you?

I:Oryt! Once more I am Mr Ramolebatsana, eh! Doing Master's Degree with North West University and I am conducting research and thank you for giving me time for today. I know you are busy, but thank you for scheduling for today.

P:Alryt!

I: So mam! I will be asking about 5 questions regarding the topic that you read on the participant information sheet, so if you need clarity on it feel free to...to ask and what I can remind you again is that please do not mention the name of the institution or you name during the interview session, so without wasting your time mam the first question is what do...what is your understanding regarding the phenomenon "Problem-Based Learning"

P: Ammhh! My understanding from the... the information that we got form Canada is that eh! Problem-based learning it is whereby students are taught or the curriculum is being eh! (Pausing for less than a second) downloaded to the students according to problems, patient's problems, and so every content of the curriculum eh! Problem is presented and eh! Where the students the student will then eh! do some concept mapping on the problem where there would be then putting in all the aspect of the content that is they will not only be concentrating, for example, on one subject, all subjects that pertain to that eh! Level of

ah!...Of...of the programme, say first year there...there would come in, in all aspects where you would find that eh!elements of ah! Anatomy and physiology, an element of social Science would come in, an element of Community, you know all the...the cont... and ultimately then when the problem is been solved, that is patient problem is been solved, they have looked at all the avenues that are concerned with that level... eh!student level and the other thing is that eh! they use standard patient because they would be... they would be simulating whatever problem that has been presented, is in a scenario form, so then they are supposed to stimulate this, so the best way to do the simulation is through eh!eh! Standard patients where standard have been trained to... to serve as patients and they know exactly about the whole content and they can be able to... to act because is kind of acting, they are able to act the problem eh!if perhaps the problem is about patient that has been eh!eh!got... and injury, for example, on the leg then the patient would be having that leg been painted as red like eh! there is a...a...a cut, there is a cut and then pertaining to the problem that is being presented, the patient would be...be...be acting otherwise and the... the student will try and...and...and get all the history, for example, from the patient and deal with the problem and even give health education there is a need to, so that was what I understood about problem-based learning.

I: Okay mam! What are the factors that can contribute to the successful implementation of problem-based learning?

P: In our institution?

I:Eyaah!Nursing College in North West.

P: Nursing College? I would think eh! The first factor it is the... change of mind-set for our nurse... our lecturers because (pauses for less than a second) it...it...the...the... actually it is... we have been doing some form of...of...of problem-based although it was not to the point, so our lecturers first need to know that when you teach the students you are teaching them as...as a collective, they are not actually, each one looking at her own or him own space of content and must see to it that...that content is achieved. They need to be looking at the bigger picture of saying what is the overall outcome for this particular student, what is that you need to know as far as the nursing perspective is concerned and as far as...(participant coughs) the...the...the...(pauses for less than a second) the...the...the priorities, the national priorities for our country because if we look that we knew we are looking at our curriculum then you would be able that each one bring his own beat and at the end of the day we would

be using this problem-based where we would covering all avenues of the student content and at the same time and student look at our curriculum or at our...our...our... yes look at our curriculum as one comprehensive thing.

I: Mmmhhh!

P: And then do...don't see it as just pits and pieces or parts.

I: Okay! Is it all about the factors that contribute to the implementation?

P: And Ehmmm! The other thing is other than lecturers I should think also... let me...maybe I should started right from an upper level where would say we need support from the...the...the...the universities that we are affiliated to, especially the North West University Mma...Mma...Mmabatho Campus, because they eh!eh!implementing the...the...the PBL and they are the once...thanks to them they are the once that eh! availed this opportunity for us to go and...and...and see what is all about in Canada, so they really need to play a major role in how best can they support the colleges, the two colleges.

I: Mmmhhh!

P: To see to it that they are able to put this process in place because it is eh!an effective ah!ah!way of teaching students.

I: Okay!

P: And from the university the...the very same managers of the... of the college, college, let me say multi-campus college...multi-campus principal together with the principals of the college. They also need to give support because money has been spent to go and...and, you know witness this so... we have...the information is there, but it is the support that we need from the very same people that I have mentioned, that we can see it being implemented.

I: Okay!

P: Mmmhhh!

I: What are the factors that may contribute to the failure of implanting this PBL in the nursing college. What do you think could be...?

P: Okay! First it would be the absence of standard patients because that is not the process that we...we...we... are ... we wish we could have that but due to budgetary constraints it is not possible (pauses for less than a second), so whatever that would be implementing without

standard patients it would not be PBL per se, so that is the main factors and the other factor that may hinder the implementation. It would be the...the... readiness of the students, this whole eh! a team I forgot to mention students, they are important part of the...of the... team, so the students also should be in into this, meaning that eh! They should be ready that this can be the time of eh! approach that we use and the... do you still need more?

I: Yes! Can you give more? (Laughing)

P: (Started to laugh) Okay! And eh! The other factor that may influence the implementation, I talked about the budget...budgetary constraints, isn't it?

I: Eyaah!

P: And ehm! (Pausing for second) the...the fact that also we are still not ehm! We will not yet move to the higher education. We are still not eh! our eh! What is the right word of English, was still not (pausing for less than a second) working as a higher education institution, we are towards, so that is also another factor that can hinder it because we need to be at higher education level so that we can be able to...to...to have a succ... to...to... implement this and have success of it.

I: Okay!

P: And Yaahh!

I: Okay! Mam! How can this approach change the current system of offering the programme in your institution, i.e. remember they are still practicing traditional method?

P: Mmmhhh!!

I: So what could be the changes that might be significant?

P: Ijooo! A lot of changes. A lot of changes from the way that I saw... you know students at Canada ahm! Firstly, we would have students that are so fulfilled in terms of their training because it eh! (Pauses for less than a second) we would have the same, the very same lecturers also being operating in a very (Pausing again) collaborative manner and say because the approach will allow our students are...are...are more goals oriented.

I: Yes!

P: They are not only subject oriented, because at the moment we would be having that are only interested, that if I can just only 50% of anatomy and physiology, if I can get you know

that kind of a situation, they are not looking at the bigger picture to say eh!am...am... am studying eh!you know subject that is about patient care that is about community, so what is it that I am achieving as far as the community is concerned? What is that I am as far as the quality of patient care, looking at all these small parts of the curriculum, so it will give a very (Pausing for less than a second) collective or collaborative mann...eh!eh! Approach where everybody is goal orientated, that's all I would think.

I: Okay!

P: Mmmhhh!

I: What do you think could be the benefits of this approach to the nurse educators as well as the learners in this institution?

P:Ehmmm! There would be advancement as far as the academic eh!eh! Sphere is concerned and eh! It could also... (Pausing for less than a second) give the lecturers and a more... less...less work, less work and more determination because they would really be... bebe... only looking at monitoring and evaluation of the students. Students are given more eh!more responsibility the should own the process, because as it is now the students do not own what they are doing. They are doing it for the sake of passing, for the sake of seeing to it that they cover the hours, you know all those things, but ah!ah! we use this approach all students would actually own their education and they are able... they would be able to see what is that?, that is that they are expected to achieve at the end of the whole process and also the lectures would be more...there will be more team work even with the students because with this approach you are not dealing with the individuals, you are always dealing with the group of students where you can group them into small groups and then there is more team work because people are working together and eh! People are...are...are... able to share whatever experiences that they are having either being the students or being the lecturers.

I: Mmmhhh!

P: Because even when they teach in class, I forgot to mention that, even when the lecturers are going to class, they go all of them for that year level, so when the students are presenting their...concepts as they have mapped them, you know each lecturer according to the subject that is actually eh!eh!eh! Meaning is able to put a cont...cont... to contribute and say this if there is something more that could have been missed out, so they are always working in this

environment that they are always together and it boosts the moral of the lecturers, it boosts also the morale of the students because everything is about group work.

I: Mmmhhh!

P: And also eh!eh! develop them in terms of leadership, you know, skills and because you would find that even if they are in a group there would... those people that have got leadership skills, they would come out, it would come out very clear, because they will be able to re-direct whatever discussion that would be taken into a...a... the right direction so that there is conclusion into whatever that is being... that is being eh! Attended, so there is a lot of skill that both the lecturers and the students can eh!be... can get out of the whole...the...the...the approach.

I: Okay! Is that all regarding the benefits mam! You can say?

P:Ehmmm!

I: The more you can give.

P:Eh!For both lecturers or for both?

I: For both, yah! (Swallowing saliva)

P:Yaahh! And... and...and (Pausing for a second) I think so, I think more it would be saying, you know, there is ...if achieves... it... would allow both of them to achieve more than what they are achieving now, isn't I trying to compare what we are doing now and what I know in terms of what I saw? Eh!in terms of the... the... of the... approach and there would also be (pausing for a second) as I have talked of teamwork, I have... I have missed out on the clinical part. There would also be teamwork with the clinical eh! areas because as I am saying we are talking the problem and which our practical situation where... where... we are correlating, so and experts of the clinical areas are people working in the clinical areas, so there would be... there would also be part of the team, because in whatever problem that would be presenting it would be problems that we have either stated as a scenario or even that we have experienced from the clinical area or even problems that we would have got from the clinical area or to say with this kind of problems and we... we... really would need some discussions over this with the college to say how you assist in terms of one, two, three, so at the end of the day we would be working as a team, both the clinical, the... the... the lecturers

and the students to be able to (Pauses for less than a second) achieve whatever... whatever utmost goal that we are actually aiming at, there is more collaboration.

I: Is that all mama!

P: Yaahh! I think so.

I: Okay! If that is all mam! Let me take this opportunity once more to say thank you very much for contributing to this study.

P: Okay!

I: And I hope the information that you gave will give more value, eh! in this study and then if you, as a college request the... the outcomes of the research... that would be done.

P: Okay! May I just say something? Okay! We... we... Yaahh! We... just wanted to emphasise the bad of the budgetary constraints because as a team that came... the recent... the last team that came from Canada, we would really have let to... to see this being implemented.

I: Yees!

P: Because it's actually from the type of approaches that we are doing, we are using, but the main constraint as I have said its budgetary and we were prepared to do a motivation in terms of standard patients to say let us pay because there is somebody who has done the study on... on... on OSCEs and she came up with eh! recommendation of standard patients.

I: Okay!

P: So we were about to write motivation to request that but unfortunately we... I mean at the moment all the.... The funds are under administration and all those things, so it was not possible but we plan to take this forward as a college.

I: Okay! Alright! Eh! Mam thank you very for the information, eh! (Pausing for a second) I hope this will be beneficial to the study.

P: I hope so too!

I: Alright! Thank you very much.



**Perceptions of Nurse Educators on Problem-Based Learning in a Nursing College in
North West Province**

Interview with participant S

I: = Interviewer

P:= Participant

I: Good morning mam!

P: Morning!

I: How are you?

P: Fine and how are you?

I: I am Mr Ramolebatsana, eh! I am a master's student presently eh! Doing research on perceptions of nurse educators on problem-based learning in nursing college in North West, let me just take this opportunity to thank you for making time for this interview session (pauses for less than a second) it is a face to face eh!interview where I will be taking your voices with tape recorder neh!

P: Mmmhhh!

I: So to remind you again mam please do not mention your name and the name of the institution where you are working neh!Oryt without wasting your time mam, eh! What is your view regarding the phenomenon "Problem-Based Learning"?

P: Mmmhhh! (Pauses for less than a second) my view, do I compare what we are doing here with what I have heard about problem-based learning?

I:Yah!Your understanding about problem-based learning.

P: Okay! My understanding about problem-based learning is about a student, we concentrate on the student's understanding of the matter at hand (a noise came up of the banged door outside the participant own office) now what is important it is for the student to extract the knowledge themselves neh! The student should be supported by books neh! Computers, let's say for internet where they can get information easier, that is how I understand it.

I: Okay! Can you elaborate more about your understanding?

P: (participant laughs before answering) Oooh! Elaborating more?

I: Yes mam!

P: Mmmhhh! Mmmhhh! And the...the...the... no I don't want to say the teacher, there is somebody that will be facilitating these students.

I: Mmmhhh!! Okay!

P: Learning eh! You facilitate because you are not going to give the matter to the student. You are just going to guide the student process in order to...for the students to get their own aahh! Knowledge, to extract knowledge from whatever they are reading.

I: Okay!

P: Mmmhhh!

I: What are the factors that can contribute to the successful implementation of PBL (pauses for less than a second) in the nursing college?

P: Ahh! Factors... human resource, firstly, by human resource I mean eh! The very lecturers that will be there to guide, eh! Library. The library is very important

I: Mmmhhh!

P: Even the staff that is in the library should be in a position also to contribute towards PBL. Why do I say that is because whatever is said in class the library person should also have knowledge thereof in order for them... if the students come to ask about whatever, he can be in a position to help these students, Yes!

I: Alright! Mmmhhh!

P: Eh! We talked of library, we talked of internet, if your institution is going to have Ehmmm! What is it? I don't want to say internet, the...the...the room where the student will be in a position to access internet easier, then that will also help. The support from management (Pauses for less than a second) our attitudes towards the very change.

I: Mmmhhh!

P: If we have people that are not for the idea, and then the idea will fail.

I: Mmmhhh!

P: But if we have people with the attitudes of saying we are going to do this irrespective of how small is that, and then it will be a success, eh! based on whatever we have.

I: Mmmhhh! Okay!

P: Yes!

I: Is that all regarding eh! factors that can contribute to successful implementation?

P: Mmmhhh! For now, eh! we have talked financial management, finances cannot be overstressed, they are very important because we cannot do anything.

I: Mmmhhh!

P: Without finances, the red tape of our government if we can have a platform where we say we start, we need finances readily in order to get whatever, let's say models, we get, we get books, we get whatever if there is a chance to get space for building because others we need to still... those eh! Library itself, not talking about classes, just library, it needs a lot of money, it needs people that would understand the plight.

I: Okay!

P: Mmmhhh!

I: Mam! You...you...you mentioned red tape, what do you mean by red tape?

P: Eh! In our government you find that before you order anything...

I: Mmmhhh!

P: There is a lot of... you start with quotations, eh! You start...okay! The quotations... 3 quotations and whilst your... you got 3 quotations, it will depend on the person that is aahh!Ahh! Processing the order and it has to go from this person to that person to that person at the end you don't get something whilst you hot... you had the... the... the quotations, you didn't get the thing, but now it stuck (with a high pitched voice), it got stacked in somebody's table, wa e bona?

I: Okay!

P:Mmmmmm!

I: Okay! What are the factors that may contribute to the failure of implementation of this approach?

P: The failure? I have mentioned the attitudes, eh! The attitudes, eh! The attitudes and I have mentioned the... the attitudes say a lot (with a high pitched voice) because it... it tells you of the student, it tells you of the lecturer, it tells you of the management neh!

I: Mmmhhh!

P: And then the...the... the... the tree, the stakeholders to make this successful, the success if their attitudes are not for the idea that will fail.

I: Mmmhhh!

P: Mmmhhh! So that is basically what I am thinking now.

I: Mmmhhh! Is there anything again on...?

P:Mmmmmm!

I: On what you are saying regarding the implementation... failure to implement?

P: Failure to implement?

I: Mmmhhh! Are they all what you said or you still want to say something more?

P: Mmmhhh! That is the main thing, because something if you want something badly enough, you can do it, whatever little you can.

I: Okay!

P:Yaahh! It depends on the drive or the person that wants the thing

I: Mmmhhh!

P: Mmmhhh!

I: (Silence prevail before the interviewer says a word) Okay!

P: Mmmhhh!

I: Mam! How this proa... eh! Approach change the current system of offering the programme in your institution, i.e. current teaching-learning approach to students, remember you are... the current practise now is traditional method?

P: Mmmhhh!

I: So the implementation of PBL, how would it change the (pauses for less than a second) the system of teaching and learning?

P: Ahh! Personally I feel that the... the... the... the information that one let me say the... the... information that you get yourself from the source is better than the information that is being transferred to you, because the one that is transferred is limited, unlike you being able to source for the information yourself. It... it gives you meaning, it will also change the way nurses eh! take of the patient because immediately you understand about the phenomenon, you will be in a position to even go further, not even looking at that phenomenon itself, you will be in a position to do this, you know, what is happening surrounding that thing, it will change our nursing quite dramatically.

I: Okay!

P: Mmmhhh!

I: Mam! When you say that thing what are you... which... what are you referring to?

P: The... (Participant laughs)

I: You mentioned that thing. I want to get clarity about the 'thing' that you are...

P: No I was talking about information that you yourself...

I: Okay!

P: Get isn't it you are in a position to get the picture... the clear picture of the phenomenon...

I: Yes!

P: And you are able to also ... like you say I gave an example of the change in the nursing care that will be rendered, because this person will be somebody that understand about what they are talking about unlike eh! The person that was fed with information, we don't know whether that... the person that feed you with the information got the whole picture because we are different and we tackle things differently.

I: Mmmhhh!

P: Mmmhhh!

I: Okay! What do you think could be the benefits of this approach to the nurse educators as well as the... the learner in this institutions?

P: the nur... for the learner, it will be learning, real learning for the learner as they will be getting the information themselves, for the educators as they will be about knowing about the...the... the learners problems and knowing on how to guide, because you will be having, number 1 the...the...the learner that you will be concentrating on you are able to guide better if you know where they are... they will be coming in with the information to say that this is the information, this is how far I went and you can also see if they are on the right track, if they still need some extra information. It will also give time to the... eh! Lecturer, time to concentrate more on the learner's problem, basically the same as the one to say that you will be in a position to know you students more.

I: Okay! You are meaning in terms of lecturers neh!

P: Yes!

I: Okay! So how will it benefit the learners?

P: The learners?

I: Yes!

P: The PBL?

I: Yes! The approach

P:Nnaaah! I am thinking off the information that they are going to get, will they be in a position to synthesise the theory that they got into practice? I think it will be easier because looking at whatever it is that you will be discussing in class, if there is something that needs eh!to be practiced then you will go to your lab to do whatever and then they are not intimidated by the patients, isn't it? Because sometimes if you are not sure of yourself doing it on somebody else you might feel a bit jittery (Participant laughs).

I: Okay! So meaning they will show some kind of...

P: Anxiety and whatever because this person is looking at them, do I know this, but now I am faced with the manikins now I can do whatever as much as I will be talking to this manikins I know that no harm will come to this manikins in whatever I am doing, mmmhhh!

I Okay! So in...in cver all you say they will be competent?

P: They will be competent, but I should think eh! When you look at these learners, let's say I am going to... to... give you the current eh!information now. When they are in the wards

neh! Yes, there is that element of being afraid, but they will be in a position to communicate with these patients, but coming to the procedures itself if it becomes a problem, now when you come to the manikins, eh! Looking at these learners they forget to communicate with this manikins, but doing becomes easier for them.

I: Okay!

P: I don't know whether you understand? That is now... mmmhhh!

I: Mam! You continuously use the word 'manikins', how can you simplify this manikins?

P: Is like a doll

I: A doll?

P: Mmmmmrnm!

I: Is there anything you can say further mam regarding benefits for lecturers?

P: Mmmhhh! That is what I say now.

I: Oooh! That is what you can?

P: Mmmhhh! Mmmhhh!

I: In case of any addition to...

P: Whatever!

I: Yah! To what you are saying, let me take this opportunity to thank you very for... proving the information to... my study, I hope it will be valuable and the... it will also add value on the study and once more thank you very much for taking part.

P: Thank you very much

(A noise came up when the interviewer picks up the tape recorder to switch it off).

**Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in
North West Province**

Interview with participant ER

I: = Interviewer

P:= Participant

I: Good morning mam!

P: Morning!

I: I am Mr Ramolebatsana, a master's student from North West University, eh!as you saw on the...the research participant information sheet and consent form eh!the title of the project is "Perceptions of Nurse Educators on Problem-Based Learning eh!in nursing college in North West Province.

P: Mmmhhh!

I: So regarding this study I am going to ask you few questions, about 5 questions.

P: Mmrrnhhh!

I: And then if you need clarity on one of this questions, please don't hesitate to ask for clarity neh! And I can remind you that please during this session do not mention your name and even the name of the institution neh!

P: Okay!

I: Without wasting your time mam! What is your view regarding the phenomenon "Problem-Based Learning?"

P: (silence prevails for a minute before the participant responds), Ahhm!My view?

I: Yes!

P: Problem-based Learning?

I: Yes! Mam!

P: Ammhh! Actually you want to know what do I understand...?

I: What do you understand by the concept Problem-Based Learning?

P: Okay! Problem-Based Learning, I think its ahhm! Whereby we...we... we give students a problem to sort out on their own and then they come up with a solution, I think that is what I understand (with deep voice).

I: eh! Say more if...is there anything you can add?

P: Ammhh! Like for instance students' needs to bring information on their own, you give them broad scenario with no outcomes and they will bring the outcomes for you, so either they will go and look for information at the media centre through the internet, at the hospital if there...within the scenario a patient is involved or they will go to the community, yah! To search for that information and then you need... you need to, am I fast or...?

I: No you get saying, yah!yah!

P: and then you need to give them sometimes like a week, the very same scenario that you are giving to them, i...it... you give them a time to go and search for information and then come up with whatever information that they would have ah!ah!obtained like you are going divide them in groups, isn't it? Yah!then they go and search for the information so after a week they need to come back and give you feedback and all the groups need to present their own findings.

I: Okay!

P: Mmmhhh! Then that's where as a lecturer you will correct where you... you... you realise that they went wrong.

I: Okay!

P:Eyaah!

I: The second question mam! What are the factors that can contribute to the successful implementation of PBL in the institution?

P: I think having...ahhm! (Pausing for less than a second) enough staff, let...let me say or maybe ah!ah!resources, yah! Having enough resources like if you...you...give students a task to go and do on their own in the media centre, I mean it has to have enough resources where learners can go and get information and I think the ammhh! The... the... the... what do they call it? The lab...labora... where they are having computers, computer lab.

I: Mmmhhh!

P: Okay! I think it has also got to be there and have enough space and also I think we need consider the number of students that we are having because PBL I don't think with a huge number of students in an institution can be... (Pauses for less than a second) and the other thing, the curriculum also because when you give a scenario to the learners, it has... to... my understanding it has to cover all of the subjects.

I: Mmmhhh!

P: But now if we are having eh! Like a study guide for eh!eh! biology... biological sciences and then you are having a study guide for psychiatric, at the end of the day the psychiatric lecturer would do her own outcomes and that one also will do her own, but one eh!eh! study guide that can... you know, combine all the subjects for... for that level so that when you give then problem you know that you cover up all these... all the... the content of the subject presented to them, so curriculum I think also it has to be aligned with PBL.

I: Okay!

P: Mmmhhh!

I: Is it all regarding...

P: And time, I think we...we... also need to look at our... the...the... semester or the spreading of the modules because now students will have to spend more time at the clinic setting rather in a classroom, so that also has to be taken into account.

I: Okay!

P: Mmmhhh!

I: (Interviewer taking a deep breath before asking a question), what are the factors that may contribute to failure of implementation of the approach.

P: I think if we are not (participant coughs) if the... the... the...the staff of that institution is not ah!Ahhm! Say work shopped enough on PBL then it can't be implemented and the very factors that I said they are contributing to a successful implementation of PBL.

I: You mean time, the number of students...?

P: All the human... human resource and you know!Ehh!

I: Can you say more regarding the... the factors that may contribute to failure, except the once mentioned?

P: Except the once that are...

I: You mentioned in the...the previous question.

P: Okay! What did I say? Can I say the staff neh?

I: Mmmhhh!

P: If the... the staff is not work shopped, Okay! And then also ah!ahhm! The attitude of both the...the...the...the lecturers and the students because with regard to... from the lecturers side I think is going to...to...to... be like if you are work shopped, you will understand and then is going to be less work for the lecturer, but foe students they will have to go to the...the...the... the field and do the work, like work integrated learning, now its... I think that one also can be a problem and the institution where students are placed, Okay!

I: Mmmhhh!

P: If there isn't enough ah!ah! say like...like normally they would... institutions would give us number that will have to place so many students here so you can't exceed the number of those student, so that also is going to be a negative contributing factors because you will have your student now around so many hospitals neh! At the end of the day you are not able to reach them all, because there are issues of transportation involved in there and also the supervision in the words whereby professional nurses don't know this thing of PBL, Yah! So... so there won't be... I think those things will...will... contribute to...

I: Okay!

P: Mmmhhh!

I: How can this approach change the current system of offering the programme in you institution, that is current teaching and learning approach to students? What do you think could be the changes if this is implemented?

P: If it is implemented?

I:Yaahh!

P: I think ah!ahhm! (Participant coughing) student's participation will be ah! Ah! Increased because our students are really sometimes very reluctant, they depend on the lecturer neh!For

information and I think also they will be more ah!Ahhm! Competent with regard to their clinical practice because, you know, information that you have searched for yourself, i...i...its more retained than the (the door got opened unexpectedly by the participant colleague) one that, its (participant stopped talking because the colleague just entered without being asked to come in) its more retained than the one that is not ah!ah! you are given (Pauses for a while) and they wouldn't be cramming it (noise came up for a while) was looking for something in the participant's office) okay!, so I think students will be more involved, participation will be increased (the door got banged by the colleague) and then the information that they got from the wards will be more retained, they...competency and their confidence will also be increased because if you go and search for something and you know that it is there in the ward, you it boost your...your morale and confidence to say I know this is the way it is, Mmmmmm!

I: What do you think could be the benefits of this approach to the nurse educators as well as the learners in the institution?

P: Mmmhhh! So the lecturers I think ah!ah!you know sometimes we think that we know and we don't know, so us I think students can bring more information that we didn't have, for example, like ah!ah!some things that we say in class we are sometimes not up to date with what is happening at the institutions, now with that it will benefit ah!ah!information brought by students. It will broaden our... (Pauses for less than a second) our minds, okay! And students I think it will really, like I said boost their competency because I think on completion they won't be... you know, ah!ah!like undermining themselves to say am I competent enough to... to... to... can manage the ward alone? On... you know that fear of...of being in charge will be alleviated (Pauses for less than a second) because they know how to manage (pauses)

I: Is there anything you can add more on the benefits for both lecturers and students?

P: Mmmhhh! I think for... for... for lecturers also there... it will really reduce the... the workload and there... the issue of being in class from the morning and you know, yah! I think it will be reduced because giving them a task and then they go and do that task on their own. It reduces your work time as a lecturer to... to be in class and then you spend more time with them at the clinical setting maybe just to see everything is going well, mmmhhh!

I: Okay! Do you think that's all you can say... give?

P: Mmmhhh! I think that's it, but we need... (a noise came up of the door from the passage) we need to... to... to... start with the curriculum.

I: Mmmhhh!

P: you know attending to the curriculum so that we really align it with and also the... the... the... number of students, the intake that we are taking and also except number of students, the... the...the type of students that we are admitting at the ... at the institution because we are taking the RPLs combining with the matriculates' neh!

I: Mmmhhh!

P: Whereby RPLs, you know, really giving them a task, yes in clinical setting they will excel but when it comes to theory then is going to be a problem, but with the matriculates I don't think it will be a problem because matriculates are used to... remember the OBE thing, yes! It's applicable, but also ah!ah! I think if we can start PBL at first year level (Pausing for less than a second), no first year level though it is going to be so... it will be harsh for the RPLs, but if we start at first year level... it... it will assist because this... the once that... the new once would even be used to be... used to a lecture being inform of them, you just come facilitating, giving a scenario and give them time.

I: Okay!

P: Mmmhhh! So starting it at first year level I think it will work

I: Okay!

P: Okay mam! In absence of further explanations regarding this issue or phenomenon, let me take this opportunity to say thank you very much for the information you provided, I think it will add value in the study.

P: Mmmhhh! Okay!

I: And... yah! Thank you very much!

P: Okay!

**Perceptions of Nurse Educators on Problem-Based Learning in Nursing College in
North West Province**

Interview with participant ML

I: = Interviewer

P:= Participant

I: Good day sir!

P: Good day!

I: I am Mr Ramolebatsana. I am a master's student from North West University, doing master degree and as you read the participant information sheet, it talks about the title that says "Perceptions of Nurse Educators on Problem-Based Learning in Nursing eh!College in North West Province.

P: Mmmhhh!

I: So I just want to say thank you very much for creating this time for me, to schedule it at this time for...for the interview that am going to conduct and then I want to remind you that eh! Please do not mention the name of the institution, as well you name during this interview session.

P: Okay!

I: And then I will be asking you about 5 questions then you can talk as much as you can, if you need clarity on each of this questions, you are free to do so.

P: Okay!

I: Starting with the first question sir! What is your view regarding problem-based learning?

P:Aaahh! Problem-Based Learning, aah! (Pauses for less than a second) in some instances they call it problem-based education, aahh! It is eh! A method of learning where the student is given a problem on his own or independently (he pauses).

I: Okay! Is there any info... information you can add on problem-based learning?

P: Aahh! Also on Problem-based learning what I know about it is that eh! in PBL the student is given a task and then he is given... is like a scenario that is given... that is given to him or to her or a group and then they are given a problem to look at the scenario and the problems that are in the scenario and may come up with possible interventions of the problem and the student is also encouraged to look at other angles that are related to the scenario at hand.

I: Okay! What are the factors that can contribute to the successful implementation of PBL in the nursing college?

P: Aahh! The success factors, one is the human resource, aahh! Pauses for less than a second) ah! The human resource predominantly I am referring to the lecturers who will be operating as the facilitators and the... eh! it is important that the facilitator must be conversant with the problem-based learning itself and then must also be conversant with the principles that should be followed so that whatever he is going to implement in PBL, he should also be conversant with it as well.

I: Okay”

P: And the other resources that are needed in PBL it is the... the media centre or the library and because the media centre those will be (pauses for less than a second) the places where the students will be referred to, to get some extra information on the problem that has been given to him, so the... other resources could be getting information through the Google or the internet, eh! because there is a quite number of interesting information eh! especially the recent one that the student can get from... from... from the internet.

I: Okay!

P: Mmmhhh!

I: Are... are... these factors all? The once that you mentioned?

P: Aaahh! (Pauses for a second) eh! The other factors that eh! are important in PBL aahh! I mentioned a human resource, I have mentioned the...

I: Media Centre

P: Media Centre

I: Mmmhhh!

P: Aaahh! Equipment (pauses for a second)

I: Okay! By equipments what you...?

P: Aaahh! By equipments I am referring... is it now when you do a PBL aahh! There might be some e... equipments we need, for example, the... the... the... the...the... (Pauses for less than a second) the torso (pausing again for less than a second), for example maybe a student or maybe I don't... that will fall under the library, but now I think there are some of the equipments, for example, if maybe one is teaching a subject like eh! anatomy and physiology you need to have a structure of human being which can be utilised by the students when maybe they are talking about the different parts of the body or maybe the contents of the cavities of the body, so if that... eh! the torso is there the students will be in a position to talk about something that he can see, something that he can touch and something that he can feel and that is in itself will make learning bit easier for the students.

I: Okay! What are the factors that may contribute to the failure of implementation of this... eh! approach in the nursing college?

P: Aaahh! The.... The failure it could be lack of knowledge and lack of training especially from the facilitators or from the nurse educators, eh! meaning that before they could implement PBL it is important that they should undergo a workshop or training where they will be taught about pa... PBL in general including the principles that should be followed when one is facilitating learning through a PBL method.

I: Okay! Is that all about the...?

P: The other impending method or other factor that can be more a PBL problem is the lack of the resources, Ehhmm! (Pausing for less than a second) like maybe the... there is no library at the college or maybe the library might be there but might be too small because if we are to implement PBL at the college you need to have a very big library which can accommodate quite a large number of students, one should keep in mind that eh! the... the... colleges are taking quite a lot of students eh! currently the intakes at the college are 100 per year eh! I am only referring to the basic programme (pauses).

I: Yes!

P: For the basic... meaning that at first year we might be having about 100 students, second year, third year up to 4th year, and then we also have other programmes at the college like the

bridging, the... the post basic programmes such as the 1 year midwifery programme, we have the 1 year psychiatric programme, we have got eh!primary health care or health assessment, treatment and care programme, and operating theatre programme, etc., etc.

I: Mmmhhh!

P: Yes! So it... am not sure whether the PBL are you referring to it... it be implemented by the co.... the whole programmes that are run by the college or maybe are you also look... or are you only looking at the D4 programme?

I: A... actually the... whole programmes

P: Whole programme (talking simultaneously with the interviewer). Okay! So that is why I was mentioning all this other programmes so that at least we are aware that at the colleges we have more than one programme, so meaning that if that programme has to be implemented the number of students that are accommodated in all these programmes also needs to be taken into consideration because they will add in the number of students and that will be utilising resources like the library.

I: Mmmhhh!

P: that is why I was also saying that now we need to check whether the resources are adequate so that they can accommodate all the students that are at the college.

I: Okay! How can this approach change the current system of offering the programmes in your institution, i.e. eh!... eh!the current teaching and learning approach to students? How...how...how will the PBL change the system that is given now?

P:Aaahh! As you are aware that currently the colleges predominantly are making use of this traditional method, which is the lecture method and in the lecturer the... the lecturer is seen as the... the source of information, students look at the lecturer as somebody who's got all the information pertaining to a particular subject and then when they have questions about a particular subject will in most cases refer to the lecturer concerned, now on the other hand PBL is quite different in the sense that now it... it encourages the students to be independent thinkers. It encourages the students or it sharpens the students skills in problem-solving because in PBL predominantly what they are doing, they are there to solve the problem the problem on their own and the ... (pauses for less than a second) and also the PBL is intended to... to... to encourage the students to do more of the talking in class or during facilitation

than... than the lecturer as opposed to the lecture method where the lecturer is the one who is dominating the discussions or the interaction, so in the case of the PBL it is the learner... the learner actually is sort of in charge of the learning process, is the one who is in charge of the learning process and the... this method again it... it... it... it... it...it... imply that now when one is the ex... one needs to be an expert in that subject because after the student has done or students have done their presentation, the... the... the... the subject expert or the facilitator will be expected to make his comments or maybe identify the gaps as the students are doing their presentation and then he is also or she will also be expected to fill up those gaps (pauses for less than a second) because he will only be in a position to identify the gaps after the students have done the presentation and after he has made his own evaluation or assessment of the whole process of the presentation.

I: Okay! One last question eh! Sir! What do you think could be the benefits of this approach to the nurse educators as well as the learners in the institution?

P: Aaahh! (pauses for a second) to... to... firstly, you are referring... the...?

I: Nurse Educators, the benefits for nurse educators and the students.

P: Okay! For the nurse educator, now the benefits of this method for a nurse educator eh! is that Ehmmm! (Pauses for a second) the... the... the... the... the...the... the nurse educator will also be expected to prepare, it does not mean that now when you are the facilitator you can just go to the class without having preparing yourself, much as you are an expert it means it means that it is important that you should also prepare what the... the... sub... especially the topic that is going to be discussed in class on that particular day and then... secondly the advantage of PBL is that it... it... it... it encourages eh!eh! record keeping because after any interaction as the lecturer you are expected to keep records of all the attendance, the students that are there in class, so it will also assist you as lecturer so that you know when a particular subject was covered in class, who was in class, who was not I class, and then the benefits to the student aahh! is that it... it encourages independent thinking (pauses for a second) eh! it sharpens the students skills in problem-solving because the...the subject or the table or the problem and the... the... the... other eh advantage of... is that now it encourages interaction between the students as well as well as the facilitator, that could also be an advantage to the lecturer himself because now that method it need self... it encourages a n interaction or a two way communication between students as well as the... the lecturer (participant pauses)

I: Okay! Is that all regarding the benefits sir?
