Student nurse challenges in the transition from case based to problem-based learning in a higher education institution in North West

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Dissertation accepted in fulfilment of the requirements for the degree *Master of Nursing Science with Community Nursing Science* at the North-West University

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LIST OF ACRONYMS

BNSc	: Bachelor of Nursing Science
CBL	: Case-based learning
FGD	: Focus Group Discussion
HSAG	: Health South Africa Gesondheid
MNSc	: Masters of Nursing Science
NuMIQ	: Quality in Nursing and Midwifery
NWP	: North West Province
NWU	: North West University
PBL	: Problem-based learning
POPIA	: Protection of Private Information Act
SA	: South Africa
SANC	: South African Nursing Council
SONS	: School of Nursing Science

DEDICATION

This dissertation is a dedication to myself for my strength and perseverance in the face of adversity. I also dedicate it to my wife and kids for bearing with me throughout the study process. I am really grateful to have them in my life.

ACKNOWLEDGEMENTS

My sincere gratitude goes to my supervisors, Mr BJ Molato and Dr MJ Matsipane, for providing astute guidance and insightful feedback throughout this study. I am also grateful to my wife Motshabi, for her continued support, guidance and maintaining elastic tolerance even when conducting this research robbed her of quality family time. I would also like to express my sincere gratitude to the North-West University – Mafikeng Campus, for affording me this precious opportunity to conduct this study.

DECLARATION OF ORIGINALITY

Full names of student **:** Phage Ramoipei James

Student number **:** 22531084

Topic of work **:** Student nurse challenges in the transition from case based to problem based learning in a higher education institution in North West.

Declaration

1. I declare that this dissertation is my own original work. Where other people's work has been used (either from a book, Internet or any other source), this has been properly acknowledged and referenced in accordance with the university requirements.

2. I understand what plagiarism is and am aware of the University's policy in this regard.

3. I have not used work previously produced by another student or any other person to submit as my own.

4. I have not allowed, and will not allow anyone to copy my work with the intention of passing it off as their own work.

Signature **:** RJ Phage

Date **:** 17 November 2022

Place **:** North West University - Mafikeng Campus

ABSTRACT

Background: Challenges faced by student nurses during transition from case-based learning to problem-based learning reported to have a negative effect on the academic, psychological, emotional, or social well-being of students. Subsequently, this predisposes student nurses to high failure rate, anxiety disorders, loss of uniqueness and fear of the unknown. Nevertheless, student nurses use different strategies to overcome challenges faced during transition period.

Aim/purpose: The aim of this study was to explore and describe challenges faced by student nurses during transition from case-based to problem-based learning in a higher education institution of learning in the North West Province, South Africa.

Study setting: The setting of this study was in a higher education institution of learning in the North West Province, South Africa in which the study was conducted.

Methodology: A qualitative exploratory, descriptive and contextual research design was used to explore and describe data. A non-probability research approach and purposive sampling technique was used to sample and select participants. Six focus group discussions via zoom communication were used to collect data in a higher education institution of learning in the North West Province of South Africa. The collected data were analysed using six step of thematic analysis by Braun and Clarke.

Study findings: Challenges regarding facilitation, challenges regarding assessment and strategies to overcome challenges were the three main themes emerged from the collected data.

Conclusion: The study findings established that transitioning from case-based to problem-based learning challenges student nurses differently. There are few strategies suggested by student nurses that might be used to overcome these challenges. Nonetheless, more research studies need to be done because these strategies might not be enough to mitigate the challenges brought about transition from one teaching strategy to another.

Keywords: Case-based learning, Challenges, Problem-based learning, Student nurses, Transition.

SECTION 1: OVERVIEW OF THE STUDY

1 Introduction and background

Case-based learning (CBL) and Problem-based learning (PBL) are long established pedagogic strategies that have been widely implemented throughout various higher institution of learning globally (Li *et al*. 2019:91). In a study conducted in China by Li *et al*. (2019:91), CBL is known as a teaching strategy that involves matching clinical cases in health-care related fields to a body of knowledge in that field, to improve clinical performance, attitudes and teamwork. Case-based learning is a participatory teaching and learning method that facilitates active and reflective learning among student nurses (Hong and Yu, 2017:17). The authors further, indicate that CBL assists student nurses to develop critical thinking and effective problem-solving skills (Hong and Yu, 2017:17).

According to McLean (2016:41), CBL is used worldwide in various educational levels, from undergraduate to post-graduate in the following continents: North America 54.93%, Europe 25.35%, Asia 15.49%, South America 2.82%, and Africa 1.41%. Based on the statistics of CBL usage worldwide, there is an indication that there are indeed benefits associated with CBL as a teaching strategy. Despite the benefits of CBL, there are challenges encountered by student nurses during the teaching and learning process. These challenges include student nurses thinking that classroom activities require a significant amount of time. Moreover, some student nurses are uncomfortable to participate in group activities because they prefer working alone (Ali *et al*. 2018:55). Historically, CBL was born in the United State of America (USA), the year 1870 at Harvard University, Law School, and it antedates problem-based learning (PBL) by a century (Servant-Miklos, 2018:3). This, indeed reiterates that these two teaching strategies have always been used by higher institutions of learning for a long time.

According to literature, PBL in nursing education was first implemented in 1969 at McMaster University Medical School in Canada (Servant-Miklos, 2018:2). Problem-based learning is a form of education in which learning begins with a realistic problem tackled by a small group of students in a class, guided by a teacher who does not teach but

facilitates the students in structuring their learning (Servant-Miklos, 2018:3). Furthermore, PBL is conducted using a problem as the beginning of the learning process. It comprises collaborative learning in small groups, student-centred learning, the guiding role of teachers, and ample time for self-study (Liu *et al*. 2019:43). Goodyear, (2018:2) states that PBL also promotes critical thinking and problem-solving skills, which are essential for clinical reasoning. Although PBL teaching strategy has shown to be beneficial, the findings of the study conducted by McLean, (2016:44) in the United State of America (USA) revealed the challenges faced by PBL include difficulty to cover a large amount of clinical ground, requirement of large amount of teaching resources which usually necessitates restrictions on class size. In addition, PBL can also result in poor performance on test when student nurses are to be assessed by taking standardized test (Goodyear, 2018:2).

In the South African (SA) context, Rakhudu *et al*. (2016:13) reported that five higher institutions of learning have adopted PBL as their teaching strategy. Amongst five institutions that have adopted PBL in South Africa, there is a higher education institution of learning in the North West Province (NWP) that has adopted both CBL and PBL as its teaching strategies in the undergraduate programme since 2002. The particular higher education institution of learning applies CBL in the first two years of study. During third and fourth years, the same student nurses are expected to transition from CBL to PBL which may cause anxiety to the student nurses due to fear of anticipated challenges that may accompany the transition from one teaching strategy to another.

Transition is described as an internal, psychological process that results from a change. The actual change may occur quickly, but the transition process occurs much slowly and is different for everyone (Deane *et al*. 2017:237). The study conducted by Jindal-Snape *et al*. (2019:12) acknowledges that transition may have negative impact on the well-being of the students, either psychological, emotional, or social. Moreover, transition from one teaching strategy to another exposes students to increased failure rate, anxiety disorder, loss of uniqueness and fear of the unknown (Deane *et al*. 2017:237). The researcher is of the view that there might be challenges if the student nurses are to transition from CBL to PBL teaching strategy. The researcher garners this view from the understanding that

CBL and PBL as teaching strategies have their own challenges that may be compounded by the process of transitioning which on its own is a challenge to most students.

2 Problem statement

Despite the benefits of both CBL and PBL, from the background it is evident that there are challenges involved in these two teaching and learning strategies. The challenges of CBL include students often feeling uncomfortable working in a group because they prefer working alone (Ali *et al*. 2018:55) whereas those of PBL include difficulty to cover a large amount of clinical ground (McLean, 2016:44). Furthermore, from the literature the researcher observed that transitioning on its own generally affects students negatively. For instance, Deane *et al*. (2017:237) affirm that students who are transitioning from one teaching strategy to the other are often not progressing well academically because of the anxiety disorder or fear of the unknown that the students encounter during the transition period. Since the implementation of both CBL and PBL in 2002 by one of a higher education institution of learning in the North West Province of South Africa, there is no research study that has been conducted at the particular institution to explore and describe the challenges that the student nurses may be encountering during the transitioning period from CBL to PBL, hence the dearth of literature regarding their challenges. Consequently, the researcher deemed it necessary to explore and describe challenges faced by student nurses who transition from CBL to PBL in a higher education institution of learning in the North West Province of South Africa in order to have a deep understanding from the student nurses' perspectives and thus suggest improvements for the teaching and learning process.

3 Research question

In view of the background and problem statement, the following research question was formulated:

- What are the challenges faced by student nurses during transition from case-based learning to problem-based learning in a higher education institution of learning in the North West Province?

4 Research aim

The aim of this study was to explore and describe challenges faced by student nurses during transition from case-based learning to problem-based learning in a higher education institution of learning in the North West Province.

5 Research objectives

The aim was achieved through the following objective:

- To explore and describe challenges faced by student nurses during transition from Case-based learning to Problem-based learning in a higher education institution of learning in the North West Province.
- To make recommendations that may assist student nurses who transit from CBL to PBL to cope.

6 Significance of the study

The significance of the study focused on nursing education, nursing practice and nursing research as follows:

Nursing education

The study may assist higher institution(s) of learning to be aware of the challenges faced by nursing students during transitioning from CBL to PBL, so that they can be able to support them. The findings may be used to equip the student nurses with the necessary knowledge to deal with challenges that may arise because of transitioning from CBL to PBL. The findings of the study may also inform higher institution(s) of learning in addressing challenges faced by student nurses during the transition period.

Nursing practice

The study is significant to nursing practice as it may assist student nurses to cope with their theoretical teaching in institutions of learning and correlate of theory and practice at the clinical settings.

Nursing research

The study may add more knowledge to body of nursing research regarding what is already known about CBL and PBL thus improve the integrity of nursing research.

7 Study setting

Study setting is the location in which the research will be conducted (Taylor *et al*. 2015:162-164). The study was conducted at one of the institution of higher learning in the NWP, South Africa at which case-based learning and problem-based learning are used to facilitate teaching and learning. The NWP has four districts namely: Bojanala, Dr Ruth Segomotsi Mompati, Kenneth Kaunda and Ngaka Modiri Molema. The higher education institution has a capacity to accommodate four hundred student nurses on average.

8 Definition of concepts

The key concepts defined in this study are challenges, student nurse, case-based learning, problem-based learning and transition and are as follows:

8.1 Challenges

Challenge is something new and difficult which requires great effort and determination. (Guha, 2016:20). For relevancy in this study, challenges will be any difficulties that student nurses encounter during a period of transition from CBL to PBL teaching strategy.

8.2 Student nurse

Student nurse means a person registered with any nursing education institution recognized by law in terms of section 32 of Nursing Act no 33 of 2005 (Nursing Act 33 of 2005). In this study, student nurse is a participant.

8.3 Cased-based learning

Case-based learning is a teaching and learning strategy used in a variety of medical fields using human cases to impart relevance and aid in connecting theory to practice (McLean,

2016:39). In this study, CBL is a teaching strategy that is being used to teach both first and second year student nurses at one of the higher institution of learning

8.2 Problem-based learning

Problem-based learning is an active teaching strategy and open-enquiry in which complex real-world problems are used as the vehicle to promote student learning (Liu *et al*. 2019:43). In this study, PBL is an implemented teaching strategy used to teach both third and fourth year student nurses.

8.3 Transition

Transition is an internal and psychological process that results from a change. (Deane *et al*. 2017:237). For the purpose of this study, transition is a period when student nurses shift from CBL to PBL teaching strategy.

9 Paradigmatic assumptions

In educational research the term paradigm is used to describe a researcher's 'worldview' whereby this worldview is the perspective, or thinking, or school of thought, or set of shared beliefs that informs the meaning or interpretation of research data (Kivunja and Kuyini, 2017:26). The paradigmatic assumptions consist of the meta-theoretical, theoretical and methodological assumptions**.**

9.1. Meta-theoretical assumptions

Meta-theoretical assumptions are the reduction of context-specificity to general statements to enable the application in different research fields or topics which are deliberately chosen and can be reflected on (Lugert, 2022:1). In this study, these assumptions include the person, nursing, and environment as discussed below:

Person

A person is viewed as a bio-psycho-social being influenced by individual cultural beliefs and family (Alvsvåg, 2013:157). The person cannot be torn away from the social environment and the community. There is a similarity between the person and the body,

since human bodies relate to us, the others and the world. The body is a unit of soul, spirit and flesh. The person is bodily and as bodies we both perceive and understand (Alvsvåg, 2013:157). In this study, the person is a student nurse who will be a participant. The person is able to make independent decisions about matters that affect his/her studies.

Nursing

Nursing refers to assisting an individual who is not only sick or unwell to perform the activities that contribute to one's health, recovery, or peaceful death that he/she would have to perform without being helped if he/she had the required strength, will or knowledge (Alligood, 2017:14). Likewise, it is the unique contribution of nursing to help individuals to be independent from this kind of assistance as soon as possible (Alligood, 2017:14). In this study, nursing refers to the researcher's efforts to assist student nurses in a higher education institution of learning in the NWP to articulate their perspectives regarding challenges they are facing during transition from CBL to PBL with the aim of supporting them thus improving the teaching and learning process.

Environment

Environment refers to a place where a human being resides, feels at home and interacts with other people of the same or different societal beliefs, values and customs and physical dimensions that may affect the process of teaching and learning (Alvsvåg, 2013:157). The environmental factor influences the type of a person an individual can become. In this study, the environment is a higher education institution of learning in the NWP, South Africa, where the current study will be conducted.

9.2 Theoretical assumptions

Theoretical assumptions of the study include Central Theoretical Argument (CTA) which is as follows:

Exploring and describing the challenges faced by the student nurses regarding transition from CBL to PBL in the North West Province of South Africa will bring about a greater understanding of this phenomenon. The results and findings of this study might contribute to the improvement of both CBL and PBL teaching strategies by adding value to the body

of knowledge globally. The study might also assist in addressing challenges faced by these student nurses during the teaching and learning process.

9.3 Methodological assumptions

Methodological assumptions are given in the following sections.

9.3.1 Research methodology

The methodology of this study is summarised below and the detailed methodology which was followed is in a specific manuscript that has been submitted to an accredited journal - Health South Africa Gesondheid (HSAG).

9.3.2 Research approach

The research approach is a set of logical steps taken by the researcher to answer the research question (Brink *et al*. 2018:96). This study used qualitative research approach where inductive processes were followed. The qualitative research approach is more concerned with the actual meaning of what people have created, that is, how people make sense of their own world and their experiences thereof, (Merriam, 2015:1). This approach was used to attain an in-depth description and provide a deeper understanding of the challenges faced by student nurses during transition from CBL to PBL in a higher education institution of learning in the NWP, South Africa.

9.3.3 Study design

This study used a qualitative exploratory and descriptive research design to explore and describe challenges faced by the student nurses during transition from CBL to PBL in a higher institution of learning in the North West Province (NWP), South Africa.

10 Population

Population refers to the entire group of people of interest to the researcher (Gentles *et al*. 2015:1775). In this study, the population were student nurses in the third year of study in a higher education institution of learning.

11 Sampling

According Moser and Korstjens (2018:9), sampling is defined as a process of selecting a portion of the population to represent the entire population. In this study, a portion of population selected and interviewed are termed sample. The sampling of this study includes sampling approach, sampling technique, sampling size, and sampling criteria and are discussed below:

Sampling approach

In this study, a non-probability sampling approach was used to draw the sample from the population whereby participants were selected based on the assumption that they had the outmost knowledge about the topic at hand. According to Etikan *et al*. (2016:1), non-probability sampling is an approach whereby samples gathered in a process do not give all the participants in the population an equal chance of being included in the study. A non-probability sampling approach was used because it is cheaper and can be implemented more quickly in sampling participants since the researcher will judge and select participants who know about the topic.

Sampling technique

The purposive sampling techniques was used to select the participants in this study. By virtue of the third year student nurses having used both CBL and PBL in their nursing program, the researcher was of the opinion that they have sufficient knowledge of both teaching strategies.

Sampling size

The sampling size of this study was determined by data saturation. According to Gentles *et al*. (2015:1781), data saturation occurs when adding more participants to the study does not result in obtaining additional or new information, but only the redundancy of data. Data saturation was reached at focus group number six.

Sampling criteria

Sampling criteria refers to the characteristics or quality requirements that researcher identifies and are possessed by the participants with the elements that are to be studied (Gentles *et al*. 2015:1782). The sampling criteria of this study include both the inclusion and exclusion criteria explained as follows:

11.1.1 Inclusion criteria

Inclusion criteria specify attribute(s) that the participants must possess to qualify for the research study (Robinson, 2014:26). In this study, the inclusion criterion includes; the third year student nurses registered for Bachelor of Nursing Science (BNSc) programme, because they are newly introduced to the PBL teaching strategy, the third year student nurses are registered with South African Nursing Council (SANC) under category of student nurse. These are student nurses who have been exposed to both CBL and PBL as teaching and learning strategies in 2020 and 2021 respectively. Additionally, student nurses must understand English both reading and speaking.

11.1.2 Exclusion criteria

The student nurses who did not meet the inclusion criteria were excluded from the study. For example, the first and second year student nurses registered for Bachelor of Nursing Science (BNSc) programme in a higher education institution of learning in the NWP, South Africa, because they are not yet exposed to both CBL and PBL.

12 Data collection

Data were collected using focus group discussions. Since there was corona virus (Covid-19) pandemic, the researcher conducted focus group discussions via zoom video communication to avoid physical contact with participants with the aim of preventing possible exposure to corona virus (Covid-19). The decision to choose zoom video communication was informed by the fact that the prospective participants (third year student nurses) have been using this zoom video communication to attend virtual classroom shortly after the national lockdown was announced. Therefore, the researcher

is of the opinion that these student nurses are conversant with the use of zoom video communication.

The researcher provided all participants with internet data for zoom video communication during their participation period in this study. The zoom video communication strove to be as normal as face-to-face conversation as possible with a specific aim in mind which was to explore and describe challenges faced by student nurses during transition from Case-based learning to Problem-based learning. The process of focus group discussions involved the generation and recording of large amounts of data among others. This was achieved by asking open-ended questions and using other communication techniques such as clarifying, probing and summarising. To increase communication dynamics, the researcher used digital recording on zoom video communication to record focus group discussions (FGD) and wrote field notes. The researcher requested permission from the participants to digitally record the FGD on zoom video communication before each session and reassured the participants that the information recorded will be kept strictly private and confidential. However, the research team which consists of the researcher, principal supervisor, co-supervisor and the co-coder would have access to the collected data, but it would still be kept private and confidential since all the research team members signed the confidentiality agreement.

13 Interview schedule

In order to obtain data during focus group discussions, the following questions were asked to explore and describe student nurse challenges in the transition from case-base to problem-based learning at the chosen higher education institution in the North West Province of South Africa:

- What are the challenges faced by the student nurses during transition from Case-based learning to Problem-based learning in a higher education institution of learning in the North West Province?

- What helps you to overcome the challenges?

- What else do you think other people can do to overcome the challenges?

Follow-up questions using probing, clarifying were used to improve communication dynamics. A copy of the interview schedule can be viewed on **Appendix F.**

14 Data analysis

Data was analysed independently by both the researcher and the co-coder using six steps of thematic analysis by Braun and Clarke (2006). Maguire and Delahunt, (2017:3354) indicate that six steps of Braun and Clarke's thematic analysis could be used to analyse data in this study as follows:

Step 1: Familiarisation with data

The first step in any qualitative analysis is reading and re-reading the transcripts. The researcher familiarized himself with the entire body of data (i.e. all the focus group discussions) before going any further by reading and re-reading the transcripts several times.

Step 2: Generation of initial codes

The researcher organised data in a meaningful and systematic way. Data were reduced into small chunks of meaning by generating codes.

Step 3: Searching for themes

Theme is a pattern that captures something significant or interesting about the data and/or research question (Maguire and Delahunt, 2017:3356). The researcher developed themes that best suited the initial codes.

Step 4: Review themes

During this phase, the researcher reviewed, modified, and developed the preliminary themes that were identified in Step 3, and checked as to whether they were making sense.

At this point, the researcher also gathered all the data that were relevant to each theme for analysis.

Step 5: Defining and naming themes

The researcher did the final refinement of themes aiming to identify the essence of what each theme was about (Maguire and Delahunt, 2017:33511). For instance, what is the theme saying? If there are subthemes, how do they interact and relate to the main theme? How do the themes relate to each other?

Step 6: Writing-up the report.

In this phase, researcher wrote up the findings and recommendation. Moreover, the researcher used recent literature to support the research finding.

15 Ethical considerations

Ethics is the integral aspect of every research study and therefore it was taken into consideration as follows:

15.1 Justice

To ensure fairness, and openness, participants were recruited via word of mouth, and flyers advertising the opportunity to participate in the research study were posted on the notice boards of the higher institution of interest so that the targeted student nurses could see the advertisement.

15.2 Voluntary participation

The participants were informed that the choice to participate in the study was voluntary, and could withdraw from the study at any given time without consequences.

15.3 Informed consent

The participants were adequately informed about the research study, comprehended the information and decided to partake in the study. Likewise, participants agreed to participate in this study only after a thorough explanation of the research process and were competent to consent

15.4 The anonymity

Anonymity of the participants was maintained by using alphabet instead of their names, and identity during FGD, analysis and reporting of the study's findings.

15.5 Privacy and confidentiality

Privacy was maintained by ensuring that participant were on conducive interview environment which was free from noise, and do not disturb sign was placed outside the door of the rooms in which they were in during zoom video communication FGD. The participants were informed not to discuss the content of interview with anyone else to ensure confidentiality. Furthermore, the collected data were managed carefully during data analysis, and dissemination of the findings by keeping it safe in the cabinet with no access to anyone but only the researcher. However, the access of the members of the research team to the data was explained.

15.6 Data analysis and dissemination of study's findings

Data were transcribed in a private room using earphones to avoid the chance of recordings being heard by other people. In presenting the findings of the study, the participants were referred to by their pseudonym names in the verbatim quotes.

15.7 Recruitment of participants

Since the research study involves student nurses, the researcher approached the registrar of the higher institution of learning of interest as well and asked for permission to conduct the research study. However, there was no face-to-face interaction between the researcher and the registrar. All communication was done via telephone and emails with an aim of avoiding the spread of corona virus (Covid-19). After the permission to conduct the research study was granted by the registrar, the researcher sent a formal typed letter via email to the director of School of Nursing Science (SONS) requesting him to be a mediator who would assist in the recruitment of the participants to ensure fairness. The reason to send the letter via email was also to avoid the possibility of the spread of covid-19. The participants were recruited in different ways after the permission to conduct the research study at the higher institution was granted. The recruitment process included:

- The word of mouth; and
- The flyers advertising the opportunity to participate in the research were posted on the notice boards of the higher institution of interest so that the targeted student nurses could see the advertisement. A copy of the recruitment material can be viewed on **Appendix D**.

15.8 Process of obtaining informed consent

After the approval to conducting the research study from relevant stakeholders, the researcher used zoom video communication to obtain informed consent from the prospective participants to avoid physical contact. The researcher convened two zoom video communication sessions whereby in the first session the researcher explained the purpose, aim and objective of the research study to the prospective participants so as to

build rapport between the researcher and the participants. The participants were informed about their rights such as voluntary nature of the choice to participate and the participant's right to withdraw from the research study at any given time should they wish to do so, without being punished. The researcher explained to the prospective participants that focus group discussions would be conducted via zoom video communication. The risks associated with the research study were explained. *i.e.* this study posed minimal risks to the participants, that were 'time and inconvenience'.

The researcher informed the participants that they would remain anonymous throughout the study as their names would not be mentioned. Instead, alphabet would be used to identify the participants. The researcher kept the information obtained from participants confidential and private. Audios were recorded digitally using zoom video communication only on the computer of the researcher to maintain privacy and confidentiality. The researcher further maintained privacy and confidentiality by ensuring that all electronic data were password protected and kept in the password-protected computer of the researcher. Hard copies were kept in a locked cupboard in the access-controlled office of the researcher.

The participants were informed that the collected data would be kept in a safe place for a period of five (5) years to be retrievable if necessary, in the next five (5) years. Moreover, participants were informed that the information obtained from participants would not be shared with anyone apart from the members of the research team, which consists of the researcher, supervisors, and co-coder. However, participants were informed that the findings of the study would be shared with other universities and accredited journals such as Health South Africa Gesondheid (HSAG) for peer review and after that they would be published. The researcher typed the field notes and sent them via email to the co-coder for co-coding and analysis. Subsequently, the recorded digital interviews were downloaded onto the researcher's computer and transcribed by the researcher. This means the researcher transcribed those recordings into a transcription format before sending them via e-mail to the co-coder for co-coding and analysis to minimize the risk of transmitting corona virus (covid-19) between the researcher and the co-coder. The co-coder sent back the co-coded data to the researcher via e-mail for analysis immediately

after the process of co-coding was completed. The participants were reimbursed for their expenses on internet data to fulfil the principle of Time, Inconvenience and Expenses (TIE) and most importantly, no payment was made for their participation because the study did not utilise the working hours where participants could have been paid. Furthermore, the prospective participants were allowed to raise questions and the researcher answered their questions and addressed their concerns honestly and truthfully to reinforce the trust in the relationship. The researcher further sent a copy of a written informed consent form to each prospective participant via email and gave them a period of five to seven working days to familiarize themselves with the informed consent form. After five to seven working days, the second zoom video communication was conducted whereby the prospective participants were allowed to ask further questions for clarity. Moreover, an independent person was utilized to assist only with the process of obtaining consent from the prospective participants who agreed to partake in the research study and they signed the informed consent forms and sent them back to the researcher via email as an agreement to participate on the research study. A copy of the informed consent form can be viewed on **Appendix E.**

15.9 Probable experience of participants

The participants were student nurses in their third year of study in a higher education institution of learning because they had been exposed to both CBL and PBL. Therefore, the researcher believed that the student nurses were appropriate to provide thick and rich information regarding challenges faced during transition from CBL to PBL. Moreover, it was not for the first time other participants participated on focus group discussion.

15.10 Anticipated benefits

Direct benefits for the participants

During focus group discussion, the participants shard their experiences of transition from CBL to PBL which led to participants expressed their frustrations.

Indirect benefits for the institution and society

The study may assist higher institution of learning in NWP to be aware of the challenges faced by student nurses due to transition from CBL to PBL so that they may be supported. The higher institution of learning would be equipped with the necessary knowledge to deal with challenges relating to the transition. In addition, the study could contribute to the body of knowledge of nursing education regarding CBL and PBL.

The findings and results of the study could provide evidence that might improve the competencies of student nurses. The study could empower higher institution of learning to shape educational policies and guidelines aiming to improve teaching and learning of student nurses.

Risk/ benefit ratio analysis

The table below describes the risks and precautionary measure in this study.

Table 1: *Risks and their precautionary measures*

Risks	**Precautions**
Possible Covid-19 spread given the current corona virus pandemic.	The focus group discussions were conducted via zoom video communication to avoid exposing the participants to corona virus (Covid-19) thus ensure "no harm" to the participants.
Emotional risks	Participants are diverse in nature. Therefore, others may suffer emotional stress due to their participation in this research study. In order to mitigate this, the researcher requested every participant that experienced emotional distress as a result of the research study to make the researcher aware so that the researcher

	would liaise with a qualified professional to counsel such participants.
Exhaustion	During focus group discussion, other participants may get tired. In this regard, the focus groups were limited to thirty minutes per focus group session to facilitate productivity.
Limited confidentiality in a focus group	Participants were encouraged to keep the information discussed during focus group discussions confidential and private. Audios were recorded digitally using zoom video communication only on the computer of the researcher to maintain privacy and confidentiality, and in order to minimize this risk. Moreover, focus group rules were set before the commencement of each focus group discussions session which promoted the importance of keeping the content of focus group discussion private and confidential.

15.11 Experience, skills and competency of researcher(s)

Researcher

The researcher successfully completed the ‘introduction to research’ module when studying Diploma in Nursing Science at the college level and further completed research methodology and project when studying Bachelor of Nursing in Education at university

level. For this reason, the researcher has an experience in research. Additionally, the researcher obtained ethics training certificate.

Principal supervisor

The supervisor has an extensive experience in research because he studied research methodology and project management at university level while studying for BNSc. The principal supervisor holds a master's degree in Nursing Science and Community Nursing, Bachelor of Nursing in Education and Post-graduate Diploma in Nursing Management. In addition, the supervisor is currently pursuing his doctoral studies in nursing science. Moreover, the supervisor also underwent ethics training.

Co-supervisor

The co-supervisor holds a PhD, master's degree in Nursing Education and BA Cur Degree in Nursing Management and Nursing Education. Therefore, the co-supervisor has extensive experience in research. The co-supervisor also underwent ethics training.

15.12 Legal authorisation

The researcher submitted the research proposal to the scientific committee of the School of Nursing Science (SONS) and Health Research Ethics Committee (HREC) of the identified higher institution of learning for ethical approval, Ethics number: **NWU-00218-21-S1** was issued by the committee. As soon as the ethical clearance was obtained from both Scientific Committee and HREC, the researcher applied for permission to conduct the research study at Research Data Gatekeeper Committee (RDGC) - Registrar of higher institution of learning of interest prior recruitment of participants and data collection. A mediator was present during the recruitment of participants to ensure fairness in the recruitment process. Before data collection, with assistance of an independent person, the researcher obtained a valid verbal and written informed consent from the participants electronically. For these reasons, the research study was deemed legally recognized because all due process have been followed.

16 Dissemination of research results

The findings and results of this study were shared in this manner: the findings were shared with the participants, the higher institution of learning in which the study was conducted and the accredited journals such as Health South Africa Gesondheid (HSAG) for publication. Recommendations were made available for nurses engaged in practice, education, and research.

17 Conflict of interest

The researcher declared no conflict of interest because no benefits, either financial or otherwise was gained.

18 Data management

After data collection, only the research team (researcher, supervisors, and the co-coder) had access to data. Audios were recorded digitally onto the computer of the researcher. The researcher maintained privacy and confidentiality by ensuring that all electronic data were password-protected and kept in the password-protected computer of the researcher. Hard copies were kept in a locked cupboard in the access-controlled office of the researcher. The audio recordings were deleted from the co-coder and the researcher's computers soon after data were transcribed and co-coded. All data will kept safe for five years.

19 Trustworthiness

Trustworthiness refers to confidence in the truth of data and the interpretation thereof, as defined in Lincon and Guba, cited by Brink *et al*. 2018:158. The worth of this study was evaluated and measured by establishing the following four criteria: Credibility, Dependability, Confirmability and Transferability. The manuscript in section 2 provides comprehensive criteria explanation.

Credibility

Credibility was achieved by using relevant sources, collecting data from the relevant participants such as student nurses in a higher education institution of learning in the NWP, South Africa. Prolonged engagement was achieved to maintain credibility through conducting a zoom video communication meeting with the student nurses to build rapport before the commencement of data collection. Prospective participants were given five (5) to seven (7) days to decide as to whether they would partake in the research study. Focus group discussions were used to collect data from participants to ensure triangulation of research results.

Dependability

Dependability refers to the reliability or replicability of data over time, over conditions and over occasions (Amankwaa, 2016:121-122). In this study, dependability was achieved by following a detailed methodology, thorough transcription, co-coding and analysis of data and through the involvement of an independent researcher to check and audit data results. Detailed research methodology can be seen in manuscript (see section 2).

Confirmability

According to Brink *et al*. (2018:159), confirmability refers to objectivity or the extent to which findings are affected by personal interests and biasness. In this study, confirmability was achieved through audit trails in which data collection and interpretation were carefully documented such that an independent researcher arrived almost at the same findings, conclusions, and recommendations as the actual researcher. The researcher ensured that the information reflected the views of participants not those of the researcher (Brink et al. 2018:159).

Transferability

This refers to the extent of trustworthiness of the research findings and showing that the findings have applicability in other contexts (Amankwaa, 2016:121-122). In this study, transferability was achieved by allowing participants to provide a thick description of the

data by reporting their challenges. In addition, the researcher's observation during the research study was also used to attain transferability. Moreover, transferability was achieved by using purposive sampling techniques, describing detailed research methodology and discussing the study's findings and results in the manuscript in section 2.

20 Research Report Structure

The study followed the article format as follows:

Section 1: Overview of the study.

Section 2*:* Manuscript (Submitted to HSAG journal). Title: Student nurse challenges in the transition from case-based to problem-based learning in a higher education institution in the North West.

Section 3*:* Conclusion, limitations and recommendations.

21 Conclusion

The overview of the study explained the way in which the study about challenges faced by the student nurses during transition from CBL to PBL in the NWP was conducted, aiming to answer the research question emanating from the problem statement as well as meeting the research objectives. A qualitative research approach was followed in this study, whereby an exploratory, descriptive, contextual research design was chosen.

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SECTION 2: MANUSCRIPT

HSAG Manuscript Guidelines

Title: The article's full title should contain a maximum of 95 characters (including spaces).
Abstract: The abstract, written in English, should be no longer than 250 words and must be written in the past tense. The abstract should give a succinct account of the objectives, methods, results and significance of the matter. The structured abstract for an Original Research article should consist of seven paragraphs labelled Background, Aim, Setting, Methods, Results, Conclusion and Contribution.

- **Background:** Summarise the social value (importance, relevance) and scientific value (knowledge gap) that your study addresses.
- **Aim**: State the overall aim of the study.
- **Setting**: State the setting for the study.
- **Methods**: Clearly express the basic design of the study, and name or briefly describe the methods used without going into excessive detail.
- **Results**: State the main findings.
- **Conclusion**: State your conclusion and any key implications or recommendations.
- **Contribution**: Concise statement of the primary contribution of your manuscript.
  Do not cite references and do not use abbreviations excessively in the abstract.
  Introduction: The introduction must contain your argument for the social and scientific value of the study, as well as the aim and objectives:
- Social value: The first part of the introduction should make a clear and logical argument for the importance or relevance of the study. Your argument should be supported by the use of evidence from the literature.
- Scientific value: The second part of the introduction should make a clear and logical argument for the originality of the study. This should include a summary of what is already known about the research question or specific topic and should clarify the knowledge gap

that this study will address. Your argument should be supported by the use of evidence from the literature.

- Conceptual framework: In some research articles it will also be important to describe the underlying theoretical basis for the research and how these theories are linked together in a conceptual framework. The theoretical evidence used to construct the conceptual framework should be referenced from the literature.
- Aim and objectives: The introduction should conclude with a clear summary of the aim and objectives of this study.

Research methods and design: This must address the following:

- Study design: An outline of the type of study design.
- Setting: A description of the setting for the study; for example, the type of community from which the participants came or the nature of the health system and services in which the study is conducted.
- Study population and sampling strategy: Describe the study population and any inclusion or exclusion criteria. Describe the intended sample size and your sample size calculation or justification. Describe the sampling strategy used. Describe in practical terms how this was implemented.
- Intervention (if appropriate): If there were intervention and comparison groups, describe the intervention in detail and what happened to the comparison groups.
- Data collection: Define the data collection tools that were used and their validity. Describe in practical terms how data were collected and any key issues involved, e.g. language barriers.
- Data analysis: Describe how data were captured, checked and cleaned. Describe the analysis process, for example, the statistical tests used or steps followed in qualitative data analysis.
- Ethical considerations: Approval must have been obtained for all studies from the author's institution or other relevant ethics committee and the institution’s name and permit numbers should be stated here.

Results: Present the results of your study in a logical sequence that addresses the aim and objectives of your study. Use tables and figures as required to present your findings. Use quotations as required to establish your interpretation of qualitative data. All units should conform to the **SI convention** and be abbreviated accordingly. Metric units and their international symbols are used throughout, as is the decimal point (not the decimal comma).

[For Qualitative Research - Measures of Trustworthiness]

Measures of Trustworthiness: This refers to the findings of the study being based on the discovery of human experience as it was experienced and observed by the participants. The following are the criteria of trustworthiness, credibility, transferability, dependability and confirmability to be discussed.

[For Quantitative Research - Reliability and Validity]

Reliability: Reliability is the extent to which an experiment, test, or any measuring procedure yields the same result with repeated trials. Without the agreement of independent observers able to replicate research procedures or the ability to use research tools and procedures that yield consistent measurements, researchers would be unable to satisfactorily draw conclusions, formulate theories or make claims about the ability to generalise their research.

Validity: Validity refers to the degree to which a study accurately reflects or assesses the pecific concept that the researcher is attempting to measure. While reliability is concerned with the accuracy of the actual measuring instrument or procedure, validity is concerned with the study's success at measuring what the researchers set out to measure. Researchers should be concerned with both external and internal validity. External validity refers to the extent to which the results of a study are generalisable or transferable. Internal validity refers to:

- The rigor with which the study was conducted (e.g. the study's design, the care taken to conduct measurements and decisions concerning what was and was not measured).
- The extent to which the designers of a study have taken into account alternative explanations for any causal relationships they explore.

Discussion: The discussion section should address the following four elements:

- Key findings: Summarise the key findings without reiterating details of the results.
- Discussion of key findings: Explain how the key findings relate to previous research or to existing knowledge, practice or policy.
- Strengths and limitations: Describe the strengths and limitations of your methods and what the reader should take into account when interpreting your results.
- Implications or recommendations: State the implications of your study or recommendations for future research (questions that remain unanswered), policy or practice. Make sure that the recommendations flow directly from your findings.

  Conclusion: Provide a brief conclusion that summarises the results and their meaning or significance in relation to each objective of the study.

  Acknowledgements: Those who contributed to the work but do not meet our authorship criteria should be listed in the Acknowledgments with a description of the contribution. Authors are responsible for ensuring that anyone named in the Acknowledgments agrees to be named. Refer to the acknowledgement structure guide on our *Formatting Requirements* page.

  Also provide the following, each under their own heading:
- Competing interests: This section should list specific competing interests associated with any of the authors. If authors declare that no competing interests exist, the article will include a statement to this effect: *The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.* Read our **policy on competing interests**.
- Author contributions: All authors must meet the criteria for authorship as outlined in the **authorship** policy and **author contribution** statement policies.
- Funding: Provide information on funding if relevant
- Data availability: All research articles are encouraged to have a data availability statement.
- Disclaimer: A statement that the views expressed in the submitted article are his or her own and not an official position of the institution or funder.

References: Authors should provide direct references to original research sources whenever possible. References should not be used by authors, editors, or peer reviewers to promote self-interests. Refer to the journal referencing style downloadable on our *Formatting Requirements* page.

Tittle

Student nurse challenges in the transition from case based to problem based learning in a higher education institution in North West.

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Abstract

Background: Transition from case-based learning to problem-based learning can be challenging and may have negative effects on the academic, psychological, emotional, or social well-being of the student nurses. As a result, this exposes student nurses to high failure rate, anxiety disorders, loss of uniqueness and fear of the unknown. However, student nurses employ different strategies aimed at overcoming challenges faced during this transition period.

Aim: To explore and describe challenges faced by student nurses during transition from case-based learning to problem-based learning in a higher education institution of learning in the North West Province (NWP), South Africa.

Setting: The study was conducted in one institution of higher learning in the NWP, South Africa.

Methods: An exploratory-descriptive-contextual research design was used. A purposive non-probability sampling technique was used to select participants. Focus group discussions via zoom video communication were used to collect data which were analysed using Braun and Clarke's six steps of thematic analysis.

Results: The following three themes emerged: challenges regarding facilitation, challenges regarding assessment and strategies to overcome challenges.

Conclusion: The study established that student nurses are faced with different challenges during transition from one teaching strategy to another. Student nurses suggested strategies that could be used to overcome these challenges. However, these strategies are not enough and therefore more needs to be done to support and empower student nurses.

Contributions: Understanding challenges faced by student nurses regarding transition from case-based learning to problem-based learning provides insight that may assist in developing strategies to overcome these challenges.

Keywords: Case-based learning, Challenges, Problem-based learning, Student nurses, Transition.

Introduction

The various active learning methods are used in the teaching and learning process in order to produce students who are creative, adaptive to team work and are able to find solutions to the problems of daily life by using the knowledge and skills gained (Günter *et al*. 2017:79). Case-based learning (CBL) and Problem-based learning (PBL) are among these methods of teaching and learning (Günter *et al*. 2017:79). Keeping in view all the aforementioned facts, Li *et al*. (2019:91) assert that CBL and PBL are long established pedagogic teaching strategies that have been widely implemented throughout various higher institution of learning globally. In a study conducted in China by Bi *et al*. (2019:1124), CBL is an active teaching and learning strategy that focuses on student nurses as the centre of the learning environment.

Moreover, CBL encourages student-centred and patient-oriented exploration of realistic and specific situations (Bi *et al*. 2019:1124). The authors also mention that student nurses focus on the patient's case, engage in self-directed learning, scientific inquiry, and collaboration with others in integrating theory and practice. Furthermore, Hassoulas *et al.* (2017:506) states that CBL provides a practical model for students to relate content learning to professional practice and helps them improve the ability to collaborate studying, critical thinking, and clinical problems solving. Despite these benefits of CBL, there are also related challenges that student nurses may encounter which include but are not limited to; students feeling that CBL activities in the classroom take a lot of time, and other students finding it uncomfortable to engage in group learning activities since they prefer working independently (Ali *et al*. 2018:55).

Servant-Miklos, (2018:3) stated that CBL was firstly invented in the United States of America (USA) in 1870 at the Harvard University Law School more than a century before problem-based learning (PBL). As the results, this endorses the fact that indeed the institutions of higher learning have been using these two teaching methods for a very long time. In history, PBL was used initially by nursing education in 1969 at McMaster University Medical School in Canada (Servant-Miklos, 2018:2). PBL is a student-centred

pedagogical approach in which students learn a subject through the experience of solving an open-ended problem found in trigger material (Ghufron and Ermawati, 2018:659).

According to Abdelkarim *et al*. (2018:1078) PBL increases student motivation, desire to learn and strengthens cooperative learning skills. Therefore, students are more likely to become active in their learning. Despite all these advantages, PBL has inherent limitations and disadvantages that cannot be overlooked. For example, PBL requires a significant amount of time, there is lack of training on PBL facilitation, and it is expensive to implement, to mention but a few (Abdelkarim *et al*. 2018:1078).

According to Rakhudu *et al*. (2016:13), there are five institutions of higher learning in South Africa that use PBL teaching strategy. In those five institutions, one higher education institution of learning in the North West Province (NWP) uses both CBL and PBL as their teaching strategies in the undergraduate program since 2002. During the first two years of study, the institution of higher learning uses CBL. Subsequently, during the third and fourth years of study, PBL is used to teach student nurses. As the result, students are expected to transition from CBL to PBL, which might be challenging for them due to fear of the unknown.

Deane *et al*. (2017:237) described transition as an internal, psychological process that results from a change which may occur quickly. However, the transition process occurs considerably much slowly and is unique for each person (Deane *et al*. 2017). The study conducted by Jindal-Snape *et al*. (2019:12) reports that transition may have a negative impact on the well-being of the students, either psychologically, emotionally or socially. Moreover, transitioning from one teaching strategy to another exposes students to increased failure rate, anxiety disorder, loss of uniqueness and fear of the unknown. The researcher is of the view that there might be challenges if the student nurses are to transit from CBL to PBL teaching strategy because CBL, PBL and transition on their own have challenges that affect students.

Research method and design

This study used an exploratory, descriptive, contextual research design to explore and describe challenges faced by student nurses during transition from CBL to PBL in a higher education institution of learning in the NWP, South Africa.

Study setting

The study was conducted in a higher education institution of learning in the NWP, South Africa at which case-based learning and problem-based learning are used to facilitate teaching and learning. The study was conducted only in Ngaka Modiri Molema district in the NWP, because that is where the institution of higher learning is situated. This institution of higher learning has a capacity to accommodate four hundred student nurses on average. It has one spacious lecture theatre, five tutorial rooms, one simulation laboratory, one anatomy laboratory and one physiology laboratory. The higher education institution is presently offering the undergraduate program Bachelor of Nursing Science (BNSc), whereby English is used as a medium of instruction. The BNSc program takes a minimum of four years to complete from first to fourth year level. Currently, the higher institution of learning has a total number of three hundred and nine (309) student nurses.

Population and sampling

The population of this study included student nurses in their third year of study who used CBL and are currently using PBL as their teaching and learning strategies. Although both the third and fourth-year student nurses have been exposed to CBL and PBL, the third-year student nurses were the only population of this study because they were recently exposed to PBL which is new to them. As a result, the researcher believed that the third year students were in a vulnerable position than the fourth years as far as transition from CBL to PBL was concerned. Furthermore, the researcher was of the opinion that the fourth year students might have already been used to PBL hence they were excluded from the population.

A non-probability sampling approach was used in the study since the researcher judged and selected participants based on their utmost knowledge about the phenomenon. A

purposive sampling technique was used to select the participants and the sample size of the study was determined by data saturation.

Data collection method

Data were collected using focus group discussions. Since there was corona virus (Covid-19) pandemic and mass gathering prohibited, the researcher conducted focus group discussions via zoom video communication to avoid physical contact with participants with the aim of minimising the possible exposure to corona virus (covid-19). The decision to choose zoom video communication to conduct focus group discussions was informed by the fact that the prospective participants (third year student nurses) were using zoom video communication to attend virtual classroom teaching shortly after the national lockdown was announced.

Therefore, the researcher was of the opinion that these student nurses were conversant with the use of zoom video communication. The focus group discussions via zoom video communication strived to be as a normal as face-to-face conversation as possible with a specific aim to explore and describe challenges faced by student nurses during transition from Case-based to Problem-based learning in a higher education institution of learning in the North West Province. Open-ended questions were asked to increase communication dynamics. For example, what are the challenges you faced during transition from Case-based to Problem-based learning? What helps you to overcome the challenges? What else do you think other people can do to overcome the challenges? Moreover, follow up questions using probing, clarifying and other communication techniques were used to improve communication dynamics.

Data analysis

The researcher and co-coder analysed data independently using- Braun and Clarke's six steps of thematic analysis. The researcher prepared, organised data from all zoom video communication. The researcher transcribed data from all zoom video communication and sent the transcribed data to the independent co-coder for coding. The co-coder generated themes and subthemes that can be viewed in **Table 3** under results. Both the researcher

and the co-coder held a meeting via zoom video communications to discuss the themes and subthemes and agreed upon those themes and subthemes. Subsequently, the researcher narrated those themes and subthemes, quoted the participants and supported them with literature.

Ethical considerations

The researcher submitted the research proposal to the North West University's scientific committee, Research Data Gatekeeper Committee (RDGC) and Health Research Ethics Committee (**Ethics reference number: NWU-00218-21-s1)**, respectively for ethical approval. Before recruitment of participants and data collection, the study received unanimous approval from all committees. Participants were recruited via a wide range of methods such as word of mouth, and all their rights were explained to them before signing consent forms. Participants signed consent forms before data collection and were addressed by letters of alphabet rather than their names to maintain their anonymity throughout the study. Furthermore, participants were also informed that they were free to withdraw from the study without consequences and that the collected data would be stored for a minimum period of five years.

Results

A total of six (6) focus group discussions via zoom communication video were conducted and data saturation was reached on the sixth focus group. The results of the research study are discussed according to **Table 3** which provides category, themes and subthemes respectively. There is one (1) category, three (3) themes and a total of thirteen (13) subthemes that emerged from the results of the study.

Table 2: ***Category, themes and subthemes***

Category	Theme	Sub-themes
1. Challenges regarding transition from case-based learning to problem-based learning	1.1 Challenges regarding facilitation	1.1.1. Adaptation challenge 1.1.2. Group work 1.1.3. Information search 1.1.4. Workload and insufficient time for PBL content 1.1.5. Lack of proper guidance from lecturers 1.1.6. Learning issues 1.1.7. Online problem-based learning 1.1.8. Lack of student instructors (SI)
	1.2 Challenges regarding assessment	1.2.1. Lack of revision 1.2.2. Lack of feedback
	1.3 Strategies to overcome challenges	1.3.1. Collaborating with classmates /Peer learning 1.3.2. Use of relevant articles, prescribed books and previous question papers 1.3.3. Plan study time 1.3.4. Consultation with lecturers

1. Challenges regarding transition from case-based learning to problem-based learning

Student nurses expressed their challenges regarding transition from case-based learning to problem-based learning in different ways. These challenges included facilitation challenge, assessment challenge, and strategies to overcome challenges respectively. Each form of challenges faced by student nurses as a results of transition were grouped into subthemes and discussed independently as follows:

1.1. Theme 1: Challenges regarding facilitation

The first theme focuses on the challenges regarding facilitation. This theme consists of seven (7) sub-themes that are as follows; Adaptation challenges, group work, information search, increased workload and insufficient time for problem-based learning content, lack of guidance from lecturers, learning issues and online problem-based learning.

Subtheme 1.1.1 Adaptation challenge

Adaptation challenge regarding transiting from CBL to PBL emerged as one of the subthemes. Participants revealed that it was challenging to adapt from one teaching strategy to the other. For instance, learning with PBL as a teaching strategy in third year while used to CBL teaching strategy from first to second year of study. Participants expressed their views as follows:

> "*The challenge that I faced during transition was to adapt from case-based to problem-based learning*." (**Participant U**).

Another participant supported the statement made by participant U adding:

> **"***Well, my point supports the statement of student U. The main problem is that we struggled to adapt*." (**Participant Y**).

Another participant described as to why they had challenge regarding adaptation and alluded:

“With case-based learning, we were face to face with the lecturers. Lecturers guided us that is why we adapted very easily into case-based learning unlike in problem-based learning.” (**Participant W**).

Subtheme 1.1.2 Group work

Working in groups emerged as a challenge student nurses were facing during transition period. Additionally, student nurses added that poor participation of some of the group members and changing of group members on a yearly basis were some of the reasons that lead to group work challenge. Participants talked to the issue of group work versus poor participation and articulated the following:

“*When we transited to problem-based learning, we were given problems to solve, and we were working in groups. Some of the students did not want to participate, we ended up having to go to class unprepared, not being able to solve the given problems. So, the biggest problem was working in groups*.” (**Participant W**).

Another participant concurred with the statement made by participant W:

“The only issue that we had is poor participation from some group members. You gather your own information and end up doing the other member’s part of the job delegated to him/her.” (**Participant D**).

One of the participants explained how the issue of changing group members impacted on group related work and added:

“*The groups are changing every semester and yearly. In the beginning of the year, we expect to have challenges because we are not used to each other as we are all new in the group and it is a big challenge. But as time goes on, it becomes better since we get used to each other as group members. We get to know the strengths and weaknesses of each other and we delegate tasks based on strengths and weaknesses. It becomes much easier to work together in that way. But in next semester or year it is the same routine again where I will get a new group and have to start the process all over again*.” (**Participant A1**).

Subthemes 1.1.3 Information search

Searching and finding of relevant information on databases or search engines was another aspect that emerged as a subtheme. On top of that, student nurses added there was lack of judgment from the lecturers as to whether the acquired information was relevant or not. Below are some of the views the participants mentioned:

> *"You have to go and look for information and sometimes you don't even know the sites (database) to get information from. You find out that sometimes you didn't get enough information and feedback from the lecturer, and you don't know if you are right or wrong*." (**Participant N**).

Another participant described looking of information as a challenge:

> "*Problem-based learning is a whole new experience on its own as we look for information ourselves which is a challenge*." (**Participant A5**).

Subtheme 1.1.4 Workload and insufficient time for PBL content

Student nurses reported increased workload accompanied by insufficient time for PBL content as a challenge that arose during transition from CBL to PBL. Most of the participants indicated:

> "*It (PBL) needs you to be very flexible of which it comes with a lot of work and we don't have much time because we are doing practicals as well as theory*." (**Participant K**).

The views was shared by other participants who added:

> *"With PBL we do a lot of different topics in a short period of time, and we end up struggling remembering all the conditions, we lose concentration*." (**Participant Q**).

> "*Another challenge is that the PBL workload is too much, as a student the workload is always a challenge but, in this case, it was too much to a point that we ended up doing the work for the sake of just submitting*." (**Participant S**).

“I don’t know if it comes with problem-based learning, but I feel like our lecturers gives us less time to do the work. They will give us work on Friday and say we must submit on Tuesday.” (**Participant H**).

Subtheme 1.1.5 Lack of proper guidance from lecturers

Lack of proper guidance from lecturers emerged as one of the subthemes. Students raised concern about transiting from CBL to PBL, they are often not guided by lecturers when given homework. As a result, this poses a challenge. Some of the comments made by participants were follows:

“Most of the work is being done by the student without the guidance of the lecturers, it’s more like you are your own lecturer.” (**Participant P**).

“Sometimes we do not get clarity in class, we are usually given a topic or condition and we go and prepare when we come back to present, there is usually no clarity whether we have done the work correctly or wrongly, or what we should correct is here and there.” (**Participant A2**).

"Personally the challenge that I face with transiting to problem-based learning (PBL) is that, we are given a problem and we have to go and find solutions ourselves, then we present it to the lecturers after that we are not corrected or told that this and that is wrong, there are always learning issue and if we ask questions, the questions are not answered.**”** (**Participant Q**).

Subtheme 1.1.6 Learning issues

Learning issue emerged as one of the subthemes. “Learning issue” in this context is homework given to student nurses in class where students don’t reach consensus about certain information presented**.** The majority of participants raised concern about challenge regarding learning issues and commented as follows:

“In problem-based learning, we facilitate everything ourselves. So we end up having learning issues, then we go and research about them then come back the next day and present the same thing. We are not facilitated properly or corrected

by the module facilitator in most cases, hence we end up having learning issues." (**Participant U**).

The other participants also commented on the problem of learning issues:

"*Regarding transition to problem-based learning, during our PBL classes there can be something new or a question that is raised and if we don't give the correct answers in class, it becomes a learning issue which may take a very long time to come up with the correct answer and that makes it hard to adjust to problem-based learning.*" (**Participant A3**).

"*If we can't find the correct information or answer for that learning issue, it becomes a learning issue for about three weeks*." (**Participant H**).

"It can become a learning issue forever, for as long as none of us comes up with a direct or correct answers and still, if we come up with the wrong answers during presentations then it is going to proceed as a learning issue until we come up with the right answers." (**Participant A6**).

Subsequently, another participant added and commented:

"*Adding on the learning issues, yes, my colleagues are correct with this process of us getting learning issues every week instead of the lecturers correcting us-It is a problem because if we were supposed to finish one module in 10 weeks, we end up taking longer to finish the module because of those learning issues*." (**Participant A1**).

Subtheme 1.1.7 Online problem-based learning

Online problem-based learning facilitation emerged as one of the subthemes. Student nurses expressed their challenges relating to the conveyance of PBL via online platform. As a result, this affected their transition to PBL. The majority of participants raised a serious concern about the PBL that was conducted online. The majority of participants have articulated:

"I feel like it is the online learning that is challenging, so I think since we are going back to contact learning, I think it is going to be much better." (**Participant P**).

"The online learning also contributed in us not really understanding the problem-based learning. Even now, we don't fully understand problem-based learning, because we have been doing it online." (**Participant W**).

"Sometimes you will find that we attend class while we are in our beds and you will fall asleep and when you wake up you did not hear anything, that's the problem. Because we are attending online in our own space, we will be sleeping, and the lecturers are not even aware of that." (**Participant J**).

The other participants also raised their views and mentioned:

"We are using online platforms such as zoom video communications to attend class and some people have connectivity problems. They will be having the correct answer but due to connectivity problem, they cannot give that answer, then it becomes a learning issue." (**Participant A1**).

"*Remember most of the lessons are conducted online and we have network issues, so sometimes when there is an assistant we experience connectivity issues and end up missing that segment of the lesson*." (**Participant A5**).

"Most classes are online and there are connectivity issues sometimes. This makes it hard to voice out your opinion, so we can't express ourselves like in a contact class." (**Participant P**).

One participant highlighted that she didn't have a problem with transition from CBL to PBL. However, the main challenge was PBL that was conducted online:

"I did not have problems or challenges with transition from case-based learning to problem-based learning, so for me the issue was more of the online problem-based learning." (**Participant S**).

Subtheme 1.1.8 Lack of student instructors (SI)

Lack of student instructor (SI) also emerged as one of the subthemes. Student nurses expressed their concern relating to lack of student instructor in third level where they needed them the most. In this context, student instructor (SI) is any senior student that will helps junior students with their studies by facilitating extra classes during their spare time. Students mentioned that in their first and second year whereby they were using case-based learning, they used to have student instructors and that helped them a great deal. For this reason, they believe if the same principle could be applied at third year where they uses problem-based learning that can help them adapt well in PBL teaching strategy. Participants expressed their own views regarding lack of student instructors (SI):

> *"it is not advice per se to the students but it's a suggestion on what the lecturers could do or what the school of nursing science could implement, like for our ancillary modules we used to have SI. So maybe if they can introduce SI's for third and fourth years whereby other students can conduct classes to explain further for those who needs further explanations. Since they are senior students, they can explain clear to the junior students*." (**Participant G**).

Another participant added:

> "*Sometimes I just wish we had SI for certain modules, like other student who are doing different courses have SI to help them. So, in this course in level 3, we don't have SI who can help us with studying like other programs in the university*." (**Participant A4**).

1.2 Theme 2: Challenges regarding assessment

The second theme which focused on the challenges regarding assessment of student nurses produced two (2) sub-themes, namely, lack of feedback and revision. The sub-themes are discussed as follows:

Subtheme 1.2.1 Lack of feedback

Lack of feedback from lecturers is another subtheme that emerged. Student nurses raised their concern about, lecturers who usually don't give feedback or correct them where they

are wrong or when they do, it is not sufficient. As a result, this impacts their assessment negatively. One participant uttered:

> *"With lecturers in PBL we do not get correction or feedback*." (**Participant Q**).

Another participant added:

> "*Sometimes you didn't get enough feedback from the lecturer and you don't know if you are right or wrong*." (**Participant N**).

Subtheme 1.2.2 Lack of revision

Lack of revision emerged as one of the subthemes. Student nurses reported that sometimes there is less time to do revision which somehow results in a challenge during assessments. One participant stated that:

> *"When we are busy with the learning issues, we can't move to other topics, that way we have less time to finish that module for that semester. In that way, we don't have enough revision time for the exam*." (**Participant H**).

Another participant added and said:

> ***"****The learning issues makes the duration of PBL modules longer, it can take up to 16 weeks or 17 weeks and we end up finishing late and it wastes the time we should be using for revising the content of that module in preparation for the upcoming tests or exams*." (**Participant A1**).

1.3 Theme 3: Strategies to overcome challenges

The third theme focuses on the strategies used by student nurses to overcome challenges faced during transition from CBL to PBL. These themes consist of four (04) sub-themes namely; collaboration with classmates/peer-assisted learning, use of relevant study materials such as articles, prescribed books and past question papers, planning of study time and consultation with lecturers. The subthemes are discussed as follows:

Subtheme 1.3.1 Collaboration with classmates/Peer-assisted learning

Collaboration with classmates also referred to as peer-assisted learning emerged as one of the subthemes. Students identified the use of peer-assisted learning as one of the strategies they used to overcome challenges faced during transition from case-based to problem-based learning. Different participants explained:

> *"I will also ask the presentations of different groups and compile and study with it together with my own work because I can not only rely on my work to help me so that's how I manage to cope*." (**Participant N**).

> *"Studying as a group also helps because discussing amongst ourselves also makes it easier*." (**Participant Q**).

> *"We as students decided to share the presentations and slides that we had with each other, and we would discuss with each other or go into other platforms like YouTube to watch videos that would give more information. It made it much better*." (**Participant S**).

Furthermore participants added:

> *"What helps is to consult each other because you may find that some else understands the problem better than I do. We would help each other that way." (***Participant A6**).

> *"Collaborated teamwork will assist in getting information that the lecturer will, accept at the end of the day*." (**Participant Y**).

> *"I will advise students to utilize good communication, it helps a lot to communicate with others especially when you are approach exams it happens that there are some things that you don't understand that my friend can explains to me. It is easy to remember what your friend said than remembering what the lecturer said because is sometimes intimidating*." (**Participant L**).

Subsequently, another participant revealed that:

> *"What I did when I studied was to put more effort and ask my fellow classmates to explain some things to me, because sometimes it's a bit difficult to approach the lecturers, so I prefer to ask my colleagues to help me where they understand*." (**Participant N**).

> *"Studying as a group also helps because discussing amongst ourselves also makes it easier*." (**Participant Q**).

> *"To add on to what student M said, I think what also helps to overcome the challenges is to get different presentations from different groups as some conditions have similar symptoms so by gathering all that information you will know what makes them different*." (**Participant K**).

Subtheme 1.3.2 Use of relevant study materials such as articles, prescribed books and past question papers

The use of relevant study materials such as articles, prescribe books and past question papers emerged as one of the subthemes. Student nurses reported the use of relevant study materials such as articles, prescribed books and previous question papers as a strategy to overcome challenges faced during transition from CBL to PBL. Participants stated:

> *"The right prescribes textbooks and also relying on online books for more information helped me to improve in my second semester*." (**Participant K**).

> *"So firstly, I will start with either google scholar and find information and after that I will go to the library for additional information and more sources*." (**Participant W**).

Another participant added:

“What helped me was going through past question papers to see how the lecturers are setting - that’s my other coping mechanism. So that one helped a lot.” (**Participant Q**).

Subtheme 1.3.3 Plan study time

Planning study time also emerge as a subtheme. Student nurses described proper planning of study time as one of the strategies used to overcome challenges faced during transition from CBL to PBL. One of the participants articulated:

“*I did what all the other students did basically. I put more effort and practiced time management. I look on the dates for tests, placement and exams. It also helps to note them down so that you plan study time for yourself thus give yourself time to prepare*.” (**Participant M**).

Another participant said:

“*Prepare before time like before going to class, so as to know the topics that will be done*.” (**Participant P**).

Subtheme 1.3.4 Consultation with lecturers

Consultation with lecturers emerged as one of the subthemes. Student nurses reported consultation with lecturers as a strategy to overcome challenges faced during transition from CBL to PBL. Participants expressed their views and mentioned:

“If I feel like I have questions I usually go and consult the module facilitator or the relevant person referred to by the module facilitator to consult.” (**Participant U**).

“Well, what I can advise others is that they should consult the lectures because some of us failed to consult that is where we encounter problems they should consult more and also use the library, they can use the scenarios on the question papers.” (**Participant N**).

Another participant added:

> *"I am forgetting to add consultation the lecturers where they give you feedback and show you what to do*." (**Participant P**).

> *"The consultations with the lecturers were helpful because they helped us identify the areas that were troubling us too much and we would try to work on them*." (**Participant A5**).

> *"Attending class wholeheartedly, making notes and revising after each class in order to identify the areas where challenges are. After that, consult the lecturers with informed information because some lecturers like to ask what it is that you really don't understand and you can't say everything, you have to be specific on what you don't understand*." (**Participant M**).

Measures of Trustworthiness

Trustworthiness was evaluated and measured through the following criteria as outlined in Lincoln and Guba cited by Brink *et al*. 2018:158 namely: Credibility, Transferability, Dependability and confirmability. Credibility was upheld by prolonged engagement with participants via zoom video communication meetings before data collection to build rapport and during data collection to obtain rich data. Furthermore, credibility was achieved by giving participants enough time to respond to open-ended question without the researcher leading them. Transferability was attained by obtaining rich data through detailed methodology and proper sampling. Dependability was achieved by following explicit research methodology, proper transcription and coding of data, formulating categories, themes and sub-themes, involving supervisor and co-supervisor to check and audit data results over and over again and support the study results with literature. Lastly, confirmability was achieved through audit trails in which data collection and interpretation were carefully documented such that an independent researcher arrived almost at the same findings, conclusions and recommendations as the actual researcher. The

researcher ensured that the information reflected the views of participants not that of the researcher (Brink *et al*. 2018:159).

Discussions

The study explored and described challenges faced by student nurses during transition from case-based learning to problem-based learning in a higher education institution of learning in the North West Province. The data's findings particularly identified three (3) themes; challenges regarding facilitation, challenges regarding assessment and strategies to overcome challenges.

Challenges regarding facilitation

Transition from case-based learning (CBL) to problem-based learning (PBL) has presented several challenges for student nurses. Challenges regarding facilitation appeared as the primary theme from the collected data and subthemes were also identified. Many student nurses stressed how challenging it was to transition from one teaching strategy to another. As a result, students worry excessively about their success with PBL as the newly introduced teaching strategy (Seibert, 2021:85). The same author further reported that student nurses who adapt to the PBL process experience anxiety and fear of the unknown. Taken together, these findings suggest that transitioning from one teaching strategy to another requires the necessary support for student nurses.

The issue of working in groups was also reported to be a challenge mainly because of poor participation by most of the group members. In this context, working in groups refers to a teaching-learning method consisting of both collaborative and cooperative learning launched to achieve a common goal (Wong, 2018: 154). Pahomov, (2018: 34), stated that working in groups requires students to not just work with groups, but truly collaborate with peers to respond to a given assignment and reach a common objective. However, this cannot be achieved if there is poor participation from the students. Ideally, when all group members participate in group work, this leads to a product that reflects the full integration of participants' diverse skill sets (Pahomov, 2018: 34).

Despite of PBL promoting the notion that students should conduct independent information searches, the difficulty in searching for and finding of relevant literature on accessible databases was reported by the student nurses. Particularly when one is unfamiliar with searching methods. This discrepancy could be attributed to students having difficulty in transitioning to PBL. According to Spry and Mierzwinski-Urban, (2018:521), successful electronic information searches involve a variety of steps, including selecting the right databases for the search, relevant keywords, acceptable headings as key features and correct spelling. Finding the appropriate information will be challenging if these factors are not considered. (Spry and Mierzwinski-Urban, 2018:521). However, Scells *et al*. (2020: 385) holds the view that, the process that mostly influences biasness is the creation of search strategies. If the findings of Spry and Mierzwinski-Urban, (2018:521) and Scells *et al*. (2020: 385) are accurate, student nurses must keep both findings in mind.

The fact that there is more work to do within a short time given to complete content using PBL was another significant challenge raised by student nurses. Abdelkarim *et al*., (2018:1078) acknowledge that PBL has a variety of drawbacks which include but are not limited to, students' preparation which is somehow increases their workload and time constrains. In addition, Ghufron and Ermawati's study (2018:670) established that it is challenging to implement the PBL since it requires a lot of time, planning, and work. It may be argued that it is obvious that transitioning from CBL to PBL does in fact raises challenge and time demands on student nurses. Therefore, one possible implication of this is that while using PBL to approach curriculum, student nurses should be given adequate time.

A further challenge which emerged was lack of proper guidance from lecturers during transitioning from CBL to PBL. Bouwmeester *et al*. (2019:119), added that a well-informed lecturers are essential for fostering critical thinking and guiding student nurses on problem solving techniques. Salari *et al*. (2018:2) further stated that in PBL, lecturers must strives to guide students as their immediate facilitators and must be considered as a coaches who provide guidance to keep students on track. Literature suggests that Bouwmeester

and Salari have similar views. In conclusion, in order to transit properly from CBL to PBL, student nurses should be cautiously guided.

Another significant challenge brought by the student nurses was the constant ongoing learning issues with PBL curriculum. If a group of student nurses cannot agree on a particular aspect of knowledge presented, it is a "learning issue" and homework is assigned to the students. In this context “learning issue” is the homework given to student. Consequently, the findings of the study suggest that transitioning from CBL to PBL becomes even more challenging because there are more “learning issues”, which in turn result in a greater burden for students. In this regard, students are not corrected and they even go to the examination or test without knowing the appropriate knowledge which is a challenge because it may lead to poor performance.

A study conducted by Songsirisak and Jitpranee (2019:2), explains the fundamental objectives of homework which is to evaluate students' understanding and learning progress. Furthermore, it also gives students the chance to enhance their study habits, academic performance, and *academic* achievements. However, students' perspectives on homework vary depending on their educational backgrounds, worldviews, attitudes, and cultures (Songsirisak and Jitpranee, 2019:1). Despite the purported objectives and benefits of homework, the study's finding suggest that student nurses are not content with receiving homework and have negative attitudes towards it. As a result, it can be suggested that to balance workload and ensure that students are acquiring enough knowledge at the same time, student nurses should only be assigned a reasonable workload of homework.

The study's findings also revealed that facilitating online problem-based learning was another significant challenge. This means that the student nurses attended their classes online utilizing a problem-based learning approach. In the study conducted by García-Morales *et al*. (2021:3), students who took classes online experienced difficulties with connectivity issues caused by unexpected network outages. Daugvilaite, (2021:182) further added that disruptions to the connection or freezing of the screen during an online lesson caused students to lose focus and interrupted learning. García-Morales *et al*. (2021:3) noted additional significant disadvantages of online learning, which include

boredom, a feeling of isolation, lack of time to study various subjects, and lack of self-organizational skills. The findings of this study support García-Morales's study in a sense that participants in this study also reported the same challenges.

Lack of student instructors was identified by student nurses as another critical challenge. In the context of this study, senior students in their final year who help junior students with a specific module or offer supplementary classes for junior students are known as student instructors. The lack of student instructors in third year has caused a major worry among student nurses, who feel that it disadvantages them. Davis and Richardson (2017: 1188) reported that peer facilitation complements adult learning theories as it unifies cognitive, social and constructivist theories. Additionally, according to Oh *et al.* (2018:494), student nurses reported feeling more comfortable sharing their own thoughts in a peer-facilitation and the students preferred discussion that is facilitated by their peers. Moreover, students tended to contribute more original ideas and show a more engaged level of participation when peers facilitated dialogues (Oh *et al*. 2018:494). In view of the above conversation, the similar recommendation made by Davis and Richardson (2017: 1188) for universities to empower second and third-year students to peer facilitate learning sessions for first-year students can be implemented for the third years.

Challenges regarding assessment

The challenges regarding assessment of student nurses emerged as a second theme of the study. This entails lack of feedback and lack of revision. The first subtheme to emerge from this theme was the lack of feedback. Seibert (2021:85) asserts that lecturers must be aware that student nurses require more encouragement, support, and feedback when participating in PBL for the first time to simplify their transition process. On the other hand, in the study by Seibert (2021:85), the student nurses expressed their gratitude for the lecturers who provided feedback and support and encouragement. Therefore, students should be motivated, supported, and provided feedback to reduce any anxiety they may be experiencing as a result of taking part in PBL for the first time thus simplify their transitioning process.

Lack of revision by student nurses became the second subtheme for this theme. Students stated that while they struggle to transition entirely to PBL, they finish modules content

late, which leaves them with less time to revise for tests and examinations causing them to panic. According to Cottrell's study (2017: 14), simply having an extra time available for studying and revision can be beneficial in a sense that it somehow allay their anxiety relating to tests and examination. Duret *et al*. (2018:10), noted that some students cram the day or even hours prior to a test or examination. It is clear from the literature and study findings that students require ample time for study and revision to avoid stressing out and cramming during tests and examination because they are not really learning the relevant knowledge, skills and attitudes inherent in the nursing profession.

Strategies to overcome challenges

The last theme that emerged from the findings of this study was strategies used by student nurses to overcome challenges faced during transition from CBL to PBL. There were four subthemes that emerged from the main theme. The first subtheme to emerge was peer-assisted learning. According to student nurses, transitioning from CBL to PBL brought many challenges as highlighted in the study's findings. However, students developed certain strategies to overcome those challenges such as learning from what other students do to deal with those challenges and assisting one another.

The evidence from this study findings suggest that this strategy is corroborated by the study of Abdullah and Chan, (2018:185) which states that learning with and from peers enables one to gain learning outcomes including teamwork, critical thinking, communication, and other skills such as coping mechanism. Similar to this, Johnson and Johnson's study (2018:61) established that peer-assisted learning involves classmates of equal status actively helping one another with learning related issues. Additionally, peer-assisted learning is built on collaboration because support and motivation rarely include competitive engagement (Johnson and Johnson, 2018:61).

One of the subthemes that emerged was the usage of pertinent study materials, such as peer reviewed articles, prescribed books, and past question papers. The utilization of pertinent study materials was reported by student nurses as one of the strategies to overcome challenges they encountered during the transition from CBL to PBL. Most of institutions and individuals share their learning resources on the Internet in an open and

cost-free manner as Open Educational Resources (OER), even though they are frequently regarded as important intellectual property in the competitive higher education industry (Hylén, 2021:1). According to Hylén (2021:1), OER are broadly characterized as digital materials that are freely and openly made available for teachers, students, and self-learners to use and re-use for teaching, learning, and research.

Within the higher education context, Colvard *et al*., (2018: 263) state that OER normally include free, online learning content, software tools, and accumulated digital curricula that are not restricted by copyright license and available to retain, reuse, revise, remix, and redistribute (5Rs). From the literature, it is clear that the usage of pertinent study material is beneficial to the students.

Planning study time emerged as another crucial subtheme. One of the strategies used by student nurses to overcome challenges experienced during transition from CBL to PBL was proper time management. However, Adams and Blair (2019:1), state that many students struggle to strike a balance between their daily activities and their studies. Effective time management is linked to better academic achievement and decreased levels of anxiety in students as students learn coping strategies that allow them to negotiate competing demands (Adams and Blair, 2019:1, and Razali *et al*., (2018:1). Additionally, Razali *et al*. (2018:1) noted that students today frequently complain that they don't have enough time to finish all the duties that have been given to them. The literature supports the concept that suggest that students who plan study time prosper academically.

Another important subtheme that emerged from the main theme was consultation with lecturers. Student nurses mentioned consultation with lecturers as a strategy for overcoming challenges during the transition from CBL to PBL. According to Agustin *et al*, (2020:40), the challenge could be students who are failing academically which can affect other aspects of the students' lives. One of the strategies to address this is to consult with lecturers who can provide counseling and guidance services with a primary focus on academic and personal social guidance for students (Agustin *et al*, (2020:41).

Furthermore, Supriyanto *et al*. (2020:176) added that including an advising method in the learning process, where a knowledgeable lecturer can advise students to direct their explorations accelerates learning. However, the recommendations of other studies suggest that lecturer be an expert in the subject being learned (Supriyanto *et al*, 2020:176). Therefore, literature supports the student nurses' route of consulting with lecturers to assist them with the challenge they experience during transition period.

Conclusion

The study explored and described challenges faced by student nurses during transition from case-based learning to problem-based learning in a higher education institution of learning in the North West Province of South Africa. The study has identified that student nurses were faced with different challenges during transition period from CBL to PBL as teaching and learning strategies. Therefore, necessary support should be given to students in order for them to cope with challenges brought about transitioning from one teaching strategy to another. However, student nurses suggested strategies that could also be used to overcome such challenges. Furthermore, the findings reported here provided new light that student nurses who are accustomed to case-based learning may resist to take more responsibility for their own learning when they are to transition to problem-based learning. This might happen even-though there is evidence in literature that indicate that problem-based learning adds value to the educational experience.

Limitations

The study was conducted in one institution of higher learning in Ngaka Modiri Molema district, the North West Province of South Africa. As a result, the study's results and findings cannot be generalized to other institutions of higher learning of other districts, province or the entire nation.

Recommendations

Since a search of literature revealed no specific studies about challenges faced by student nurses during transition from CBL to PBL, this study recommends that further research should be conducted. Furthermore, the study recommends that more research

on strategies to overcome challenges faced by student nurses when they are transitioning from one teaching strategy to the other should be conducted, especially from case-based learning into problem-based learning in order to improve teaching and learning as a whole. Nonetheless, the findings of this study may add knowledge to what is already known about the CBL and PBL

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Competing interest

The author declares no conflict of interest and has no financial nor personal relationship that could have unduly influenced the writing of this article.

Author's contributions

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Data availability statement

The author confirms that the data are available. However, it cannot be shared with anyone as per agreement established with participants according to research regulations and POPIA, protected by HREC. However, the data that support the findings of this study are available within the article.

Disclaimer

The views and opinions expressed in this manuscript are that of authors and do not represent the official stance or policy of any organization to which the author is affiliated.

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SECTION 3: SUMMARY, LIMITATIONS AND RECOMMENDATIONS

3.1 Introduction

The study aimed at exploring and describing challenges faced by student nurses regarding transition from case-based learning (CBL) to problem-based learning (PBL) at one institution of higher learning in the North West Province (NWP), South Africa. The study consists of three sections whereby section one covers overview of the study, section two entails manuscript drafted following Health South Africa Gesondheid (HSAG) guidelines and section three includes summary of the findings, limitations and recommendations.

3.2 Summary of the findings

Conclusions of this study were made after transcribing, analysing and co-coding of the collected data from student nurses via zoom communication video in a higher education institution of learning in the NWP, South Africa. From the collected data, three main themes were emerged and their conclusions were discussed as follows:

Summary relating to challenges regarding facilitation

The study findings revealed challenges regarding facilitation as the first broad theme. Subthemes such as adaptation challenges, group work, information search, increased workload and insufficient time for problem-based learning (PBL) content, lack of guidance from lecturers, learning issues and online PBL were drawn from the main theme. Student nurses reported that it was challenging to adapt during transition from cased-based learning (CBL) to problem-based learning (PBL). Challenges regarding group work were also reported by participants. The other challenge mentioned was in relation to the search of information on various accessible databases as well as increased workload with an insufficient time for PBL content. The student nurses also raised lack of guidance from lecturers as another challenge faced during the transition period. Furthermore, increased amount of learning issues which refer to homework and online PBL were reported by students as further challenges faced.

Summary relating to challenges regarding assessments

Challenges regarding assessments emerged as the second main theme. Two subthemes of this main theme include lack of revision and lack of feedback. Student nurses reported that there was limited time for PBL content and as a result revision for tests and examinations became a challenge due to time constrains. Moreover, participants also raised lack of feedback from lectures as another challenge encountered during transiting from CBL to PBL.

Summary regarding strategies to overcome challenges

Strategies to overcome challenges emerged as a third main theme. Student nurses identified different strategies they used to deal with the challenges faced during transition from CBL to PBL in a higher education institution of learning in the NWP, South Africa. These strategies emerged as four subthemes that include collaborating with classmates /Peer learning, use of relevant articles, prescribed books and previous question papers, planning study time and consultation with lecturers.

3.3 Limitations

This study was conducted in one institution of higher learning in Ngaka Modiri Molema district, the North West Province of South Africa. As a result, the study findings are contextualized to this setting and therefore cannot be generalized to other institutions of higher learning of other districts, provinces or the entire nation.

3.4 Recommendations

The recommendations were made based on the study findings and the reviewed literature supporting the findings. The following recommendation were made for nursing education, practice and research:

Nursing education

The study recommends that:

- The selected school of nursing science should develop a program that will support student nurses during transition from CBL to PBL, thus enable them to overcome these challenges with ease.
- The program should include strategies that will guide student nurses throughout the transition period.
- These strategies can be included in the curriculum of the School of Nursing Science where possible.

Nursing practice

The study recommends that:

- The student nurses should be assisted to cope with their theoretical teaching so that the correlation of theory and practice at the clinical settings becomes easy for them to become competent practitioners.
- This can be done by establishing clinical training units at the facilities so that the practical component be reinforced.

Nursing research

The study recommends that:

- More research on strategies to overcome challenges faced by student nurses when they are transitioning from one teaching strategy to the other should be conducted, especially from cased-based learning to problem-based learning to add more knowledge on what is already known about CBL and PBL.

3.5 Conclusion

Transitioning from one teaching strategy to the other may become challenging for some students because the findings of the study revealed that other students find it difficult to transit from CBL to PBL. This study aimed to explore and describe challenges faced by

student nurses regarding transitioning from case-based learning to problem-based learning in a higher education institution of learning in the North West Province of South Africa. Moreover the objective of the study was achieved which was to explore and describe challenges faced by student nurses during transition from Case-based learning to Problem-based learning in a higher education institution of learning in the North West Province. The study consists of three sections namely; the overview of the study, draft of the manuscript that was submitted to HSAG journal and conclusions, limitations and recommendations.

Appendix A: Proof of submitted manuscript

-------- Original message --------
From: aosis@hsag.co.za
Date: Tue, 29 Nov 2022, 5:18 pm
To: Mr Ramoipei James Phage <Msg.paghe@gmail.com>
Subject: HSAG Submission 2277 - Confirmation and acknowledgement of receipt

****
Ref. No.: 2277
Manuscript title: Student nurses' challenges regarding transition from case based to problem based learning at one higher institution in North West Province.
Journal: Health SA Gesondheid
****
Dear Mr Phage

Your submission has been received by the journal and will now be processed in accordance with published timelines.

Processing time guidelines are available under the journal's 'About' section, however, please note that each submission is assessed on its individual merit and in certain circumstances processing times may differ.

You can check the status of your submission in three ways:
- Journal Website: login to your account at https://hsag.co.za/index.php/hsag/author/submission/2277.
- Publisher Enquiry Service: telephone numbers are +27(0)219752602 and/or 0861000381.
- Publisher FAQ and Email Service: visit the Publisher FAQ and Email service at https://publishingsupport.aosis.co.za/index.php

You will receive additional emails from the journal as your submission passes through the phases of the editorial process.

Kind regards,
AOSIS Publishing
Health SA Gesondheid

Health SA Gesondheid | https://hsag.co.za | ISSN: 1025-9848 (PRINT) | ISSN: 2071-9736 (ONLINE)

If you require immediate assistance, please contact AOSIS Publishing | Tel: +27 21 975 2602 | Support email: publishing@aosis.co.za | Business hours are weekdays between 8:00am-16:30pm

Appendix B: NWU-HREC Approval Letter

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Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 086 016 9698
Web: http://www.nwu.ac.za/

North-West University Health Research Ethics Committee (NWU-HREC)

Tel: 018 299-1206
Email: Ethics-HRECApply@nwu.ac.za (for human studies)

21 January 2022

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the North-West University Health Research Ethics Committee (NWU-HREC) on 21/01/2022, the NWU-HREC hereby approves your study as indicated below. This implies that the NWU-HREC grants its permission that, provided the general conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Student nurses' challenges regarding transition from case based to problem-based learning at one higher institution in North West Province
Principal Investigator/Study Supervisor/Researcher: Mr BJ Molato
Student: RJ Phage - 22531084

Ethics number:

N	W	U	-	0	0	2	1	8	-	2	1	-	A	1
Institution				Study Number						Year			Status	

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type: Single study
Commencement date: 21/01/2022
Expiry date: 28/02/2023

Risk: **Minimal**

Approval of the study is provided for a year, after which continuation of the study is dependent on receipt and review of an annual monitoring report and the concomitant issuing of a letter of continuation. A monitoring report is due at the end of February annually until completion of the study.

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The principal investigator/study supervisor/researcher must report in the prescribed format to the NWU-HREC:*
  - *Annually on the monitoring of the study, whereby a letter of continuation will be provided annually, and upon completion of the study; and*
  - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the principal investigator/study supervisor/researcher must apply for approval of these amendments at the NWU-HREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for active monitoring.*
- *The date of approval indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-HREC reserves the right to:*
  - *request access to any information or data at any time during the course or after completion of the study;*
  - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*

- *withdraw or postpone approval if:*
  - *any unethical principles or practices of the study are revealed or suspected;*
  - *it becomes apparent that any relevant information was withheld from the NWU-HREC or that information has been false or misrepresented;*
  - *submission of the annual monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and/or*
  - *new institutional rules, national legislation or international conventions deem it necessary.*
- *NWU-HREC can be contacted for further information via Ethics-HRECApply@nwu.ac.za or 018 299 1206*

Special conditions of the research approval due to the COVID-19 pandemic:

Please note: Due to the nature of the study i.e. (online collection of qualitative data via semi-structured interviews with nursing students), this study will be able to proceed during the current alert level, following receipt of the approval letter. No additional COVID-19 restrictions have been placed on the study except that the researcher must ensure that before proceeding with the study that all research team members have reviewed the North-West University COVID-19 Occupational Health and Safety Standard Operating Procedure.

The NWU-HREC would like to remain at your service and wishes you well with your study. Please do not hesitate to contact the NWU-HREC for any further enquiries or requests for assistance.

Yours sincerely,

Digitally signed by
Prof Petra Bester
Date: 2022.04.05
14:25:26 +02'00'

Chairperson NWU-HREC

Current details:(23239522) G:\My Drive\9. Research and Postgraduate Education\9.1.5.4 Templates\9.1.5.4.2_NWU-HREC_EAL.docm
20 August 2019
File Reference: 9.1.5.4.2

Appendix C: Research Data Gatekeeper Committee

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Private Bag X6001, Potchefstr
South Africa 2520

Tel: +2718 299-1111/2222
Web: http://www.nwu.ac.za

Research Data Gatekeeper C

NWU RDGC PERMISSION GRANTED / DENIED LETTER

Based on the documentation provided by the researcher specified below, on 07/12/2021 th University (NWU) Research Data Gatekeeper Committee (NWU-RDGC) hereby **grants permi** specific project (as indicated below) to be conducted at the NWU:

Project title: Student nurses' challenges regarding transition from case based to problem based learning at one higher institution in North West Province.

Project leader: Mr BJ Molato
Researcher/Project Team: RJ Phage

Ethics reference no: NWU-00218-21-S1
NWU RDGC reference no: NWU-GK-21-085

Specific Conditions:

Approval date: 06/12/2021 **Expiry date: 05/12/2022**

General Conditions of Approval:

- The NWU-RDGC will not take the responsibility to recruit research participants or to ga behalf of the researcher. This committee can therefore not guarantee the participation o stakeholders.
- Any changes to the research protocol within the permission period (for a maximum of 1 y communicated to the NWU-RDGC. Failure to do so will lead to withdrawal of the permis
- The NWU-RDGC should be provided with a report or document in which the results of sa disseminated.
- Due to the COVID-19 pandemics the Committee would like to advice the researcher to necessary caution and adhere to the National Covid-19 Guidelines when conducting r participants.

Please note that under no circumstances will any personal information of possible research provided to the researcher by the NWU RDGC. The NWU complies with the Promotion Information Act 2 of 2000 (PAIA) as well as the Protection of Personal Information Act 4 of 2013 an application to access such information please contact Ms Annamarie De Kock (018 285 relevant enquiry form or more information on how the NWU complies with PAIA and POPI.

The NWU RDGC would like to remain at your service as scientist and researcher, and wishes your project. Please do not hesitate to contact the NWU RDGC for any further enquiries or assistance.

Yours sincerely

Prof Jeffrey Mphahlele
Chairperson NWU Research Data Gatekeeper Committee

Appendix D: Recruitment Material

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Invitation
TO PARTICIPATE IN RESEARCH

PROJECT DATE: 2020 – 2021

INVITATION

Topic: Student nurses challenges in the transition from Case-based into Problem-based learning in a higher education institution in North West.

You are hereby cordially invited to participated in the above-mentioned research by Mr Phage Ramoipei James from the North-West University, Mafikeng campus

WHY IS THIS RESEARCH STUDY NEEDED?

Transition from one teaching strategy into the other has been reported to have negative impact in the well-being of students globally, either psychologically, emotionally, or social. The aim of this study is to explore and describe the challenges faced by the student nurses regarding transitioning from Case-based learning to Problem-based learning in the North West Province in order to understand their challenges.

WOULD THIS STUDY BE A GOOD FIT FOR ME?

This study might be a good fit for you if:

- You are an undergraduate 3rd year student nurse registered with South African Nursing Council under category of student nurse;
- Have registered for Bachelor of Nursing Science programme at North West University, Mafikeng Campus;
- Have been exposed to both Case-based and Problem-based learning as teaching strategies from 2020 to 2021 respectively and
- Are willing to participate in the research study.

WHAT WOULD HAPPEN IF I TOOK PART IN THE STUDY?

If you decide to participate in the research study, you will be required to do the following:

- Be willing to participate in-depth focus group discussions which will be conducted via zoom video communication to avoid physical contact with participants with the aim of protecting them and the researcher to the possible exposure to corona virus (covid-19);
- Be willing to spend 30 minutes in each focus group discussion session;
- Be willing to keep whatever discussed in the focus group confidential;
- Be willing to sign a written informed consent form as a proof that your participation is voluntary;
- Be willing to work harmoniously in a group.

BENEFITS OF THE STUDY

Direct benefits for you if you partake in the research study include that you will:

- The findings and results of the research study will be shared with the participants before publication so that the participants realize the worth of their participation in the study thus boost their level of self-confidence;
- During focus group interviews, participants will share their experiences regarding transitioning from one teaching strategy to the other which may lead to the expression of their frustrations associated with transition and this may relief the participants somewhat and
- The expression of frustration by participants if there are any may be therapeutic to the participants.

DECLINE TO PARTICIPATE/ PRIVACY

- You are free to decline to participate in the research study and no penalty will be imposed on you and
- Your personal details will at no point be made available to anyone who is not a part of the research team, consisting of the researcher, supervisors, and the co-coder.

THE RESEARCHER

Mr Phage Ramoipei James is the primary investigator of this research study. He is a registered nurse at Mafikeng Provincial Hospital and a Master's degree student at the School of Nursing Science of the North West University, Mafikeng Campus. This research study will further be drawn on the expertise of other researcher with specific skills as needed.

CONTACT DETAILS

Mr Phage Ramoipei James

E-mail: Msg.paghe@gmail.com

Tel: 0789048249

COST

- No payments will be made for participation;
- Internet data will be provided to all participants during the period of their participation in the study and
- Participant will be reimbursed for transport.

FUNDING

The research study will be self-funded by the researcher.

Appendix E: NWU-HREC Stamped Informed Consent Form

INFORMED CONSENT

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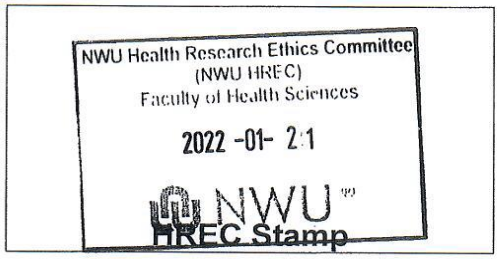

INFORMED CONSENT DOCUMENTATION FOR: <u>The undergraduate third year student nurses</u>

PARTICIPANTS	: Undergraduate student nurses (third years)
TITLE OF THE RESEARCH STUDY	: Student nurses' challenges regarding transition from case based to problem based learning at one higher institution in North West Province.
ETHICS REFERENCE NUMBERS	: NWU-00218-21-A1
PRINCIPAL SUPERVISOR	: Mr. B.J Molato
CO-SUPERVISOR	: Dr. M.J Matsipane

POST GRADUATE STUDENT : Mr. R.J Phage

ADDRESS : 5943 Lofeelo Close
Mmabatho, Unit 14
2735

CONTACT NUMBER : 078 904 8249

EMAIL ADDRESS : Msg.paghe@gmail.com

You are cordially invited to participate in a research study about Student nurses' challenges regarding transition from case based to problem based learning at one higher institution in North West Province, which will be conducted by Mr. Phage Ramoipei James.

Please take some time to read the information presented here, which will explain the details of this study. Please ask the researcher explaining the research study to you any questions about any part of this study that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you might be involved. In addition, your participation is entirely voluntary, and you are free to say "no" to participate. If you say "no", this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part now.

This study has been approved by the Health Research Ethics Committee of the Faculty of Health Sciences of the North West University (NWU-00218-21-A1) and will be conducted according to the ethical guidelines and principles of Ethics in Health Research: Principles, Processes and Structures (DoH, 2015) and other international ethical guidelines applicable to this study. It might be necessary for the research ethics committee members or other relevant people to inspect the research records.

1. **What is this research study all about?**

- *This study is about exploring and describing the challenges faced by undergraduate student nurses during transition from Case-based learning (CBL) to Problem-based learning (PBL) in the selected Nursing Education Institution (NEI) in the North West Province (NWP).*

- *The study will be conducted at the selected Nursing Education Institution (NEI) in the North West Province (NWP), South Africa (S.A) in 2020 and will involve..... with experienced health researchers trained in .....X participants will be included in this study.*

2. **Why have you been invited to participate?**

- *You have been invited to be part of this research because we believe you are having the knowledge about the topic at hand which is challenges faced by undergraduate student nurses during transition from Case-based learning to Problem-based learning iin the selected Nursing Education Institution in the North West Province.*

- *You also fit the research because you have been exposed to both Case-based learning and Problem-based learning as teaching strategies from 2019 and 2020 respectively.*

3. **What will be expected of you?**

- *You will be expected to participate in a 30 minutes focus group discussion which will be conducted via zoom video communication to avoid physical contact that may expose you and the researcher to corona virus (covid-19), whereby the researcher will ask open-ended question to promote communication dynamics.*

4. **Will you gain anything from taking part in this research?**

- *The gain for you if you take part in this study will be share of experiences regarding the transition from Case-based learning to Problem-based learning,*

which may lead to expression of your frustrations or challenges associated to this transition.

- *The other gain of the study is for find a way of dealing with frustrations or challenges that may arise as a result of transition from Cased-based learning to Problem-based learning.*

5. Are there risks involved in you taking part in this research and what will be done to prevent them?

- *The risk to you in this study is a minimal one, that is 'time and inconvenience', but the researcher will limited it by drawing a session plan of zoom video communication focus group interviews together with all participants so that the sessions are more likely to suit the time of the participants to prevent inconvenience, thus optimise attendance.*

- *The benefits outweigh the risk, which means there are more gains for you in joining this study than the risk.*

6. How will we protect your confidentiality and who will see your findings?

- *Anonymity of your findings will be protected by hiding your identity.*

- *Your privacy will also be respected by not disclosing your identity.*

- *Your results will be kept confidential by not sharing them to anyone apart from the members of the research team, which consist of the researcher, supervisors, and co-coder.*

- *Only the researchers and you will be able to look at your findings.*

- *Findings will be kept safe by locking hard copies in locked cupboards in the researcher's office and the electronic data will be password protected.*

- *As soon as data has been transcribed it will be deleted from the digital recorders.*

- *Data will be stored for five (05) years as promulgated on the Protection of Private Information Act (POPIA), Act no: 4 of 2013.*

7. What will happen with the findings or samples?

- *The findings of this study will only be used for this study and will also be used in future research.*

8. How will you know about the results of this research?

- *We will give you the results of this research when they are published.*
- *You will be informed of any new relevant findings by the researcher.*

9. Will you be paid to take part in this study and are there any costs for you?

- *This research study is self-funded by the researcher.*
- *No payments will be made for participation because the study will not cost you any money if you do take part in this study.*
- *There will thus be no costs involved for you, if you do take part in this study.*

10. Is there anything else that you should know or do?

- *You can contact the researcher Mr Phage Ramoipei James at 078 904 8249 or Msg.paghe@gmail.com, if you have any further questions or have any problems.*
- *You can also contact the Health Research Ethics Committee via Mrs Carolien van Zyl at 018 299 1206 or carolien.vanzyl@nwu.ac.za, if you have any concerns that were not answered about the research study or if you have complaints about the research study.*
- *You will receive a copy of this information and consent form for your own purposes.*

Declaration by participant

By signing below, I _____agree to participate

in the research study titled:_____

_____

_____

I declare that:

- I have read this information and it was clearly explained to me by the researcher in a language with which I am fluent, understand and comfortable with;
- The research study was clearly explained to me and I have understood it;
- I had a chance to ask questions to the researcher obtaining consent from me and the researcher answered all my questions to my satisfaction;
- I understand that participating in this study is voluntary and I have not been pressurised nor forced to participate;
- I understand that I may withdraw from the study at any time should I wish to do so without being punished or affected negatively in anyway and;
- I understand that I might be revoked from the study before being completed, should the researcher feels it is in the best interest of the study, or if I do not follow the study plan, as agreed to.

Signed at (place): _____on (date): _____

time: _____

_____ _____

Signature of the participant Signature of witness

Declaration by the researcher

I (name) _____declare that

- I have clearly explained in details the information in this document to _____

  _____

- I did/did not use an interpreter;
- I have encouraged him/her to ask questions;
- I encouraged him/her to ask questions and took adequate time to answer them;
- I am satisfied that he/she understood all aspects of the research study, as discussed above and;
- I gave him/her time to discuss the content of the consent form with others should he/she wished to do so.

Signed at (place): _____on (date): _____

time: _____

_____ _____

Signature of the researcher Signature of witness

Appendix F: Interview Schedule

INTERVIEW SCHEDULE

In order to obtain data, the following questions were asked:

8. What are the challenges faced by the student nurses during transition from Case-based learning to Problem-based learning in a higher education institution of learning in the North West Province?

9. What helped you to overcome the challenges?

10. What else do you think other people can do to overcome the challenges?

Follow up questions using probing, clarifying and other communication techniques were used to improve communication dynamics.

Appendix G: Confidentiality form

CONFIDENTIALITY UNDERTAKING

entered into between:

Co – Coder

I, the undersigned

Prof / Dr / Mr / Ms _____

Identity Number: _____

Address:

_____

hereby undertake in favour of the **NORTH-WEST UNIVERSITY**, a public higher education institution established in terms of the Higher Education Act No. 101 of 1997

Address: Office of the Institutional Registrar;
Building C1,
53 Borcherd Street,
Potchefstroom,
2520
(herein after the “NWU”)

1 Interpretation and definitions

1.1 In this undertaking, unless inconsistent with, or otherwise indicated by the context:

1.1.1 "Confidential Information" shall include all information that is confidential in its nature or marked as confidential and shall include any existing and new information obtained by me after the Commencement Date, including but not be limited in its interpretation to, research data, information concerning research participants, all secret knowledge, technical information and specifications, manufacturing techniques, designs, diagrams, instruction manuals, blueprints, electronic artwork, samples, devices, demonstrations, formulae, know-how, intellectual property, information concerning materials, marketing and business information generally, financial information that may include remuneration detail, pay slips, information relating to human capital and employment contract, employment conditions, ledgers, income and expenditures and other materials of whatever description in which the NWU has an interest in being kept confidential; and

1.1.2 "Commencement Date" means the date of signature of this undertaking by myself.

1.2 The headings of clauses are intended for convenience only and shall not affect the interpretation of this undertaking.

2 Preamble

2.1 In performing certain duties requested by the NWU, I will have access to certain Confidential Information provided by the NWU in order to perform the said duties and I agree that it must be kept confidential.

2.2 The NWU has agreed to disclose certain of this Confidential Information and other information to me subject to me agreeing to the terms of confidentiality set out herein.

3 Title to the Confidential Information

I hereby acknowledge that all right, title and interest in and to the Confidential Information vests in the NWU and that I will have no claim of any nature in and to the Confidential Information.

4 Period of confidentiality

The provisions of this undertaking shall begin on the Commencement Date and remain in force indefinitely.

5 Non-disclosure and undertakings

I undertake:

5.1 To maintain the confidentiality of any Confidential Information to which I shall be allowed access by the NWU, whether before or after the Commencement Date of this undertaking. I will not divulge or permit to be divulged to any person any aspect of such Confidential Information otherwise than may be allowed in terms of this undertaking;

5.2 To take all such steps as may be necessary to prevent the Confidential Information falling into the hands of an unauthorised third party;

5.3 Not to make use of any of the Confidential Information in the development, manufacture, marketing and/or sale of any goods;

5.4 Not to use any research data for publication purposes;

5.5 Not to use or disclose or attempt to use or disclose the Confidential Information for any purpose other than performing research purposes only and includes questionnaires, interviews with participants, data gathering, data analysis and personal information of participants/research subjects;

5.6 Not to use or attempt to use the Confidential Information in any manner which will cause or be likely to cause injury or loss to a research participant or the NWU; and

5.7 That all documentation furnished to me by the NWU pursuant to this undertaking will remain the property of the NWU and upon the request of the NWU will be returned to the NWU. I shall not make copies of any such documentation without the prior written consent of the NWU.

6 Exception

The above undertakings by myself shall not apply to Confidential Information which I am compelled to disclose in terms of a court order.

7 Jurisdiction

This undertaking shall be governed by South African law be subject to the jurisdiction of South African courts in respect of any dispute flowing from this undertaking.

8 Whole agreement

8.1 This document constitutes the whole of this undertaking to the exclusion of all else.

8.2 No amendment, alteration, addition, variation or consensual cancellation of this undertaking will be valid unless in writing and signed by me and the NWU.

Dated at Potchefstroom this _____ 20____

Witnesses:

1 ..... ……

(Signature)

2 ....

(*Signature*)

Appendix H: Example of an Interview

Interview (Transcribed data)	**Theme**	**Subtheme**
Researcher: Good afternoon Ladies and Gentlemen. Let me start by introducing myself. My name is Ramoipei James Phage, I am a lecturer and also a Master's student at NWU Mafikeng Campus. I welcome you to today's session. Let me also take this opportunity to thank you for agreeing to participate in my research project with the topic **"Student nurse challenges in the transition from case base learning to problem-based learning in a higher education institution in North West"** so in this case the one higher institution is your institution. Like we have discussed before, this session is strictly confidential, you cannot at any point discuss the content of this focus group interviews with anyone else outside this focus group. This session will be recorded, however the recordings will be for the purpose of the researcher and the research team only. We are not going to call each other by names but we are going to use alphabets e.g. **A1**, **A2**, **A3** and so forth to ensure anonymity. One other thing, let me also thank you for signing the consent forms as a formal agreement and proof that you indeed agreed to participate in this research project without being forced or coerced. So, shall we start with our first question? **<u>Question 1</u>**		

Researcher: What are the challenges you faced during transition from case based learning to problem based learning? As we all know that during your first and second year you were using only cased based learning teaching strategy to learn but when you started with your third year, that is where you were introduced to problem-based learning as a new teaching strategy that you will use for the third and fourth years. So what are the challenges regarding transition from case based learning to problem based learning? **Participant A5**: The challenges I faced as an individual moving from case based learning to problem based learning was that during case based learning they used to provide us with slides and those slides used to help us a lot because we usually cram them and re direct them back to lecturers when writing. So what happened is that Problem-based learning is a whole new experience on its own as we look for information ourselves which is a challenge. Err with problem based learning we prepare and bring the preparations to the class then the lecturer would clarify where it is lacking. It means that there was increased pressure for us as students because we were doing integrated nursing meaning we were going to practicals while coming to classes, we are doing four core modules and on Wednesdays it is submission dates. This is the major problem we were facing as it was too much pressure, we could not	Challenges regarding facilitation	Information search

focus. We then divided ourselves into separate groups in which we decided to do the work together and share the work for example if we are given GNS and then Community we would decide to share the work where a number of people would do Community and the other bunch does GNS and that would adversely affect us in the long-run because now we struggled as one group only focused on one module and that does not give ourselves time to focus on the other modules, we end up having no equilibrium amongst those modules I thank you sir. **Researcher: Ok for a point of clarity, so in case based learning you were getting slides and in PBL you are not getting slides?** **Participant A1:** Yes sir **Researcher: Ok, is there anything that comes to your mind, anyone?** **Participant A3**: Regarding transition to problem based learning, during our PBL classes there can be something new or a question that is raised and if we don't give the correct answers in class, it becomes a learning issue which may take a very long time to come up with the correct answer and that makes it hard to adjust to problem based learning. **Researcher: So, how does the learning issue affect your learning, how does it disadvantage you or how does it challenge you?**	Challenges regarding facilitation	Learning issue

Participant A3: That learning issue might come out in the test and if we didn't get the correct answers we are going to fail. At least if someone answers during class then our lecturers might help us immediately with that issue but if not we will go find information ourselves. **Researcher: Are you getting any help from the lecturers after presentations?** **Participant A6:** We are getting help, but with regard to the learning issues it can become a learning issue forever, for as long as none of us comes up with a direct or correct answer and still if we come up with the wrong answers during presentations then it is going to proceed as a learning issue until we come up with the right answers. **Researcher: What do others say?** **Participant A4:** With regards to the learning issues if we don't come up with the answers, then ultimately we are never going to get the answers, I think that is another problem with PBL. That is why student A3 is saying it can become a learning issue forever because if none of us comes up with a direct answer(s) or if we come up with wrong answers during presentations, it's going to be a learning issue until we come up with the write answers, but how will we answer something that we do not even know. It is a learning issue thing that is challenging and mind you we are not guided.	Challenges regarding facilitation	Learning issue

Researcher: So, how do you know that the information that you came up with it is incorrect? How do you know that this information is incorrect hence it becomes a learning issue? **Participant A6:** We gather information from different sources, then we bring that information to class when questions are asked we respond as per information we have gathered, then the lecturer responds to us by saying it is the wrong information or answer. Then we are expected to give the correct answer hence it becomes a learning issue because we don't know what the correct answer is. **Researcher: Is there anything else that comes to your mind?** **Participant A2**: Sometimes we do not get clarity in class, we are usually given a topic or condition and we go and prepare when we come back to present, there is usually no clarity as to say what you did there was wrong and what you did there was right, you should go fix here and there rather we are given learning issues like she said. And then the following week we come to face that learning issue again and another learning issue is being identified on top of the one we had previously. There is no correction or clarity for the previous week's learning issues they just add another one on top of that one, that is what makes our transition even difficult. **Researcher: So, when they add a learning issue on top of another learning issue, in summary**	Challenges regarding facilitation	Lack of guidance

what can you say is your challenge regarding that? **Participant A2:** We do not know what we are doing right at that point, because we will go and prepare again on the learning issue of last week and the one of this week, then on last week's learning issue we will feel like maybe we have tried as we got a different answer from what we gave previously. We present the new answer in class and if it is still not right according to the lecturer, we still do not get clarity as to what is the right answer. **Participant A1:** Adding on the learning issues, yes my colleagues are correct with this process of us getting learning issues every week instead of the lecturers correcting us-It is a problem because if we were supposed to finish one module in 10 weeks we end up taking longer to finish the module because of those learning issues. The learning issues make the duration of PBL modules to become longer, it can take up to 16 weeks or 17 weeks and we end up finishing late and it wastes the time we should be using for revising the content of that module in preparation for the upcoming tests or exams. The other problem we are facing moving from case based to problem based is that during our first year we were given cases and we were doing it face-to-face in class and it was much easier. Now in the problem based learning, we are using online platforms such as google meetings to attend class and some people have connectivity problems. They	Challenges regarding facilitation Challenges regarding assessment Challenges regarding facilitation	Learning issue Lack of revision Online PBL content

will be having the correct answer but due to connectivity problem, they cannot give those answers then it becomes a learning issue even though there was someone who knew the answer of a certain question. Then you may find that in groups since we are using groups to solve those problems or cases they are facing a problem because they are not getting along. There could be internal conflicts whereby some people submit their work and some people do not submit their work and you find yourselves working overtime trying to cover the work that is not done because at the end of the day the lecturer expects to find his work completed, so that's another problems we are facing. **Researcher: Looking at the decision of doing the problem based learning mainly online, have you ever done PBL face to face?** **Participant A1:** During the PBL era we only did it once and it was the first time, we were separated into two halves the other half went to practical's that's when PBL was introduced to me, it was when the lecturers demonstrated how PBL thing works. Yah that's the only time we had contact classes when PBL was introduced we have been doing online learning. **Researcher: What was the reason for the online learning PBL rather than face to face?** **Participant A1:** It was due to corona - Covid-19.		

Researcher: Ok, is there any other thing that comes to your mind with regards the challenges you faced during transition from case based and problem based learning? **Participant A6:** Another challenge as a result of us transiting from case based to problem based is that, during case-based learning we get triggers and those triggers can hold information from symptoms to anything and we just need to treat the condition. But with problem-based learning we get bold symptoms (hypothesis) and we need to diagnose and treat accordingly. That alone makes us to miss CBL and not welcome PBL. Most of the time in problem based learning the questions are referring to each other for example the first question will be to diagnose a certain symptom and if you diagnose wrongly then everything else going down will be wrong, therefore problem based is difficult because you do everything for yourself. So that's another challenge whereas in case-based learning everything was there. **Researcher: Is there anything else that comes to your mind? Others are there any challenge that you have faced?** **Participant A5:** There is another challenge that I faced, during case based learning we used to get answers easily like when there is a certain diagnoses you don't have to apply anything. But in problem-based learning you must apply what you know to a scenario so that it makes more sense. So what was		

happening was that we were all struggling with the application and we would get penalized for not applying correctly and that took a toll on us as students. **Researcher**: **So during your struggle to apply the content that you would come up with in relation to the scenario, was there any guidance from the facilitator or the lecturer?** **Participant A5:** There is guidance but remember most of the lessons are conducted online and we have network issues, so sometimes when there is an assistant we experience connectivity issues and end up missing that segment of the lesson and most of the time we are too busy with practicals and end up not having a chance to go to consult with the lecturer. And that ends up affecting us when it's time for exams because now you have missed the information you have to apply in your exams and you end up not knowing what to do. **Researcher: Is there anything else that you maybe remember while you are sitting there that challenged you? Is there anything else?** **Participants:** No **Researcher: If there is nothing more, may we proceed to our next question.** **Researcher: Before we proceed, are you still facing those challenges as the first semester has passed?**	Challenges regarding facilitation	Online PBL content

Participant A5: We are not sure if we are still facing them because the semester has just begun, we have not gone to class yet and we have not received any work, but hopefully it will be better this time. Because we have been exposed to PBL now and maybe we will be doing contact classes and we will get a chance to clarify anything we had a problem with. **Researcher: Anyone else? You wanted to say something participant A1?** **Participant A1:** Yes, I still think we are still going to face the challenges we have been facing in the previously, can I rationalize that? **Researcher: Yes, why are you saying that?** **Participant A1:** Why I am saying that is because the challenge of the group work will still be there as the groups are changing every semester and yearly. In the beginning of the year, we expect to have challenges because we are not used to each other as we are all new in the group and it is a big challenge. But as time goes on it becomes better since we get used to each other as group members. We get to know strengths and weaknesses of each other and we are delegating tasks based on strength and weaknesses. It becomes much easier to work together in that way. But now next semester or year is the same routine again where I will get a new group and have to start the process all over again.	Challenges regarding facilitation	Group work

Researcher: Ok, anyone else? In the absence of any additions we may proceed to our next question. **<u>Question: 2</u>** **Researcher: What helps you to overcome the challenges?** **Participant A4:** For me, sometimes the sisters from the facilities help me in clarifying what I don't understand. They do give out information and they are really open to answering the questions we may have. **Researcher: Anyone else?** **Participant A6:** I think basically we just survived and honestly I think we should give our lecturers benefit of doubt because they gave us the platforms to come forward and consult if there is anything wrong and that helps but I think it's all on us to study hard. **Researcher: Is there anything is particular or specific that helped you to cope with those challenges you are facing?** **Participant A6:** What helped was to consult with each other because you may find that someone else understands the problem better than I do. We would help each other that way. **Researcher: Anyone else is there anything that comes to your mind?**	Strategies to overcome the challenges	Peer-assisted learning

Participant A5: The consultations with the lecturers where helpful because they helped us identify the areas that were troubling us too much and we would try to work on them. We did not overcome everything but at least the situation was augmented and we managed to survive to fourth year and hopefully this year the classes will be contact and we will have more time to consult when we are on campus. And that will help us also to go and look at other scholars in order to overcome our problems because like student A6 said, we just survived, but hopefully it will be better this year. **Researcher: Is there anything else? What do others says?** **Participant A1:** We survived from God's grace and also we got assistance from the senior students because they have some sort of experience because they did what we are currently doing the previous year. They were sharing with us whatever resources they had. So we were able to maneuver through those learning issues and the challenges we were facing. **Researcher: So how does the senior student helping?** **Participant A1:** They experienced the same things we were experiencing, so they would also help by telling us how to search information, study or manage our work to maneuver through those	Strategies to overcome the challenges	Consultation with lecturers

challenges because the lecturers do not help that much in my view. **Participant A4:** Sometimes I just wish we had SI for certain modules, like other students who are doing different courses have SIs to help them. So in this course in level 3, we don't have SI who can help us with studying like other programs in the university. **Researcher: Is there anything else? Before we close this question and move to the last question?** **Participants:** No I think we have covered everything. **<u>Question 3</u>** **Researcher: What else do you think other people do to overcome the challenges?** **Participant A4:** I think they can also seek help from lecturers as well. **Participant A3:** Others can ask for assistance from classmates, senior students etc. **Researcher:** How about others? What do you think other students can do to overcome the challenges they face regarding transition from case-based learning to problem-based learning? **Participant A1:** I suppose others can use what helped others. For example, asking professional nurses at the facilities, doing more research on given topic etc.	Challenges regarding facilitation	Lack of student instructors (SIs)

Researcher: Is there any additions? **Participants:** No, that's all. **Researcher: Ok if you are of the opinion that you have covered everything that will be the end of our session. In the absence of anything we have come to the end of our session. Let me take this opportunity to thank you once again for participating in my research project. I thank you.** **……** ***END***		

Appendix I: Certificate of Language Edit

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TO WHOM IT MAY CONCERN

CERTIFICATE OF EDITING

I, Sifiso Sibanda, confirm and certify that I have read and edited the entire dissertation: ***Student nurses' challenges regarding transition from case based to problem based learning at one higher institution in North West Province*** by R.J Phage, Student number: 22531084 submitted in partial fulfilment of the requirements for the degree *Master of Nursing Science (MNSc)* at the North-West University, which was supervised and co-supervised by Mr. B.J. Molato and Dr MJ Matsipane of the North-West University.

I hold a PhD in Language and Literature with English and am qualified to edit academic work of such nature for cohesion and coherence.

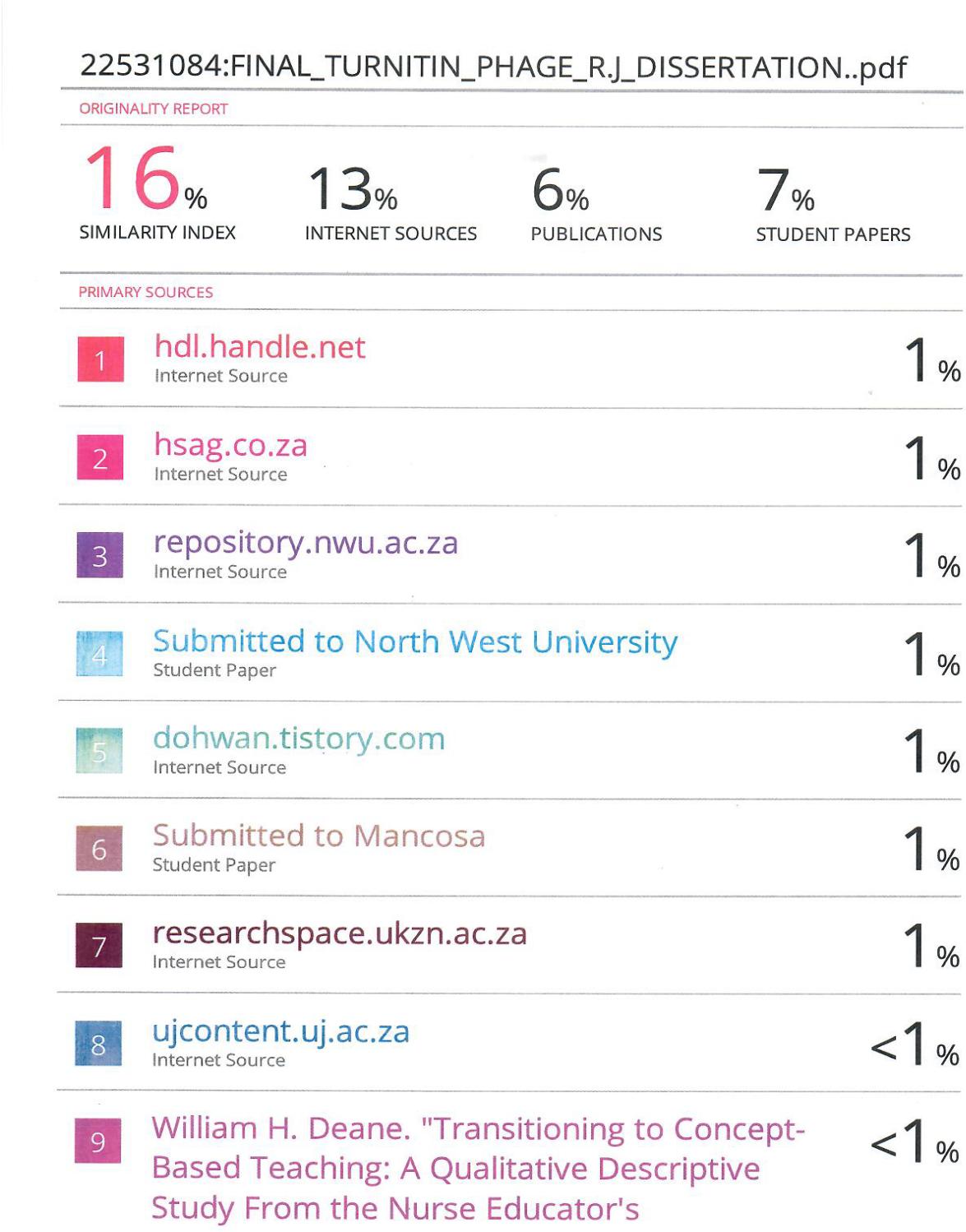
The views and research procedures detailed and expressed in the dissertation remain those of the researcher/s.

Yours sincerely

Sifiso Sibanda

(PhD, MA, BA Honours, B.Ed., D.Ed. – English)

Appendix J: Proof of Turn-it-in



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