

**STUDENT NURSE-EDUCATORS' AT A NURSING SCHOOL IN  
THE WESTERN CAPE, PERCEPTIONS OF TEACHER IDENTITY  
FROM A PERSONAL KNOWLEDGE PERSPECTIVE**

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Thesis submitted in partial fulfilment of the requirements for the degree

Magister Curationis (Nursing Education) in the School of Nursing,

University of the Western Cape



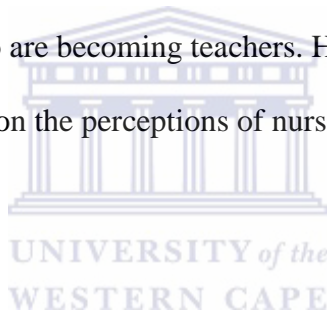
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## ABSTRACT

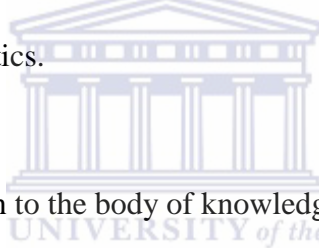
Teacher identity is regarded as an important disposition when it comes to training would-be teachers, irrespective of the field of study. It is during the teaching practice experience that student nurse-educators transit from their preconceived identity as a student to accepting the teacher identity. It is expected that for student to acquire this identify they require profound knowledge in subject content, pedagogy and didactic knowledge, so as to perform their professions effectively. Although the focus of teaching is the student teachers, attention is sometimes focused more on the nursing facilitators rather than on the nursing student teachers who are becoming teachers. However, good nursing training should also take into consideration the perceptions of nurse student teachers on the teacher identity.



This study sought to describe student nurse-educators' perception of teacher identity with respect to the subject matter, pedagogy, and didactic expertise at a School of Nursing, University of the Western Cape.

The quantitative research approach, using the descriptive design was employed to guide the study. Data was collected by means of a self-administered questionnaire using a five point Likert scale. A list of students in master's education programme was utilised as the sampling frame. The sample included the Masters students in nursing education programme who have completed their theoretical courses and teaching practice. The Statistical Package for Social Science software (SPSS) version 22 was used in the analysis of the survey.

The study showed that teacher identity of student nurse-educators is strongly related to their perceived level of knowledge of expertise in subject matter (34%) followed by a grasp in didactics (33.28%). Teacher identity was less perceived in mastering knowledge related to pedagogy (33.12%). While the average median were 3.50 for subject matter, 3.54 in didactics and 3.50 for pedagogy. The relation between knowledge of expertise in subject matter, pedagogy and didactics were established after performing Kendall tau-c test. The link between gender and subject matter, pedagogy and didactics revealed no significant association. No significant difference was found between males and females respondents perceptions with regards to subject matter and didactics; while significant difference was found with didactics.



The findings make a contribution to the body of knowledge in the nursing education field, and could contribute to improve the competency and quality in the practice of nursing education. With regards to the speculation on identity formation and development issues, it is hoped these findings will provide greater understanding of the difficulties student nurse-educators experience as they construct individual identities as teacher.

## **KEY WORDS**

Nurse educator; student-nurse educators, teaching practice, student nurse-educator's identity

## DECLARATION

I, Leka Marcel Alindekane declare that this mini-thesis and the work '*Student nurse-educators' perceptions of teacher identity from a personal knowledge perspective at a nursing school in the Western Cape*' is my own and has been generated by me as the result of my own original research.

I confirm that:

- This work was done wholly or mainly while in candidature for a Master's degree at the University of the Western Cape;
- Where I have consulted the published work of others, I clearly attributed;
- Where I have quoted from the work of others, the source is all given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- None of this work, either in whole or parts, has been published before submitting.

Signed:.....

Date: .....



## DECLARATION

I, LEKA MARCEL ALINDEKANE declare that this mini-thesis ‘Student nurse-educators’, at a nursing school in the Western Cape, perceptions of teacher identity from a personal knowledge perspective’ is my own work and has been generated by me as the result of my own original research.

I confirm that:

- ❖ This work was done wholly or mainly while in candidature for a Master’s degree at the University of the Western Cape;
- ❖ Where I have consulted the published work of others, I have clearly attributed;
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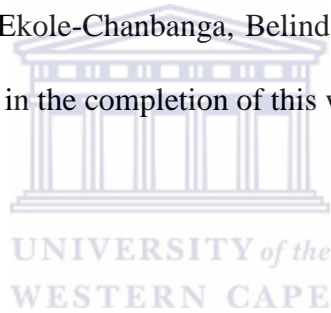
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Date: .....

Leka Marcel Alindekane

## DEDICATION

I would like to thank my family and friends for their unwavering support during my studies and in the writing of this mini-thesis. I would like to dedicate this work to my wife Mukinze Leka and, my six children Olivier, Stephan, Lionel, Francine, Judie and Leka Alindekane for standing by me through my studies. Also to my parents, Mr and Mrs Kakaba, Père Desire Kakaba and Jean-Marie Bienga for their moral support and encouragement during the course of my studies. I also like thank my close friends Ferdinand Mukumbang, Hariet Ekole-Chanbanga, Belinda Beyers and Makombo Ganga Limando, for their contributions in the completion of this work.



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## **LIST OF ABBREVIATIONS**

UWC:	University of the Western Cape
SoN:	School of Nursing
CHS:	Faculty of Community Health Sciences
T P:	Teaching Practice
NST:	Student nurse-educator
CHE:	Council on Higher Education

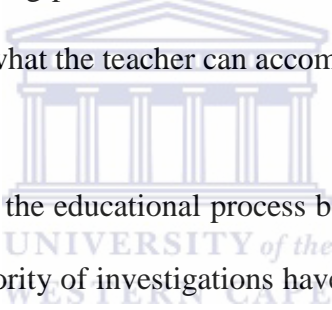


## **CHAPTER ONE**

### **1. FOCUS ON THE RESEARCH**

#### **1.1. INTRODUCTION**

The quality of education produced by schools in every nation depends on the quality of the teachers they possess. Policy makers and educators have observed that students' learning is directly related to their interaction with the teachers (Department of Higher Education and Training, 2014). Effective teaching depends on the knowledge, skills, and commitment that the teacher brings to the teaching-learning process. In other words, what the teacher knows and can do makes the crucial difference in what the teacher can accomplish (Feiman-Nemser, 2012).

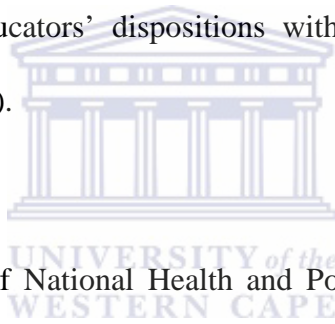


Few studies have shown interest in the educational process between student nurse-educators and students in the classroom. The majority of investigations have sought to study interactions of the student nurses and nursing in the clinical practice. These studies focus mainly on how the nursing students construct their professional identity as nurses during their clinical placements. However, interest in studying nursing professionals in their role as teachers, academics, and university researchers has been scarce (Aguayo-González & Monereo-Font, 2012).

The description of the proficiencies required represents the teaching profession as stipulated by the particular vision of education. In South Africa, the preparation of student nurse-educators to become professional educators is directed by a list of fundamental competencies as set out by the Department of Education for all kinds of teachers (Hattie, 2012). This list of basic competencies

includes competency in subject matter, pedagogical and didactic knowledge (Beijaard, Verloop, & Vermunt, 2000).

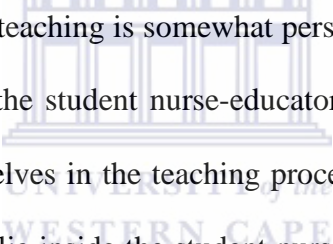
In order to receive approval and accreditation of their programmes, nurse educators are expected to show evidence that they both assess and develop candidates' knowledge, skills, and dispositions to teach during their teacher preparation programmes. The South African Qualifications Authority (SAQA) Act No 58 of 1995 and South Africa Nursing Council (SANC) by Regulation R2175, 1993, paragraph 6 (2&3) requires that, as a part of the programme approval process, the Nursing Institutions should provide evidence of the assessment and development of student nurse-educators' dispositions with regards to knowledge and skills (Gibson, Dollarhide & Moss, 2010).



Regulations set by the Minister of National Health and Population Development refer to the requirements in nursing education. Section 45 (1) of the Nursing Act, 1978 (Act 50 of 1978) on the recommendation of the South African Nursing Council (SANC), made the regulations as set out in the Schedule (Government Notice No. R. 118/23 January 1987) prescribe a practical teaching period which should be the equivalent of two months for the qualification of nurse educators. During this period, student nurse-educator must perform ten sets of classroom teaching and five clinical teaching practices to be supported and evaluated by supervisors. In addition to the above list of competencies, there are other requirements when preparing teachers in pedagogical grounding and educational theories. The implicit idea underlying this tradition is that the institutions of teacher education should provide the theoretical knowledge, while the Schools provide an environment where these theories learned during the training programme are

put into practice (Trent, 2010).

The concept of teacher identity discloses a clear and undeniable link between the teacher as an individual and his or her practice, which includes self-concept and personal beliefs about education (Poom, Odera & Lepika, 2012). According to Poom-Valickis et al. (2012), the beliefs that teachers bring to the classroom, determine their actions, and shape their professional identity. This view of professional teacher identity is also shared by Hattie (2009) who states that self-concept is intrinsically linked to professional identity and informs the teachers' behaviour in the classroom. They also found that one's own self-concept is often a factor in the formation of a teacher's personal and professional identity.

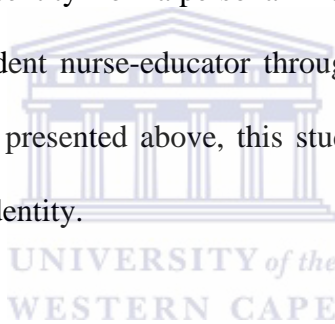


The use of self as an instrument in teaching is somewhat personal and depends on the perception of self-concept and the beliefs of the student nurse-educator. Consequently, the student nurse-educators' perception about themselves in the teaching process are important factors in nursing education. Since these perceptions lie inside the student nurse-educators, they may not be easily identified or seen. Therefore nurse educators should be observant of what the student nurse-educators might be going through, so that their perceptions can be modified to qualify them as professional teachers (Schepens, Aelterman & Vlerick, 2009). It was also remarked by Beijard et al., 2000, p.2) that the teacher's identity is shaped by a set of representations educators possess. These representations respond to questions like:

- Who am I?
- What is my role as a teacher?
- How do I view my teaching?
- What and how do I think I should teach?

- How do I feel when I teach?

Reflection on these questions can assist the student nurse-educators to discover their self-representations as teachers and to relate positively to their professional teaching identity. This identity is composed of a professional role, some epistemological conceptions, intervention strategies, feelings and emotions associated with the practice of teaching in nursing (Aguayo-González & Monereo-Font, 2012). In this light, nursing education must help the student nurse-educators find their unique way of operating as effective individuals in their future role as educator (Berry, Daughtrey & Wieder, 2010). This study was designed to describe student nurse-educators' perceptions of teacher identity from a personal knowledge perspective, as experienced in their journey from being a student nurse-educator through the transition to qualified nurse educator. In light of the intention presented above, this study investigated how student nurse-educators perceived their teacher identity.



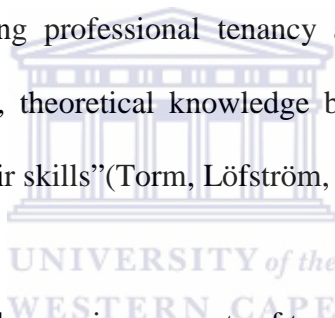
## **1.2. BACKGROUND**

Attention in education to the construct of teacher identity has grown greatly over the last decades (Dörnyei & Ushioda, 2009; Van Putten, Stols & Howie, 2011). Teacher identity is regarded as an important construct when it comes to the training of new teachers, irrespective of the discipline (McCallum & Price, 2010). According to Beijaard, et al. (2000) the formation of the teacher identity occurs within a specific context, time, and environment. It develops and forms from the student nurse-educators' understanding of personal knowledge of the self, and consequently affects the teacher identity (Chong, Ling & Chuan, 2011).

According to Le Maistre and Paré (2010); Hong (2010); Timotstsuk and Ugaste (2010), multiple influences shape the teachers' identity, and they include personal experiences of media images about themselves and pedagogical beliefs that are supported by student teachers. The forming of teacher identity is crucial to the process of learning to become a teacher. The role that teachers play in guiding the student teachers to examine their personal identities and build congruent professional ones is an essential one (Zeichner, 2010). Students come to a teacher education programme with expectations of becoming teachers. During this period, they build identities as student nurse-educators (in the case of nursing) which could evolve into teacher identity by the end of the preparation programme. The development of teacher identity develops over time (Clarke, 2009; & Zeichner, 2010), in the process of learning how to teach.

The main goal of practical education is to foster the development of professional competence in students, by providing real life contexts in which to practice. The development of student nurse-educator competency during the teaching practice experience is based on acquisition of knowledge of expertise in subject matter, pedagogy and didactics and these influence the teacher identity. Through engaging in the activity of work in the classroom alongside nurse educators, individual student nurse-educators gain a better understanding of what their profession entails, develop the competencies required and gradually construct teacher identities in relation to their communities of practice (Zhang, Scardamalia, Reeve & Messina, 2009). This helps them to answer the teacher identity questions of Who am I? Like the identity work in organisation studies, where emphasis is placed on becoming rather than being, the interest in this study lies in the process through which individuals learned and acquired the capabilities to develop their own teacher identities (Lerseth, 2013).

Nursing education programmes are aimed at providing competencies that may be achieved by student nurse-educators on completion of the training programme. These competencies include: knowledge of subject matter; disposition to find out about students and schools; knowledge of teaching strategies and, teaching techniques, tools to create and sustain an effective learning environment and the ability to employ the above mentioned competencies (Wong, Chong, Choy, Wong, Isabella & Kim, 2008). If the above competencies are acquired the student nurse-educators may possess the educational knowledge that is required to develop the necessary teacher identity. “The strategy of developing the expertise of the subject matter, pedagogical and didactical knowledge in the student nurse-educators, highlights that internship period should form a vital part in accomplishing professional tenancy and the formation of professional identity. During teaching practice, theoretical knowledge becomes important and the student teachers are able to improve on their skills”(Torm, Löffström, Eisenschmidt & Paul, 2012, p.7).



Many studies have been conducted on various aspects of teaching practice and they found that teaching practice is an essential part of teacher education programmes. However, a component that has received little consideration is the development of the student nurse-educator teacher identity during teaching practice (Vloet & Van Swet, 2010; Kiggundu & Nayimuli, 2009; Kiggundu, 2007). Therefore, there is a need to conduct a study on student nurse-educators' teacher identity during practice to examine whether they acquired fair abilities in subject matter, pedagogy and didactics to enable them fully to assume the role of teachers (Schepens, Aelterman, & Vlerick, 2009).

The challenges student nurse-educators face during their teaching practice are thought to be

created and perpetuated by a lack of clear definitions and expectations related to their teacher identity. The experiences of the student nurse-educators at the School of Nursing (SON), at the University of the Western Cape (UWC) may not in some aspects be different from those of the other students, but it was deemed important to study the formation of student nurse-educators' teacher identity during teaching practice because they are expected to fully assume and identify with being nurse educators (Schepens, Aelterman, & Vlerick, 2009). This study will add to the knowledge in the field as to how nurse educators can support student nurse-educators in understanding themselves as teachers.

### **1.3. PROBLEM STATEMENT**

In South Africa the student nurse-educators are prepared to meet the requirements of the South African Nursing Council (SANC) as stipulated in Regulation No. 118 of the Government Notice dated 23 January 1987. Teaching practice is acknowledged to be an important component of teacher education in that this is where the teacher identity is constructed (Lamotea & Nadine, 2010; Dawn & Marina, 2010; Zeichner, 2010). However, the student nurse-educators face a particular range of challenges as they strive to take on a new professional teacher identity. Many investigators highlight the fact that students in teaching practice are often preoccupied with questions such as Who am I? What are my ideals? And what are my priorities? (Katriina, Karlssona, Pitkaniemi & Katriina, 2014; Timotstjuk & Ugaste, 2010; Alpus, 2006). These studies exposed a problem of self-conceptualisation when the student teachers were teaching students during their teaching practice.

Many studies that have examined the development of student teachers' identity have on teacher



education in general (Mahsa, 2013; Lamote & Engels, 2010; Wong et al. 2008). However, there are relatively few studies conducted in the nursing education discipline to investigate the teacher identity development of nursing student teachers during teaching practice (Aguayo-González & Monroe-Font, 2012). Thus, the study will provide suggestions to nurse educators on how to deal with teacher identity issues.

#### **1.4. AIM OF THE STUDY**

This study seeks to describe student nurse-educators' perceptions of teacher identity with respect to the subject matter, pedagogy, and didactic expertise at the School of Nursing, University of the Western Cape.

#### **1.5. OBJECTIVES**

To achieve the above mentioned aim, the study was designed to meet the following research objectives:

- To ascertain the student nurse-educators' perceptions with respect to their expertise in the subject matter; pedagogy and the didactics.
- To ascertain if there is an association between student nurse-educators ratings and their perceived level of knowledge in subject matter, pedagogy and didactics
- To ascertain if there is an association or difference between influencing factors (such as sex of respondents) in terms of their perceived levels of knowledge of expertise in subject matter, pedagogy and didactics.

## **1.6. RESEARCH QUESTIONS**

The research questions for this study were:

- What is the perceived knowledge level of student nurse-educators specific to the subject matter, pedagogical and didactics expertise?
- Is there an association between the perceptions of student nurse-educators and their level of knowledge of expertise in subject matter, pedagogy and didactics?
- Is there an association or difference between gender in terms of their perceived levels of knowledge of expertise in subject matter, pedagogy and didactics?

## **1.7. ASSUMPTION**

Leedy and Ormrod (2010, p.62) posited, “Assumptions are so basic that, without them, the research problem itself could not exist”. This study assumes that possessing a good level of ability in subject matter, pedagogy and didactics is essential for constructing a fair teacher identity. The common sense sustains that receptive abilities need to precede those of the productive. Furthermore, a silent period is regarded as essential when novices can store enough knowledge, master skills before they can put them to production.

## **1.8. RESEARCH SETTING**

The School of Nursing at the University of the Western Cape offers a two year structured Masters Programme in nursing education and offers professional nurses the opportunity to link their clinical practice with a passion for teaching in academic and professional settings. Grounded in theoretical perspectives of nursing and education, the programme prepares students for advanced practice roles related to nursing education, educational research and policy, and

nurse educator leadership. The Department of School of Nursing-UWC, (2010, p.3) offers “a programme speciality courses that provides student nurse-educators with didactic and practical experiences that are required in either the academic or professional development setting”.

The choice of this setting was related to the convenient location of the institution, in the Cape Town area, and its accreditation for nursing students’ practice. This provided the appropriate structure and environment for the collection of data.

## **1.9. RESEARCH PROCESS**

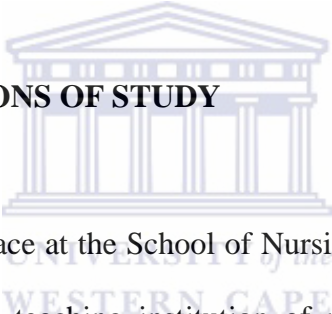
The investigator used the quantitative research approach, employing a descriptive design in order to seek an understanding of the perceptions of teacher identity of student nurse-educators during teaching practice in the University of the Western Cape, School of Nursing. The descriptive design was used because the intention was not to establish a cause-effect relationship (Christensen, Johnson & Turner, 2011) but to accurately interpret the characteristics of the group and the frequency with which certain phenomena occur (Polit & Beck, 2010).

After collecting the data, the investigator used descriptive and inferential statistic tests to analyse the numerical data collected from student nurse-educators. Appropriate statistical methods, assist and in making sense of the data and making decisions in the face of uncertainty (Christensen et al., 2011). The statistical software makes the process of quantitative data analysis much simpler because the programme does all of the calculations.

### **1.10. SIGNIFICANCE OF THE STUDY**

This research will contribute to forming an understanding of the roles of the subject content knowledge, pedagogical knowledge and didactic knowledge in particular as they affect teacher identity and teaching itself. The results of this study will contribute to the existing literature on teacher identity by adding new information regarding the cognitive aspect of student nurse-educators knowledge as it affects teacher identity. The suggestions emanating from the study could help nursing education programmes address teacher identity issues faced by student nurse-educators. The study advocates the embedding of professional guidance and support in student nurse-educators teacher training.

### **1.11. SCOPE AND LIMITATIONS OF STUDY**



This study was designed to take place at the School of Nursing at the University of the Western Cape, given its accreditation as a teaching institution of nursing, this institution was found suitable. Limitations involved arose from the self-report nature of the questionnaire, so raising problems of validity. A self-reporting questionnaire is inherently biased by the person's feelings at the time they fill out the questionnaire. The use of a questionnaire seemed to be the best way to extract information about the perceptions of student nurse-educators, related to their teacher identity; however, at the same time, implies that no in-depth information was gained.

The current study was limited to a small sample of student nurse-educators, within a specified research context: it was, not designed with a global scope, which might give the impression that teacher identity perceptions derived from the data are typical for student nurse-educators. The

researcher can only speculate, but it seems very well possible that student teachers encounter the same problem when constructing their teacher identity as well. Therefore, the results cannot be generalised to other settings or populations. However, it was possible that student nurse-educators encounter similar problems when constructing their teacher identity. Examination of the process through which student nurse-educators constructed their teacher identity during teaching practice has been limited, this study, under the framework developed by Beijaard et al., (2000), and by taking into consideration only the cognitive aspect related to teacher identity.

## **CONCLUSION**

This chapter has provided a description of the focus of the thesis and its motivation. It articulated the main research problem and the research question that the research seeks to answer. It also touched on the research methodology, including the significance of the study, the assumption, scope and delimitation of the study, not excepting definitions of the operative terms.

## CHAPTER TWO

### 2. REVIEW OF RELATED LITERATURE

#### 2.1 INTRODUCTION

In this second chapter, a review of the relevant literature is presented in order to contextualise the study. A literature review is a systematic reading of the significant contributions in the field of study, with a focus on the research question that has been chosen, but it helps us to understand the contributions and limitations of previous studies (Saunders, Lewis & Thornhill, 2009).

According to Sekaran and Bougie (2010, p.34) “the literature review is conducted to enable the investigator to identify research gaps and helps him develop a problem statement for his study, which further leads to the development of research questions and research objectives”. In this particular study, it places the work conducted within a context of what is already known about the teacher identity development from the personal knowledge perspectives during teaching practice, and what the study aims to supplement. The literature that was reviewed in this chapter is organised according to the perspectives listed below:

- The concept of teaching practice
- The concept of identity
- The concept of teacher identity
- The teacher identity at different level of teaching
- The theoretical framework that was used for the study
- Contributions of related published studies.

## **2.2. THE CONCEPT OF TEACHING PRACTICE**

Teaching practice is the practical use of teaching methods, teaching strategies, teaching principles, and teaching techniques. It involves practical training and exercises using different activities of daily school life (Wanekezi, Okoli & Mezieobi, 2011). The term teaching practice has three major connotations: the practicing of teaching skills and acquisition of the role of a teacher; the whole range of experiences that students go through in schools; and the practical aspects of the course as distinct from theoretical studies (Stones & Morris, 2009). Student teaching practice can be conceptualised as a space for prospective teachers to explore and continue to renegotiate their identity in relation to the subject to be taught.

Campus-based course teaching practice should be aligned with the theoretical and evidence-based teaching procedures taught in the methods course to foster a meaningful teaching experience (Zeichner, 2010). Campus-based course plays a very important role in the development of student nurse-educators by placing a great emphasis on the quality of their teaching practice. The programme design should be comprehensive enough to cover different teaching strategies that could develop a concrete theoretical basis of their teaching. The subject matter courses should equip them with substantial subject knowledge to comprehend or facilitate the curriculum. The pedagogy courses should equip them with substantial pedagogical content knowledge so that they are confident in their teaching practice (Godino, 2009).

Researchers have identified the unequal link between theory and practice as one of the basic problems in teacher preparation programmes. They propose a paradigm shift from one theory to

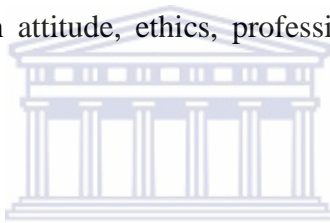
practice to a paradigm of integrating theory and practice (Krull, Oras & Pikksaar 2010). Therefore, teaching practice should serve as an important element in which theory and practice are integrated to improve quality in initial teacher education. The combination of theory and practice emphasises that teaching practice should provide an opportunity for the acquisition of the subject matter, pedagogical and didactical knowledge in achieving the professional tenure and development of teacher identity.

During teaching practice, theoretical knowledge becomes meaningful in practical situations and the student teachers are able to improve their skills. Hence, nurse educators, together with the teaching institutions should create opportunities for effective learning in the working environment for nursing student teachers (Torm, Löfström, Eisenschmidt, & Paul, 2012). Currently, the formation of future teachers' identity is highlighted as an important aspect in initial teacher education. This means that student nurse-educators should have the chance to gain experience linked to teaching, to develop their ability to learn from challenging situations and to develop the ability to plan, reflect and create meaning in their role as a teacher.

Teaching is unique in that student teachers have extensive opportunities to observe the profession from their time as a student (Ruohotie-Lyhty, 2013). This biographical understanding of teaching continues to develop and become modified as they interact with a variety of people and contexts across the ecosystem of education, further refining and shaping their understanding of teaching. Ultimately, there is no endpoint to this development,; since the understanding of what it means to be a teacher is constantly, though perhaps subtly, reshaped through interactions with new realities (Schepens, Aelterman & Vlerick, 2009)



During teaching practice, the focus is placed on the purpose of becoming a teacher and the process through which someone passes to become a teacher with more emphasis placed on the role of the teacher in the learning community (Wanekezi et al., 2011). During this period, the student nurse-educators is expected to play the part of a supervisor, drawing experiences from the theoretical assumptions gained during the classroom teaching sessions. Nurse-educators, therefore, look for these teaching competencies as displayed by the student nurse-educators in order to certify them. Thus the supervisors evaluate the demonstration of adequate knowledge of the subject matter, the display of pedagogic skills and the aptitude in didactics. Evaluation of the student nurse-educators' competency skills like management, communication, and planning are also assessed, with a keen eye on attitude, ethics, professionalism, service, development and execution of task.



Though, theoretical knowledge becomes meaningful in practical situations and the student nurse-educators are able to improve their skills during teaching practice. Hence, nurse educators, together with the institutions, should create opportunities for effective learning environment for nursing student teachers (Torm, Löfström, Eisenschmidt, & Paul, 2012). Currently, the formation of future teachers' identity is highlighted as an important aspect in initial teacher education. This means that student nurse-educators should have the chance to gain experience linked to teaching, to develop their ability to learn from challenging situations and to develop the ability to plan, reflect and create meaning in their role as a teacher.

### **2.2.1 Philosophy of teaching practice programme**

Teaching practice is the most important experience in teacher education (Gujjar, 2009). The School of Nursing of UWC provides an opportunity to develop and evaluate the student nurse-educators' competence in an actual school setting. Teaching practice is intended to bridge the gap between theory and practice, or link theory and practice. The relationship between nursing education facilitators and student nurse-educators enhances the quality of these teaching experiences and the consequent development of their identity as teachers. Thus there is a need for competent, skilled and concerned nurse-educators, who will assist the student nurse-educators to assume the full range of duties that qualifies them as nurse-educators.

### **2.3. THE CONCEPT OF IDENTITY**

This section discusses aspects relating to issues of identity which emerge from the literature, in the field of teaching, as well as in medical education (Murtiana, 2012; Akkerman & Meijer, 2011). In spite of the cumulative academic attention to identity in the last two decades, consensus is not yet reached on the exact meaning of the concept (Beauchamp & Thomas, 2009; Trent, 2010). A brief outline of identity is therefore, presented to focalise the readers understanding of the construct.

Taking into account that identity is a multi-disciplinary concept, it is difficult to offer a clear cut definition. Various studies have attempted to organise existing views on the concept of identity (Berry, Daughtrey and Wieder, 2010; Akkerman & Meijer, 2011; Torm, Löfström, Eisenschmidt & Paul, 2012). During the 20<sup>th</sup> century, the term identity was typically used in the area of psychoanalysis in reference to an individual's self-image (Ushioda, 2011). In this way, identity

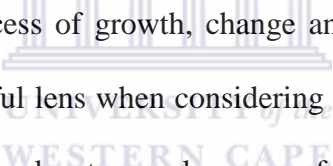
was conceptualised as mostly autonomous and was directed to the person it belongs to. This has changed over time with identity being framed by psychologists as a more situated, dynamic process of individuals developing conceptions of themselves as rational beings. This distinction between personal identity and social identity emanate from a sociological component of the self (the 'me') and a more personal component (the 'I') (Beijaard, Meijer & Verloop, 2004).

In considering the definition of identity, one core issue which must be addressed is the fundamental question of Who am I? as postulated by Lim (2011). This is the question that usually preoccupies the minds of student teachers during their practical teaching sessions. This could actually provide a convenient lens through which the meaning of identity could be explored. Such a question could entail a self-concept originating from an introspective reflection (Dewey, 2011). Therefore, identity here is something individual (Who I am?). To be able to understand how teacher identity develops and how individuals are able to maintain a sense of self through time, a completely decentralised idea of identity is not possible (Akkerman & Meijer, 2011).

#### **2.4. THE CONCEPT OF TEACHER IDENTITY**

The theoretical points of view described above intersect with current studies of student nurse-educators, during their teaching practice, and the formation of their teacher identity. Many educators have already located teacher preparation inside apprenticeship models of learning to teach. Aligned with these perspectives and practices, teacher identity as analytic frame draws attention to the holistic, dynamic, situated nature of teacher development (Ronfeldt, 2012).

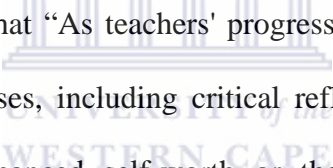
In recent decades, teacher identity has attracted general attention towards considering how teacher candidates negotiate personalised understandings of themselves in programmatic context (Beauchamp & Thomas, 2009; Akkerman & Meijer, 2011). There is an assumption that learning to teach is crucial to the teacher identity development (Özmen, 2010; Olsen 2010). Alsup (2006, p.16) highlights that “identity development for a teacher is complex, and that ‘establishing a rich multi-faceted identity requires the acceptance of ambiguity, multiple subjectivities, shifting contexts, and uncomfortable tension between ideological perspectives’”. Acknowledging and dealing with the fundamental pressures of becoming a teacher requires attention to the ways in which individuals move within and between diverse spaces, especially through the contexts of schools and university in relation to the curricula (Beijaard & al., 2004).



Robinson (2012) articulates a process of growth, change and distinct developmental stages in adulthood. His framework is a useful lens when considering the hidden developmental demands that are at work. How student nurse-educators make sense of their teacher identity evolves out of the developmental capacities of the self. “The conception of self suggests the way student nurse-educators make sense of their experiences. At this point in development, there is an emergence of self-concept, a consistent notion of me, and an enduring set of dispositions” (Robinson, 2012, p. 89). The success of this developmental stage stems from the fact that one is in a “project for oneself. The student nurse-educator at this developmental stage is likely to conceive of the teacher role as a means to fulfilling his/her own purposes.

## **2.5. The teacher identity at different level of teaching**

This section covers the dynamics of the professional identity through the different levels in teaching, with learning strategies and competencies at different stages of pre-service and in-service development, and deals with the investigation of relevant curricula for teachers pre- and post-diploma studies. As with a biological life cycle, teacher identity involves notions of conception, growth and development, maturity and eventual decline or withdrawal. Although the journey and evolution undertaken by teachers is not free of influences, it entails a personal environment (which includes such factors as life stages, avocational outlets and crises) and an organizational environment (which includes management style, professional organisations and public trust) (Musset, 2010).



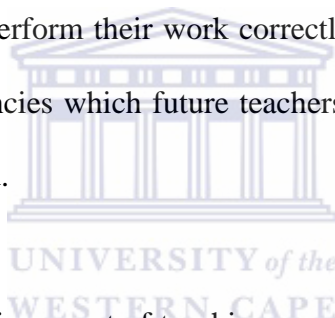
Sahlberg (2011, p.23) points out that “As teachers' progress throughout their careers, they can engage in transformational processes, including critical reflection on practice, redefinition of assumptions and beliefs, and enhanced self-worth or they can disengage from the work environment as a source of stimulation for new learning and begin the gradual decline into professional withdrawal”.

Models and programmes which open up to students and teachers the complexity of teaching and learning as a unique and creative process also, give theories, so providing meaning in relation to practice, making practice meaningful so as to comprehend theory and result in effectively educating educators (Sutherland, Howard & Markauskaite, 2010). The main idea is that all teachers, who qualify for teaching at all levels should be experts both in teaching and learning in subject matter knowledge and in the skills necessary for the formation of individual teacher

identity. Literature provides various models of teacher identity during teachers' life cycle. However, for the purpose of the current study's context, the investigator relies on Huberman's (2011) model that encompasses three main phases.

### **2.5.1 Initial teacher education programme (the level of teacher identity at current study)**

Initial teacher education is the preparation before individuals take full responsibility for teaching one or more classes of students; it is the first entry route into the teaching profession, thus, it plays a fundamental role in determining both the quality and the quantity of teachers. This content is meant to give to all teachers in a particular context the set of characteristics and skills, which they will need in order to perform their work correctly (Torres, 2012). For this reason, a list of specific skills and competencies which future teachers have to comprehend at the end of their initial education is established.



The initial teacher education contains a part of teaching practice, this means, internships in front of students in schools. The aim of these practical field experiences is to familiarize students with the classroom, and its dynamics so as to build teacher confidence and limit phobias on commencement of their teaching career. However, the modalities that can adopt these school-based experiences vary in context. In the context of initial teacher education, certain stages can be defined in the teacher preparation programmes that student nurse-educators undergo. The first stage is described as the fantasy stage, outlining how they perceive the teaching role prior to any practical teaching experience, and how this gets shaped during their training year(s) as they engage in practical teaching within a supportive training environment (Warford, 2011).

Avalos (2011) claims that initial teacher education programmes provide a platform for student

teachers to become inducted into the profession and to take their first steps within the life-cycle of a teacher. Different experiences of the initial teacher education are based on educational practices that encompass three main components in varying degrees: theoretical studies, school practice and inquiry. Research has shown that student teachers' formation of their teacher identity is shaped by their own teaching and learning experiences.

It is therefore not surprising that, at present, the concept of teacher identity receives more attention than previously. With the role of the teacher shifting from transferring knowledge to that of facilitator and guiding students, there is a need, for the student nurse-educators to comprehend theories and adopt different views, in answer to the question who am I as nurse educator? This relates to the way they think about themselves and how they undergo the substantial personal transformation they pass through as they are striving to become nurse educators. At this point, the influences on teacher identity, such as biographical factors play an important role and they perceive their role to a large extent as it is coloured by events and individuals. This has previously been emphasized by Pennlert (2013) who explained the relationships between early childhood experiences and other significant events in shaping; teacher role identity.

“Evidence suggests that teacher identity development is influenced by the nature of the preparation teachers receive initially” (Joseph, Dawn & Heading, Marina (2010, p. 6). They note that different individuals come with different backgrounds, but these individuals typically share a naïve conception of the profession and their level of commitment is not yet deep. The primary focus of this phase is the development of basic skills to the highest level possible, and acquiring

a general understanding of the nature and expectations of the teaching profession (Van Putten, Stols, & Howie, 2011). In terms of knowledge, skills and disposition, the education providers want students to be developing high levels of comprehension and general knowledge and understanding of science subjects, and the reason for such goals should be clearly established and well developed. The reason further is to look for overall commitment to learning and self-improvement that must be consistent.

As a candidate teacher's professional knowledge and understanding of the core subject matter deepens (McCallum & Price, 2010), then the focus turns to the acquisition of pedagogical knowledge, skills and dispositions as they are initiated into the tasks, challenges and commitments they will confront as future teachers. Consequently, they will have met the requirements for entry into the teaching profession, but, emerging knowledge of the profession based on personal experience and initial course work do not yet provide strong confidence, while their misconceptions are not fully eliminated. Even so, they will have made a basic commitment to enter the profession (Botha & Onwu, 2013).

Given that their basic skills and general knowledge fields are well developed, focus is then turned to the development of deep content specific knowledge as well as a sound professional core, and the development of pedagogical skills. At this stage, teacher candidates possess an emerging understanding of students and the learning culture's context and background as well as, the core related knowledge. Having acquired pedagogical education, content specific understanding, and at basic grasp of the social, cultural, professional and ethical challenges of classroom life, they are now prepared to work in the classroom under supervision in the real



situation and settings that approximate the demands and the realities of the profession. Most of the misconceptions regarding the profession are now gone and they are in the process aware of the realities of the demands of the profession. Beyond acquiring many basic routines, developing the mental habits of self- analysis, reframing, self-explanation, and self-monitoring during this phase are critical in terms of long-term development of teacher identity (Jurasaitė & Rex, 2010).

As student nurse-educators accumulate the knowledge and skills, and developed the dispositions needed to enter the teaching profession, they acquire such knowledge, skills and dispositions in increasingly complex and varied field settings. Here, they are prepared to manage the demands of classroom using basic routines developed during teaching practice learned in the classroom. However, the ability to improve and adapt to unusual circumstances is limited and underdeveloped due to limited experience. The upshot is that teacher identity formation is not only influenced by personal and professional issues, but also by the social response (Chong et al, 2011).

In addition to the development of knowledge and skills, student nurse-educators are developing as professionals, scholars and practitioners within the subject matter context (Shulman, 1986), therefore as change agents. As they develop a vision for what teachers do, what good teaching is, and what they hope to accomplish as a teacher they begin to forge an identity that will guide them in their work. Developing an identity as teacher is an important part of securing teachers' commitments to their work and adherence to the professional norms of practice.

The preparation programme deliberately and inadvertently reinforces the development of different kinds of teaching identities as they emphasize various aspects of what it means to be a teacher. This occurs they place the teacher candidates in different environments where they will experience certain kinds of norms which they are expected to adopt (Lim, 2011). Although this aspect of preparation is not always explicitly considered, it plays a critically pertinent role in shaping student nurse-educators' identity. This is realized as students develop their identity as members of the social group they work in, which reshapes their own views and what is understood about others.

Research on social identity argues that through childhood and, into adulthood, people move through a variety of stages in making sense of their own social identity and cultures and those of others (Jurasaitė-Harbison & Rex, 2010). This process of social identity development influences how humans see their role in confronting social and institutional barriers to equity. This process can be facilitated by teacher education if teacher educators understand the different realities during the construction of teacher identity.

Depending on the educational environment in which student nurse-educators develop, their self' concepts may be undermined, when they are confronted with different views of the world. In addition, the positive or negative role models in their past may shape their professional self-image of nurse educators. Behaviour is therefore a function of self-concept, making it an essential aspect of teaching and learning to teach (Day & Gu, 2010). A distinction should be made here between the teacher as a personal-self and professional-self to avoid the confusion. The first entails an organized summary of information, rooted in observable facts concerning

oneself, which includes such aspects as traits of character, values, social roles, interests, etc. While the latter encompasses, the first, it also emphasizes reference to one' self-professional functioning. However, this distinction should not separate the individual nurse educator (teacher) from his/her professional performance.

At this stage, the student nurse-educators develop from their understanding and construction of personal knowledge, through the construction of self, and identity development (Avalos, 2011). They might have different notions of their 'selves': as the self that actually exists; as one that might stand in the future as the self to strive toward; and as a construction of the world around them. An 'ought' self, that represents what is expected of them, the role they must fulfil according to common societal views of teaching. This stage is characterised by perceptions of themselves, perceptions of relationships, and perceptions of the teaching environment (Avalos, 2011, p.13). Instead of nurse-educators trying to induct student nurse-educators in to particular practices that are expected of professionals, teachers should be skilfully trained to understand concepts and theories and left 'hands free' to practice these theories in the best possible ways following the dynamics of the classroom or context.

## **2.6. THEORETICAL FRAMEWORK USED FOR THE STUDY**

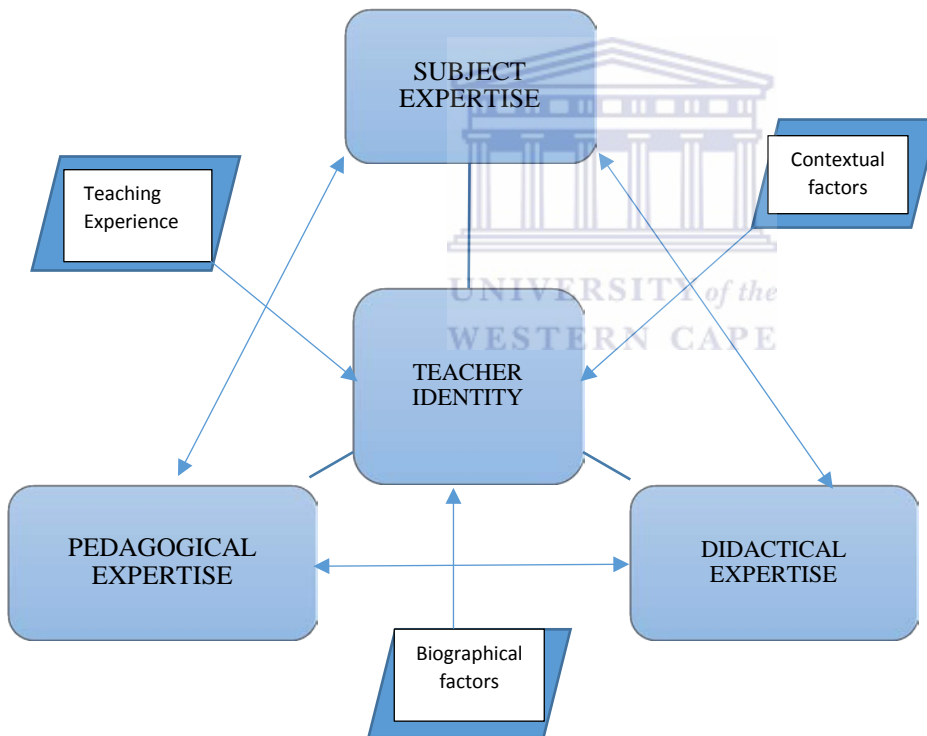
This section discusses the teacher identity of nursing student teachers. Student nurse-educators' identities are viewed as a reflection of the way they perceive themselves as teacher with regard to the teaching expertise and this view frames the theoretical framework. Although, this identity does not emerge fully-formed with the completion of initial teacher education, it gradually develops on the basis of how much they are embedded in concrete work situations.

There are multiple theoretical frames regarding the development of teacher identity. This research relies primarily on the framework proposed by Beijaard et al., (2000) to elucidate how nursing student teachers assume and construct a teacher identity. This framework conceptualises the identity of teachers with respect to their strengths in subject matter; pedagogy and didactics. There are many different views when it comes to the description of teacher identity, its operational definition, the appropriate instruments that could be used to measure it as well as the reliability of the measuring instruments (Christensen et al., 2011).

From a cognitive point of view, there is an association between teacher identity professional knowledge and skills in terms of expertise on subject matter, pedagogy and didactics issues (Shulman, 1987; Beijaard et al., 2000). The fundamental idea behind the training of teachers is based on the development in these three aspects of teacher identity. They should also be cognisant of the need to fill the gap between present and the ideal image of what they wish to become as professional teachers (Le Roux, 2011). Following on from this proposition, we may say that, teacher identity can be further conceptualised as bridging the gap between acting as a teacher and actually becoming a teacher. The understanding of the intricacy of teaching brings about understanding the difference between acting as a teacher and being a professional teacher. Shulman (1986), identified the knowledge field that influence teacher identities. The first is the role the teacher adapts, which consequently reflects the teacher identity. The second knowledge base is related to teacher expertise. Teacher expertise is based on content and pedagogical knowledge. The third knowledge base is related to the knowledge of the curriculum. This view is

also shared by Mansary (2011) who suggested that identity-in-practice is operationalised through concrete practice and tasks.

This section explains the metaphors used in the Beijaard model. This model stipulates that in the context of education, becoming a teacher means that one should identify oneself as a member of teachers' professional cluster. This further means that one must nurture a teacher identity, which would include showing an understanding of theories and concepts.



**Figure 1. Conceptual framework adapted from Beijaard model.**

**Source: Adapted from: Beijaard, Verloop & Vermunt, (2000)**

### **2.6.1. Teacher as a subject matter expert**

The teacher as a subject matter expert in the Beijaard model refers to possessing and understanding the subjects being taught. A good grasp of the theories and concepts pertaining to a specific subject matter plays a fundamental role in the development of teacher identity. A competent teacher has a thorough knowledge of the subject matter. The teacher who has command over subject matter can provide more information to the students in the classroom (Ruohotie-Lyhty, 2011). Knowledge of key concepts, inquiry tools, and structures and their implications are essential for lesson planning for the class. For the development of reliable, cross-curriculum linkages, the teachers must have adequate knowledge of the subject matter in the subject being taught in the class (De Mora & Keith, 2014). Abell, Appleton and Hanuscin (2009) argue that research processes and general observations revealing the teacher's knowledge of the subject matter have a great influence on students' learning and that being soundly grounded in subject matter can easily translate to the required knowledge for teaching the subject.

Nilsson and Loughran (2011) claim that, content characterise the curricula on teaching, thus, most programmes of teacher evaluation and teacher certification require student teachers to understand content. Content knowledge, is considered include not merely the knowledge of the subject but also how this knowledge is organised in structures (McCallum & Price, 2010). In other words, the possession of the subject matter knowledge must be accompanied by deeper comprehension of the underlying, facts, theories, principles and structures that guide the establishment of what is appropriate to do and say in a particular field.

Consequently, teachers are expected to go beyond the way things appear, and should also explore further as to why things appear the way they do. They are even expected to view on what grounds assertions could be made around the subject matter, and the assumptions that could be made while establishing theories around the subject matter. Furthermore, the teacher is required to understand the reason for the centrality of a particular discipline with respect to others. For this reason, teachers should master their subject matter and the various concepts that animate it. Generally, a good knowledge of theories and concepts by teachers facilitates the teaching process and foster learning in students (Beijaard et al., 2000).

### **2.6.2. Teacher as a pedagogical expert**

The teacher as a pedagogical expert refers to the ability to transform the subject matter into content such that it can be transmitted to the students. The instructional skills suggested by McCallum & Price (2010) deals with the content of a lesson to be taught. They claim that for a teacher not only the knowledge of contents is required, but also learning about the intersection of contents and pedagogy. Further, they proposed that the knowledge of how to present subject matter; knowledge of students' learning of the subject; curriculum knowledge; knowledge of educational contexts; knowledge of teaching strategies; and knowledge of the purposes of education, should all form part of the pedagogical process.

Boyd and Tibke (2013) argue that, only if a teacher has first-hand knowledge of the subject matter would teaching method be the best instructional strategy to deliver knowledge of high quality subject matter knowledge. Thus, student nurse-educators need to have a profound knowledge of the subject matter in order to guide the students towards the creation of useful

cognitive maps, and to foster the connecting ideas as well as guarding the students against misconceptions. With this expert knowledge, the student nurse-educators offer the fundamental pedagogical content knowledge that teachers require to make content material accessible to students. Pedagogical expertise also relates to how the teacher brings together values, emotions and the moral aspects of development.

### **2.6.3. Teacher as a didactic expert**

The didactic role of a teacher involves teaching where the understanding of the principles of human learning and the subject knowledge come together (Petrou & Goulding, 2011). The didactics aspect of teaching, focuses on the creation of the most appropriate and suitable teaching/learning environment. Core activities that animate this aspect of teaching include the planning of the teaching process; its execution, and the assessment and evaluation of the teaching exercise and process. The above didactic sequence is described as a set of activities a teacher designs and organises to help him achieve the set learning objectives. It is important to note that these activities must be presented in a particular sequence for the learning process to be well organised.

Chong, Low and Goh (2011) claimed that, a didactics teacher's knowledge is defined as the knowledge required for planning and implementing lessons. In the same vein, Petrou and Goulding (2011), define didactical knowledge as the knowledge that the teacher uses and puts into practice and develops while performing his/her duties. This involves a series of conceptual methodological tools that enable the student nurse-educators to examine and, describe the



complexity multiple meanings of the subject matter, as well as to design, implement, and assess teaching/learning activities.

#### **2.6.4. Practical implications of teacher knowledge**

Practically, all the expertise of the teacher is organised during a given teaching session as follow:

##### **a) Planning before the teaching situation**

When planning teaching, the nursing student teacher has to apply the curriculum, set goals, plan the usage of time, and make choices regarding the theme of a lesson, materials, and methods. In order to make successful solutions, the student nurse-educators need an understanding of what is important in teaching, what themes should be emphasised, how the themes are intertwined, and how to transform the goals and their contents into teaching (Thornton, 2011).

##### **b) The realisation of teaching**

During the implementation of planned activities, the teacher transforms the subject matter into the content of instruction and this process requires good decision-making (Watts-Taffe, Laster, Broach, Marinak, Connor & Walker-Dalhouse, 2013). The dynamics of the classroom makes it difficult to predict or to easily adjust the materials to the practical situation (Addison, 2011). The student nurse-educators should bear in mind that the planned structure of a lesson may not go as planned in practice. Consequently, they must be flexible and adjust to the teaching situations, thereby bridging the gap between curriculum as planned and curriculum as reality.

##### **Evaluation**

After a teaching session, student nurse-educators have to decide how to gauge their own work

and students' reactions to their own solutions, methods, and beliefs. Through reflection, they can create new objectives and methods to develop their teaching (Sutherland, Howard & Markauskaite, 2010). It is hardly, the purpose of evaluation merely to know whether students have learned what they were supposed to learn. In fact, students may have learned something else, something unpredictable too. It is hardly It is one thing to ask, did the student learn what I intended? The many personality roles related to teaching must be explored by the student nurse-educators. Finally, the student nurse-educator at the end of teaching practice is recognised as an individual who has gained a full understanding of his or her strengths and weaknesses.

## **2.7. INFLUENCING FACTORS**

Teacher identity does not develop in an environment free of influences. Research has shown that teacher's identity develops in a context and is also influenced by the experiences and biographies of the teacher in question (Krull, Oras & Pikksaar, 2010; Olsen, 2011). It is argued that, these factors interact with others, influencing a teacher's thoughts and actions. Consequently, the environment, experiences and biographies are considered as the different categories of factors influencing a teacher's perception of his or her professional identity. A description and analysis of these factor will be attempted bellow.

### **2.7.1. Teaching context**

The context in which teaching takes place has a great influence on the knowledge base that the teacher develops. From this perspective, teaching takes place on the basis of implicit knowledge, which is difficult to codify because it comes into being spontaneously (Wild, 2011). If the student nurse-educators are not creative and adaptive, they will face difficulties to accommodate

and build the knowledge field of teaching. Further, the classroom environment, students' behaviour and the school culture within the established norms might be difficult for a student nurse-educator to adapt to. Such may be the case when rules are seen as imposing on the educator's pressure to change their views on teaching, as creating conflict and also as contradicting what is expected and what the student nurse-educators think they should do.

This situation arises in the context firstly, of the culture of the institution where the teacher is based as also and, secondly, to the classroom environment. An aspect that relates to the environment of the classroom is the fact that each class is different due to its specific dynamics. The situational perspective of the classroom environment develops from the fact that the transmission of knowledge is implicit and occurs somewhat spontaneously rather than as a routine exercise. On the other hand, the school's culture is formed from the values and norms that guide the functioning of the entire school, thus relating to the way things function (McKee & Eraut, 2012).

### **2.7.2. Teaching experience**

In general, an experienced teacher performs, organises their lessons and work better than an inexperienced teacher or a novice. Ketelaar, Beijaard, Boshuizen & Den Brok, 2012, p.3) claim that "being an expert has the advantage that one can easily retrieve relevant information from memory when it is needed to resolve a particular problem, to synthesise and analyse information, that could be used to address issues in other contexts". The lack of experience in all aspects in teaching might limit the student nurse-educators ability to solve a problem that can arise at any stage during a classroom session.

### **2.7.3. The biography of the teacher**

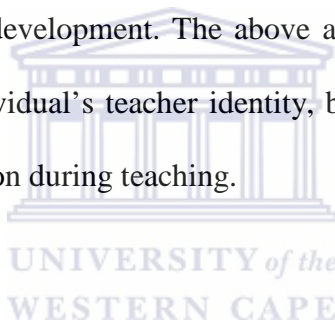
Researchers have been interested in how the life experiences of the teacher and their socio-geographic background influences their professional lives (UNESCO, 2009; Wild, 2011). These authors claim that the biography of an individual is likely to influence professional teacher identity, comprehension of institutional realities, and the way a teacher express him or herself in the classroom while performing their teaching activities.

Modelling entails learning by observing others. In this light, student nurse-educators develop their teacher identity by imitating the behaviour of their nursing educators while in training. Nurse-educators are models when demonstrating how to teach, and student nurse-educators want to lean and expect to be reinforced for mastering what is being taught. Botha and Reddy (2011) claim that the cognitive process could be important in learning new behaviours. Through modelling, student nurse-educators not only learned how to perform what they have observed from their role models but also what will happen to them in a specific situation as they perform it (in this case, when constructing their teacher identity during teaching practice) (Thornton, 2011).

During the training, student nurse-educators observed how their teachers structure the lesson by making clear presentations and highlighting important themes. In doing so, the student nurse-educators then take over these presentations methods from the same perspective as they have seen their own attempts. They are able to have attention directed to correctly judging the features of the situation and then to imitation better methods. In this view, teachers serve as role models for the acquisition of teacher identity and of a tremendous range of new behaviours.

#### **2.7.4. Summary of the theoretical framework used in the study**

According to Beijaard et al., (2000), three distinct knowledge bases of teacher knowledge could be identified: expertise in subject matter, didactics, and pedagogy. The investigator has utilised this framework for describing these concepts. Subject expertise described the nursing student teacher as a source of knowledge. Teaching involves getting across information to the students. Didactics expertise is the knowledge necessary for designing the learning process, and pedagogical expertise is knowledge related to the understanding of human thought, behaviour, and communication (Lindström, 2011). This entails the relationships, values and the moral as well as the emotional aspects of development. The above aspects are not separated from each other, rather, all influence an individual's teacher identity, but the teacher's knowledge base is principally what the teacher relies on during teaching.



#### **2.8. RELATED STUDIES**

A lack of research evidence that explores the identity during nursing education in general is highlighted in the literature. However, there are some studies that relates to the current project. The purpose of this review analysis is to ascertain what perceptions of student nurse-educators teacher identity the subjects have from the perspective of their personal knowledge.

A study conducted by Exton (2011) in the United States of America using a qualitative method, explored the factors that contribute to the development of teacher identity among new American Indian teachers. Exton identified school-based experiences, peer support, teachers as role models, personal, home, and community beliefs as factors that all were contributing to the

development of these new teachers. Although the current study focuses on the development of teacher identity through the synergy of teaching content, pedagogy and didactics, it takes into account Exton's study and its findings reveals that these other factors have contributory roles to play in the complete formation of teacher identity.

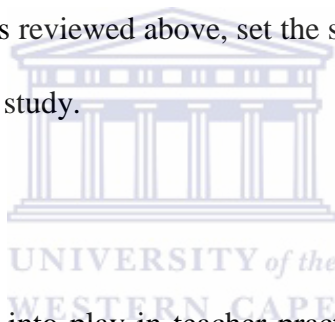
Smit and Fritz (2008) conducted an ethnographic study in South Africa using passive observations, interviews, informal conversations, and journal data to collect information that would enable them to understand teacher identity from a symbolic interaction perspective. The findings revealed that the power of the working context, and the educational landscape seems to be the forces in the development of teacher identity that play a bigger role than national educational policies. This study outlines how influencing factors shape teacher identity development as the force that can hinder or promote this teacher identity.

Another study conducted by Anspal, Eisenschmidt and Löffström (2011), and using the narrative design to investigate teachers' beliefs about teaching and teachers as expressed through metaphors focussed on student teachers in Estonia. The narratives were analysed using two methods: in-depth thematic analysis and inductive content analysis. The study was framed using the Kelchtermans' professional identity model. The results showed that the Beijaard's model can provide a fruitful starting point for exploring underlying beliefs and unconscious assumptions on teacher identity.

Chong, Ling and Chuan (2011) conducted an exploratory study using a survey in Singapore in order to understand the feelings of undergraduate student teachers about teaching at certain

points in time and with the intention of investigating the variation of their excitement about the teaching programme. The findings revealed that both the personal and the teaching experiences of the student teachers play a role in the formation of the identity of the student teachers, and recommended that these findings should inform admission criteria into the programme.

These different teacher preparatory contexts portray how student nurse-educators continue to construct their images and identities as professional teachers (Page, 2012). The identification of the self-forms the fundamental part of this process even as the ideas and experiences of teaching are being assimilated into the growing sense of self to form the teacher identity (Poom-Valickisa, Odera & Lepika, 2012). The studies reviewed above, set the stage for and provide the basis and a coherent background to the current study.



## **2.9. CONCLUSION**

There are many factors that come into play in teacher practices. However, the first reason for choosing to become a teacher is to assist and guide students to learn. To be able to do so, three kinds of knowledge are required; knowledge of the subject to be taught, knowledge of transforming such knowledge and knowledge of translating content to others. Even where teachers have created a supportive learning environment, without subject matter, pedagogical and didactic knowledge, it will be difficult to accomplish the outcomes set for a given classroom activity (Stanhope, 2011).

The identity of student nurse-educators, therefore, affects the operations and decision-making situations that are involved in teaching using classroom-based actions. These require practical

knowledge for (a) planning before a teaching situation, (b) solutions of how to realize teaching during a teaching situation, and (c) solutions as to evaluate teaching after a teaching situation (Määttä & Uusiutu, 2013). Teaching and learning share an intrinsic relationship, considering that the primary goal of teaching is for learning to take place which could lead to personal development.

Although the subject matter's content, pedagogy and didactics are fundamental to the development of teacher identity, the review of related literature indicate that there are other factors that contributes to the development of teacher identity. Some of these factors relate to the duration of the teacher training programme, school-based experiences, peer support, teachers as role models, personal, home, and community beliefs. Therefore, for the proper development of a healthy professional teacher identity, all these factors should contribute in a constructive manner. This chapter explored the literature on teacher identity. It also deliberates on the various aspects of nursing teacher education programme, the framework used in the study as well as the factors that influence teacher identity. The next chapter, Chapter Three dwells on the methodology that guided the study.



## CHAPTER THREE

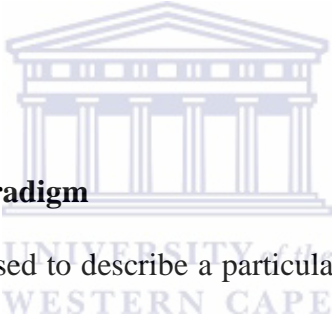
### 3. RESEARCH METHODOLOGY

#### 3.1. INTRODUCTION

Chapter Three outlines the philosophy, research design, the population for which the study is designed, the sampling procedure, and the method that was used to collect data. The reliability and validity of the research instrument are also addressed, as are, ethical considerations pertaining to the research.

#### 3.2. RESEARCH DESIGN

##### 3.2.1. Quantitative Research Paradigm



The term quantitative research is used to describe a particular set of research techniques (Clark-Carter, 2010). These research techniques, share a characteristic feature that involve numbers being applied to the data resulting from the research. The basic principle or philosophy underlying quantitative research reflects a deterministic philosophy that is rooted in the positivist paradigm, or school of thought. This traditional, positivist scientific method of inquiry refers to a general set of orderly, disciplined procedures used to acquire knowledge (Polit & Beck, 2010). The positivist paradigm adopts the philosophy that nature of reality can be ensured, in whatever way it manifests itself and in a probabilistic sense. The quantitative research approach is typically deductive with most ideas or concepts being reduced into variables and the relationship between or among them being tested (Burns & Groove, 2011). Thus, quantitative researchers use deductive reasoning to generate hunches that are tested in the real world (Polit & Beck, 2010).

The knowledge that results from the positivist paradigm is based on careful observation and measurement as well as the interpretation of objective reality.

Quantitative research designs can be classified depending on the nature of the problem and the aims of the research, with methods applied to obtain and analyse the data that appropriately respond to the research question. Common research designs associated with the quantitative research paradigm as defined by the nature of the problem include descriptive, correlation, comparative and experimental research designs. Based on the aim of the research, quantitative research can be classified into experimental research, quasi-experimental research, single case research and non-experimental research.

For this study, a quantitative research paradigm was used to ascertain the perceptions of student nurse-educators regarding their teacher identity (Shields, Patricia & Rangarjan, 2013). A descriptive design was used because the investigator intends to observe, count, delineate and classify the perceptions of student nurse-educators regarding their teacher identity based on their perceptions of their personal knowledge (Polit & Beck, 2010).

### **3.2.2. The Survey Research Design**

According to Christensen, Johnson & Turner (2011, p. 98), research design is described as “the outline, plan, or strategy that satisfies the procedure to be used in seeking an answer to your researcher question(s)”. The cross-sectional research survey was selected for this investigation as the data would be collected from the research participants only once.

According to Christensen et al., (2011), survey research is appropriate when measuring the attitude, activities, opinions and beliefs of informants and can allow the investigator to examine relationships among the variables, make predictions and determine how subcategories differ. The appropriateness to use the survey research in this study is related to the ability to describe the perceptions of student nurse-educators teacher identity from the perspective of personal knowledge. Descriptive survey research is aimed at discovering new meaning, describing what is happening, determining the frequency with which a phenomenon occurs as well as categorizing information (Acock, 2014). These qualities led to descriptive survey research methods being selected as the method of choice for the investigation of the student nurse-educators perceptions of their teacher identity from personal knowledge during teaching practice.

### **3.2.3. The survey Research Method**

Christensen et al. (2011, p.232) describe a research method as “the outline, plan, or strategy that satisfies the procedure to be used in seeking an answer to your investigator question (s)”. The survey research method adopted employs the use of a well-constructed questionnaires to assist with the collection of information in a standardized manner. When this information is gathered from a representative sample of a defined population, an inference can be made of the results for the wider population (Ross, 2012).

### **3.2.4. Study population**

The population to be studied is derived from the context and the problem that to be examined (Polit and Beck (2010). These authors describe a research population as all subjects that meet the

criteria for inclusion in a study. Also known as the target population, it can be described as an entire group of individuals about whom the researcher is interested in gaining knowledge (Sekaran & Bougie, 2010). Taking into consideration the various backgrounds and contexts that embody any particular population, the specificity of the research questions defines the identification of the study population. These are, the groups that are in a position to answer the questions to which the results of the research apply and thus may be used to make inferences (Ibid). The population for which this research was chosen included all the Masters in Nursing Education candidates involved in teaching practice at the School of Nursing UWC.

### **3.2.5 Eligibility criteria**

The eligibility criteria are usually used to define population characteristics. These are the characteristics that have allowed the investigator to determine the eligibility of the sample, and to limit the research population in order to make it manageable (Polit & Beck, 2010). The following were considered as criteria for inclusion in the study:

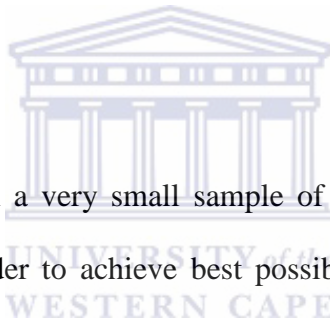
- All student nurse-educators, registered in Masters in Nursing Education programme from 2011 to 2013 of the School of Nursing at the University of the Western Cape.
- All student nurse-educators who completed their theoretical course and teaching practice.
- All student nurse-educators who took part in the teaching practice from year 2011 to 2013.

### **3.3. SAMPLE AND SAMPLING METHODS**

A sample is a representative subgroup of the target population (Polit & Beck, 2011). The most reliable and valid study would probably be one in which every person in the world is able to participate. Unfortunately, the time, the resources, and suitability of every member of the society

would make this impossible for any particular study. The inclusion criteria were devices required for the development of a sampling plan.

Quantitative research demands the use of the sampling frame from a sampling method (Bryman & Cramer , 2011). However, in the present context, no sampling method could be possible given the target population was less than 50 subjects; it is extremely difficult to obtain a randomly selected representative sample. Therefore, the list of Masters in Nursing Education students in the administration record was used as a sampling frame. Although randomized sampling would have been the ideal method of selecting the subjects, because of the aforementioned, it was impracticable.



Since the current study dealt with a very small sample of 36 subjects, the entire numbers of available subjects was used in order to achieve best possible statistical accuracy. The sample consisted of the 36 student nurse-educators who met the inclusion criteria. Since the size of the sample limited the accuracy, the maximum resolution to achieve the accuracy was that the proportion of the sample was equal to the population size: the variance therefore is equal to zero. This resulted in there being no uncertainty about the population proportion as well as no sampling error (Fritz, Morris & Richler, 2012).

### **3.3.1. Accessibility of the potential respondents**

The accessibility of the respondents was obtained through the use of a sampling frame which listed every subject in the population (Bryman & Cramer, 2011). To ensure enough respondents for this study, the data were gathered from all student nurse-educators enrolled in the Masters in

Nursing Education Programme from 2011 to 2013. According to the student administration records 40 students were listed and could be contacted by phone or email who were currently completing their teaching practice. While department administration provided, a list of 40 student nurse-educators who met the set criteria for participating in the study, however, four (4) were used in the pilot study, and so were excluded from the main study.

### **3.3.2. Sample size**

For this study, there was no sample, taking into account the incorporation of all the 36 potential respondents available from the administration record.

### **3.3.3. Recruitment of the respondents**

The recruitment includes activities conducted before a participant is enrolled. The recruitment process was composed of several specific steps, including:

- 1) Identifying eligible student nurse-educators populations who have completed their teaching practice.
- 2) explaining the study
- 3) Obtaining informed consent
- 4) Maintaining ethical standards
- 5) Retaining participants until study completion, and
- 6) Minimising cost-benefit ratio

To assist with the recruitment goals, the researcher identified a number of tools as part of the recruitment plan: these contained information about the study's goal, inclusion criteria, and

contact information. An information sheet was provided as well as the signed informed consent form.

### **3.4. DATA COLLECTION METHODS**

Data collection is the process of obtaining empirical data to be used to answer research questions (Burns & Grove, 2009). According to these authors, data can be collected in several ways, depending on the study. In an attempt to shed light on a particular social issue, it is important to ask one's research participant questions in such a way as to elicit responses that can be credibly analysed. During the data collection phase, the investigator paid considerable attention to detail in order to decrease the introduction of bias and to ensure complete data sets for all respondents.

#### **3.4.1 Data collection method**

The collection of data was performed by using a self-reported questionnaire designed using a Likert scale. The data were collected during two intervals. The first round took place in October 2013, the second round in February during the beginning of the academic year of 2014. A total of 36 questionnaires were collected from the respondents, and there were no missing data. The researcher took care of managing the data prior to the analysis.

During data collection, contamination could have occurred when a respondent that took part during the first collection period had contact with those who had not yet been exposed to the intervention through having contact with each other. Contamination can occur either inadvertently or intentionally as people discuss their experiences. This introduces the problem that settings can have unique properties whose influences become confounded with the

intervention. To avoid contamination of data during the two rounds of the collection period, the researcher took measures to ensure that the respondent was advised to take care not to share the information contained in the questionnaire with other peers given they all study and in the same Department of Nursing.

### **3.4.2 Data collection instrument**

Questionnaires are the most widely used data-collection tool (survey instrument) in survey studies (Christensen et al., 2011). They are used to elicit information from respondents related to the phenomenon under investigation. These authors describe questionnaires as a self-report data collection instrument that is filled out by research participants. The questionnaire that was used in this survey is one with Likert a scale, which is one of the most popular and reliable ways to measure someone's attitudes or behaviours. The scale uses answer choices that range from one extreme to another (for example, not at all likely to extremely likely) (Kieruj & Moors, 2010).

The self-reported questionnaire was used to assess the perceptions of student nurse-educators teacher identity from a personal knowledge perspective. However the variables of interests that were measured are theoretical constructs that are not directly observable and often composed of multiple facets. Psychological constructs are often described as latent, meaning they are not directly observed but are instead inferred from direct measurements of theoretically related variables (Azen, & Walker, 2011). The most important methodological concern to stress about scales designed to measure a latent construct is that they are not solely a collection of questions of interest to the researcher. Instead, scales are composed of items that have been subjected to tests of validity to show that they can serve as reasonable proxies for the underlying construct



they represent (Bryman, 2012). Therefore the numerical representations of psychological attributes (for example, perception toward teacher identity) were derived from theoretical explanations on a more readily observable behaviours or activities.

Just as one would not consider a single question adequate to evaluate a student's knowledge about a gerontology topic, one would not evaluate a complex construct, such as knowledge of expertise in subject matter with a single item. A scale developed to evaluate knowledge of expertise in the subject matter would entail a rigorous, iterative validation process. This process determines the aspects of the underlying construct the scale represents and tests the hypothesized relationships between the construct and its observable proxy (Norman, 2010). A measurement scale is composed of a collection of purposely constructed items backed up by empirical evidence of interrelationship and evidence that the items represent the underlying construct (Willey & Blackwell, 2010). The basic assumption behind perception scales is that it is possible to uncover a person's internal state of beliefs, motivation, or perceptions by asking them to respond to a series of statements (Dawes, 2008). Individuals indicate their preference through their degree of agreement with statements on the scale.

Having a range of responses also helped to more easily identify areas of improvement. However, a potential problem with the self-reported questionnaire with Liker Scale is that there is likely to be bias in responses (termed social desirability biases). To minimise this problem, the questionnaire in the study was adapted from (Beijaard et al., 2000). According to Hammersley (2010), using instruments that previously have been used by others, has the advantage of the measures being recognised by the research community as effective (internally valid instruments).

The researcher used the existing questionnaire because the instrument measures the construct in a very similar to that measured by the instrument, as they are presented in the operational definitions.

Secondly, the constructs in the questionnaire match those construct the researcher has conceptually defined for the study: this was decided by examining the actual questions and the way data were documented. Finally, the evidence of reliability and validity was well established. The modification and/or adaptation of an existing instrument is an acceptable approach as long as these involve changes in wording or content; changes in mode of administration; translation and cultural adaptation; and application (Kerby, 2014).

The questionnaire was composed of three constructs (See Appendix 3). The first section covered general questions related to the background variables of the student nurse-educators: gender, age, and education level. The second section of the questionnaire included 15 items, five for each influencing factor described in the theoretical section (i.e., context, experience, and biography). The student nurse-educators were asked to what extent they agreed with the items on a four-point scale (ranging from 1: strongly disagree, to 4: strongly agree). Some illustrations of the items used are:

- A classroom environment item: The specific teaching context affects your teaching in the classroom.
- An experience item: The degree to which you can predict events accurately
- A biographical item: Previous teacher influenced your teaching style

In the third section of the questionnaire, the student nurse-educators were asked to represent their teacher identity by awarding a total of 5 points by item constituting the three aspects of their identity. To facilitate this task, the student nurse-educators were provided with a questionnaire, and were asked to rate their perceived level of knowledge of expertise in the three domains (subject matter, pedagogical and didactic). The categories were scaled so that the sum of the three variables (subject matter, pedagogical and didactic expertise) for each individual equaled, the teacher identity developed through the level of knowledge perceived. Averaging the scores of Likert-type items remains controversial even though this has been, used extensively in the social sciences (Field, 2009; Norman, 2010). This was not the statistically optimal treatment, but it is nevertheless a robust procedure that will generate plausible results, even when its underlying assumptions are violated.

In the questionnaire, these three aspects were presented to the student nurse-educators as follows:

- Knowledge of expertise in subject matter: refers to the ability to adequately possess and understand the content being taught. Participants were asked the question to which extent do you as a future nurse educator possesses knowledge relevant to students learning needs?
- Knowledge of expertise in pedagogy expertise: refers to the ability to understand how a particular topic, problems, or issues are organized and represented. On knowledge of expertise in pedagogy, student nurse-educators were asked the question to what extent do you support students' social, emotional, and moral development?
- Knowledge of expertise in didactics: refers to the ability to plan, execute, and evaluate teaching and learning processes. In this domain, student nurse-educators were asked the

question to which extent do you plan, execute, and evaluate the teaching and learning process?

The questionnaire involved presenting a series of statements on the perceptions of student nurse-educators' teacher identity from personal knowledge perspective. Questions that were posed required them to indicate the extent to which they rated themselves regarding the level of teaching expertise perceived in the three domains that form the teacher identity. The categories were scaled so that the sum of the three variables (subject matter, pedagogical and didactic expertise) for each individual equaled, the teacher identity developed through the level of knowledge perceived. To achieve this objective, a scale with five point response categories was constructed. This kind of scale is called a balanced-rating scale and is composed of an equal number of positive and negative labels anchored by opposite poles, and with midpoints (Delafrooz, Paim & Khatibi, 2009, p.4) It was used to measure the teacher identity through the level of knowledge of expertise perceived in subject matter, pedagogical, and didactic as rated by respondents. It measured the variations in teacher identity (level of knowledge in each domain measured). The completion of the questionnaire took 24 hours maximum, following a time chosen by the respondent as convenient, to complete and return it the following day.

As mentioned above, a questionnaire is a good tool for collecting data on, behaviours and attitudes. It also helps to obtain statistically significant results that can be generalised back to the study population. The scale was used because it gave the investigator more information about variables and made it possible to assess the quality of the measurement so increasing reliability and validity.

### **3.4.3 Data collection process**

This section entails the process by which the data were collected through the questionnaire.

#### **3.4.3.1 The participant selection process**

After receiving approval from the Higher Degrees Committee of the University of Western Cape, permission to collect data was obtained from the Director of the School of Nursing Department in writing. As described above, the investigator gained access to everyone in the population, who could help in identifying important information to answer the research questions, therefore, the investigator ensured that the respondents having the desired knowledge were recruited (Walters & Freeman, 2010).

Using used the list of masters in Nursing Education student administration record of those who participated in teaching practice at the School of Nursing UWC, the names and contact information of the respondents were obtained and they were contacted. After obtaining the consent of respondents to participate in the study, the investigator made a personal appointment with the respondent for delivery of the questionnaire at their time of convenience.

#### **3.4.3.2 Briefing**

Prior to the delivery of the questionnaire, respondents were informed about the study through a letter of invitation, and were supplied with details and given assurances about ethical principles, such as anonymity and confidentiality through this letter. The questionnaire was sealed in an envelope for confidentiality. During the delivery schedule of the questionnaire, the first step the

investigator accomplished was to make clear to the respondents what the task was, and what was expected from them (Shields, Patricia & Rangarjan, 2013).

To avoid any suggestion of coercion, which could easily occur, adequate time was permitted for the student nurse-educators to comprehend and give feedback (between the initiation and completion of the consent process). An information sheet and a consent form were provided and the latter was signed by the respondent at the end of the process. After this process, the researcher invited them to participate, and the respondents were requested to complete the questionnaire. An individual drop-off was used. This entailed, the researcher going to the respondent's home or any place of convenience and handing the respondent the instrument.

### **3.4.2. Pilot study**

Although content validity can be established by having the instrument reviewed by experts, initial construct validity can also be verified by using a think-aloud strategy with interview participants while they read and answer survey items (Willey & Blackwell, 2010). During the pilot study, participants were asked to explain what they were thinking when reading each question of the instrument. Responses were then be compared to ensure that the questions were interpreted in the same way, were easy to understand, and were arranged in a logical sequence.

To begin the piloting process, a think-aloud session was conducted with four student nurse-educators from the School of Nursing UWC. As explained, the purpose of this phase was to ensure that survey questions were being understood in the same manner and to gather suggested changes that would make specific items clearer and easier to understand. Student nurse-educators

participating in the think-aloud understood the instrument formatting, but had a difficult time understanding what they were being asked to rate when each of the items began with a verb, such as ‘Use a variety of teaching strategies to relate various concepts to students’.

To make the items easier to understand, the phrase ‘the extent to which you’ was added to each stem for clarity. As one participant suggested if these questions could be directed back to the user, it would make more sense to say: ‘the extent to which you’. One think-aloud participant suggested that the instrument start with a simpler item that initially appeared later in the survey. The consensus among the think-aloud participants was that starting with less complex items to help respondents become familiar with the layout would be beneficial. In addition to changing the order of the items, the wording for items was also changed to make them clearer, easier to understand, and more active. For example, Item 4 initially read, “Use technology to create effective representations of content, was actually changed to “the extent to which you use technical tools during teaching to create a good representation of content”.

Overall, student nurse-educators completing the think-aloud pilot provided excellent feedback for improvements to the instrument. By making their suggested changes, the survey was improved to ensure that questions were easily understood and were being understood in the same manner. The goal of gathering and implementing suggested changes that would make specific items clearer and easier to understand was met.

### **3.5 Validity and Reliability**

Reliability and validity entail examining the appropriateness of the instrument. A research design demands a precise data collection method. In order to fit back the study results in the targeted population, the study should truly mirror the situation in the real world (Walliman, 2011). However, it is important that, when checking validity and reliability, pilot testing is used (Saunders, Lewis & Thornhill, 2009).

#### **3.5.1 Reliability**

The goal of reliability reposes on the precision with which the study is done. Reliability is the degree to which a measure is free from random error and therefore gives consistent results (Swanlund, 2011). Reliability stands the tests of the exactness and constancy of a measurement procedure and can be expressed in terms of stability, equivalence, and internal consistency (Campbell & Smith, 2010). Cronbach's alpha of .846 was obtained. No missing values were occurring. The reliability was established with the help of the University's statistician.

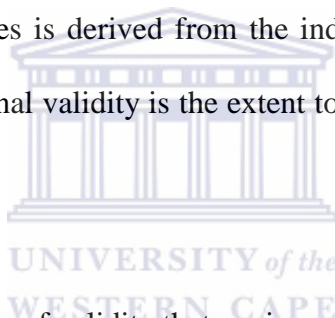
Stability is the degree to which results obtained with the measure can be replicated. Stability was assessed by administering the same items to the same respondents at two separate points in time apart and the results compared (Coolican, 2009). This is called the test-retest method and was used on a small population of 4 subjects within an interval of three weeks between sessions. The 4 subjects were excluded from the sample and did not take part in the study. The investigator tested the questionnaire to ensure its stability when conducting the pilot study with these 4 subjects (Lobiondo-Wood & Haber, 2010b). Internal consistency is the degree to which the questions in a scale device are similar and reproduce the same underlying construct (Parahoo,



2010). Given the investigator used a Likert- scale, Cronbach Alpha methods were employed to evaluate the internal consistency of the questionnaire by randomly splitting all the responses to a question into two sets, totaling the scores on the two sets, and working out the correlation between the two sets. The results showed that the questions measured the same construct.

### **3.5.2 Validity**

Validity refers to the question of whether the investigator and the devices selected truly quantify what the study wishes to scale (Polit & Beck, 2010). Validity is expressed in two principal types: External and Internal (Saunders et al., 2009). Internal validity is the extent to which the change observed in the dependent variables is derived from the independent variables (Hair, William, Barry & Rolph, 2010), while external validity is the extent to which results can be returned back to the population of interest.

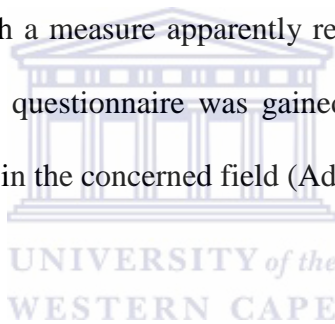


Nevertheless, there are other aspects of validity that are important in research. To achieve the various validities, the services of the University statisticians were utilised. The investigator also increased the number of items. The reason for increasing the number of items was due to the small number of the respondents, Consequently, every respondent did has a chance to rate many items as it would be less items with more respondents. By doing so, the validity and the reliability were improved. At the starting, the number of items by variable of interest was 9, then 3 were added for the above reason explained. No revalidation was needed the fact that, these items were added during the instrument design and not after pilot study.

The questionnaire was submitted to those experts to ensure that the questions reflected the concepts being studied and that the scope of the questions was adequate (LoBiondo-Wood & Haber, 2010a). The experts included course lecturers with research experience on the topic. Reliability was determined by the correlation of the scores from two independent raters (for ratings on a continuum) or the coefficient of agreement of the judgments of the raters. Given the concepts measured during test-retest reliability was chronologically stable; the experts concluded that the instrument was reliable.

### **3.5.2.1 Face validity**

Face validity is the extent to which a measure apparently reflects the content of the concept in question. The face validity of the questionnaire was gained through subjective judgments by means of lecturers who are experts in the concerned field (Adams & Wieman, 2011).

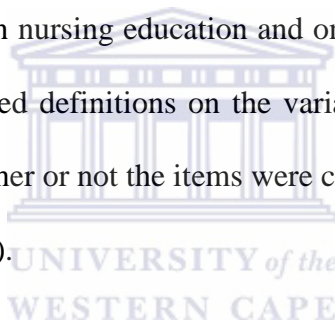


### **3.5.2.2 Content validity**

Content validity is closely related to face validity (Coolican, 2009). This is to make sure that a measure includes an adequate and representative set of items to cover a concept being measured. According to Huck (2012) there are basically two ways to assess content validity: (1) ask a number of questions about the instrument; and/or (2) ask the opinion of expert judges in the field. Marsh and Elliott (2009), also notes that the representative nature of the collection of items comprising the instrument and the use of sensible methods of instrument construction, that is, the rigor with which the instrument is formulated, including item wording, and response options are two major standards for ensuring content validity.

As the researcher wanted to ascertain the perceptions of student nurse-educators' teacher identity from a personal knowledge perception, the researcher was assured that the questionnaire was representative of the three domains (subject matter, pedagogy and didactics expertise) that cover teacher identity. Selecting and defining the concept, specifying the intended claim, identifying the target population, and drafting the target product profile were the initial steps in assuring and documenting content validity.

The determination of teacher identity variables for this study entailed a content validity process. The procedure for establishing content validity was an adaptation of the process used for an existing instrument. Two experts in nursing education and one in research examined the content of the items and, based on specified definitions on the variables subject matter, pedagogy and didactics expertise, evaluated whether or not the items were consistent with the framework used (Lobiondo-Wood & Haber, 2010b).



An existing questionnaire was identified through literature searches. A review of candidate measures includes a close examination of the items (stem and response options), mode of administration and instructions in relation to the target concepts. The conceptual framework of the questionnaire was examined for consistency with the concepts used in the study. The names used to describe the concepts and subscales were critically evaluated in light of the content and structure of the items. Adjustments in the concepts referenced in the questionnaire were made from the original in order to more accurately reflect the content. Strong and clear links between item content, subscale names, concept names, study objectives, and target labeling language were easiest to understand, interpret and communicate, although items that did not meet the

above criteria were either deleted or revised in order to meet the criteria. Items that were revised were re-rated during the pilot study.

The abilities measured by the questions were identified and confirmed by experts. The task of the experts was to offer insight into whether the items covered the range needed. Based on this procedure, the experts identified and concluded that the items in the instrument were an adequate representation of the concepts and that there is quantitative evidence of reliability and validity (Lobiondo-Wood & Haber, 2010b).

### **3.6 DATA ANALYSIS**

Data analysis is a process of inspecting, cleaning, transforming, and modeling data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making (Hair, et al., 2008). The analysis used in this study was both descriptive and inferential. The investigator used descriptive statistics such as Median, Mode, Mean, and Standard Deviation to describe the characteristics of respondents. In addition, inferential statistics such as Kendall tau-c was used to examine the association between variables, Cramer's V test was used to examine the association between the perceptions of respondents and gender, and Mann-Whitney U Test was used to test for differences between student nurse-educators males and females in terms of their perceived knowledge in subject matter, pedagogy and didactics.

### **3.7 ETHICAL CONSIDERATIONS**

The proposal was submitted to the University of the Western Cape Senate and High Degree Ethics Committee for approval and received ethical clearance. Permission to conduct the study

was obtained in writing, from the Director of the School of Nursing and Head of the Nursing Department. The ethical principles of the declaration of Helsinki 2008 were also applied (Burns & Grove, 2009). The Higher Degrees and Senate Committees as well as the Director of Nursing scrutinized the study regarding ethical issues and feasibility before the research was carried out. After they agreed, the respondents were approached: they were given the informed consent form regarding taking part in the study, after they had each received a written explanation of the study. Respondents were assured of the confidentiality and anonymity of any information provided during data collection and the data analysis processes.

The researcher ensured that he minimised harm and risks while enhancing the benefits of the study;

he also took care to respect the human dignity, privacy, and autonomy of all respondents. In other words, the informed consent process ensured that the participants were fully aware of the risks, as of the potential that, anything could change their decision to become a part of the research, at the time the research was carried out or in the future. The principles of anonymity were upheld by avoiding any possibility of linking the personal information of individual subjects (example, name, address, email address, etc.) to their individual responses. To achieve this, the investigator did not collect identifying information on the research respondents. With respect to keeping the respondents anonymous, pseudonyms were attributed to protect respondents' identities during data collection, data analysis as well as when the results will be published.

The researcher maintained the confidentiality of the information collected from research respondents by making every effort to prevent anyone outside of the project from connecting individual subjects with their responses. To ensure anonymity, no names were required on the questionnaires or any form of identification. The principles of autonomy and fairness were also enforced by assuring respondents who wished to withdraw from the study that they could do so at any stage of the data collection process. The participants were not coerced, threatened nor promise that they could reward for participating in the study and they were assured that they would not encounter any undesirable effects by participating in the study. The researcher also opened a file for the questionnaires that were collected during the study. This file was kept in a filing cabinet with a locking system, and the keys to this filing cabinet were in the possession of the research investigator alone. The respondents were also informed that at the conclusion of the study, the questionnaires will be kept in a secure place, where only the researcher will have access. Information acquired through this research project would be shared with all respondents prior to public dissemination. The results of the study would be published in an accredited peer reviewed journal.

### **3.8 CONCLUSION**

In this chapter, the investigator explored the quantitative research methodology and how it was used to draw up the specific research plan for this study. Attention was also paid to describing the quantitative method both as a method and a research design. It was found the most appropriate approach and research method for examining the nurse student teachers' perceptions of teacher identity from a personal knowledge perspective. Explications on the study population, data samples and sampling methods, data collection, data storing and reliability as well as

validity were also part of this chapter. It also reveals the various methods and processes that were used by the investigator to ensure rigor during the entire research process especially when handling the data collection phases. Finally, this chapter addressed the ethical concerns related to the study and what the investigator did to overcome some of the ethical challenges encountered. The next chapter will explore the data analysis and interpretation process, and describe the meaning behind the numerical data.



## CHAPTER FOUR

### 4. DATA ANALYSIS AND INTERPRETATION

#### 4.1 INTRODUCTION

This chapter provides the analysis and interpretations of the results of the study. The data are presented in a clear and concise form, using descriptive and inferential statistical methods. The purpose of analysing data was to obtain usable and useful information as well as to attach meaning to them (Bryman & Cramer, 2011).

It should be borne in mind that the results are based on self-reports from student nurse-educators and therefore represent their perceptions and their accounts of their teacher identity from personal knowledge perceptions. This information, gives insight into how they perceive the teacher identity based on the knowledge of expertise that they thought they possessed and were carrying out in practice. But, like any self-reported data, this information is subjective and therefore differs from objectively measured data. In addition, as a cross-sectional survey, it cannot measure causality. For instance, in examining the relationship between classroom environment and student nurse-educators' perceptions empirically, it is not possible to establish whether a positive classroom environment depends on good teacher knowledge of expertise in subject matter or whether teacher' s knowledge of expertise in subject matter depends on a good classroom environment .



The perspective taken in the analysis and the choice of predicted and predictor variables, is purely based upon theoretical considerations, as laid out in the analytical framework. When a reference is made to such conditions, it is to be understood in a statistical sense. Thus, the results reported are statistical net perceptions even if they do not imply causality.

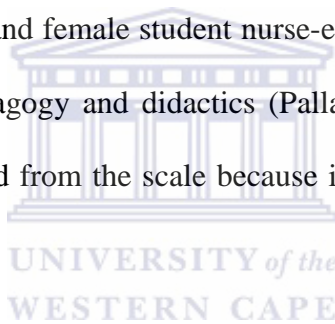
Data analysis involves three major steps which firstly, involves cleaning and organizing the data for analysis, describing the data and testing Hypotheses and Models (Bryman & Cramer, 2011). Data preparation involved checking the data for accuracy; entering the data into the computer, transforming the data, developing and documenting a database structure that integrated the various measures with the assistance of the university' statisticians. The raw data collected from the respondents were entered first on a paper sheet and then typed into a computer database. Prior to capturing the data, the investigator checked carefully for errors.

Secondly, the description of the data required the use of descriptive statistics to describe the basic features of the data. With descriptive statistics the investigator simply describes what the data is. They provide simple summaries about the sample and the measures. Together with simple graphical analysis, they formed the basis of quantitative analysis of data.

Thirdly, using inferential statistics, the researcher employed Kendall's tau-c to ascertain the association between the three domains of teacher identity and the student nurse-educators perception of teacher identity from their personal knowledge perception. Cramer's V was also used to examine the association between gender and the perceived level of knowledge of expertise in the three domains of teacher identity, as it took into account the nominal nature of

the variable. The researcher used the association test because the nature of association methods is inherently deal with variation, not a central tendency (Bryman, 2012). The magnitude of the association is sensitive to individual data at the extremes of the distribution. Kendall's tau-c is a bi-functional correlation between two ordinal or ranked variables based on equals the excess of concordant over discordant pairs, multiplied by a term representing an adjustment for the size of the table (which is allowed in functional correlations).

The decision to use the measure of association in this study was due to the scoring of items tending to be higher or lower in the sample. On the hands, the Mann-Whitney U Test was used to test for differences between male and female student nurse-educators in terms of their perceived knowledge in subject matter, pedagogy and didactics (Pallant, 2011). During the analysis the measure "Very poor" was removed from the scale because it was not rated at all, this removed unnecessary data (Acock, 2014).

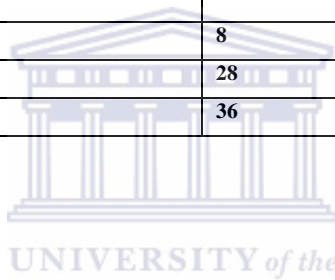


#### **4.2. CHARACTERISTICS OF THE SAMPLE**

There was a total of 40 student nurse-educators that constituted the target population from which 4 subjects therefore were used to pilot the study and were excluded from the study. A total of 36 subjects constituted the sample. The subsequent section provides a summary of the demographic characteristics of the sample: out of the 36 questionnaires distributed to student nurse-educators of Masters in Nursing Education programme at the School of Nursing of UWC, all the 36 questionnaires were completed and returned. No missing data were observed.

**Table 4.1: Characteristics of student nurse-educators**

	N	Percent
<b>Age</b>		
28-32	3	8.4
33-38	13	36
39-42	13	36
43-47	7	19.6
<b>Total</b>	<b>36</b>	<b>100</b>
<b>Gender</b>		
<b>Female</b>	<b>32</b>	<b>88.9</b>
<b>Male</b>	<b>4</b>	<b>11.1</b>
<b>Total</b>	<b>36</b>	<b>100</b>
<b>Grade Level</b>		
<b>First Year</b>	<b>8</b>	<b>22.2</b>
<b>Second Year</b>	<b>28</b>	<b>77.8</b>
<b>Total</b>	<b>36</b>	<b>100</b>

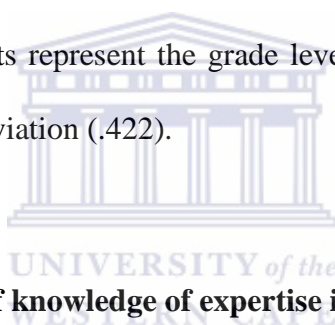
**Table 4.2: Statistical representation of the age distribution of the student nurse-educators**

			Mean	Median	Mode	Std. Deviation	Minimum	Maximum
Variables	Valid	Missing						
Age	36	0	38.94	39.00	38	4.256	28	47
Grade level	36	0	1.78	2.00	2	.422	1	2
Gender	36	0	1.89	2.00	2	.319	1	2

The table 4.1 and table 4.2 show the frequency distribution and the statistics of the ages, gender and grade level of the participants for easy viewing. The youngest participant was 28 years of age and the oldest was 47 years old. The mean age of the participants was 38.94, the mode

(highest occurring age) was 38 years, and the standard deviation was 4.256. Among the respondents, there were 32 females (89, 9%) and 4 males (11, 1%). As the frequency table indicates, there is disparity between the numbers of females and males in number. Due to the nature of the profession, nursing is seen as more suited to females as it is related to the caring attribute stereotypically assigned to women. The statistics for gender are reported as follows:

Mean (1.89), Median (2.00), Mode (2), and Standard Deviation (.319). The educational levels of the respondents who participated in the study showed that 77, 8% (n=28) were in their second year of the Masters in Nursing Education programme; while 22, 2 % (n=8) of the participants were in their first year of this programme. However, all of them had completed their theoretical and teaching practice. These results represent the grade level's statistics: Mean (1.78), Median (2.00), Mode (2), and Standard Deviation (.422).

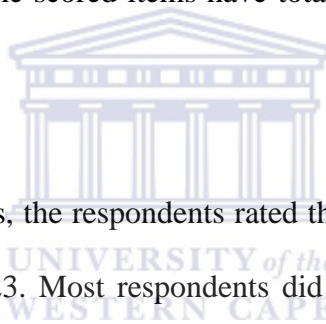


**Table 4.3: The perceived levels of knowledge of expertise in subject matter**

Items	Scales								Correlation coefficient	P value
	Poor(1)		Average(2)		Good(3)		Excellent(4)			
	n	%	n	%	n	%	n	%		
<b>Knowledge of expertise in subject matter</b>										
Knowledge of the subject matter	0	0	11	30.6	22	61.1	3	8.3	-.074	.045
Understanding the subject	0	0	11	30.6	23	63.9	2	5.6	.211	.009
Understanding of contents	0	0	17	47.2	18	50.0	1	2.8	.051	.694
Understanding of facts and principles	2	5.6	22	61.1	11	30.6	1	2.8	-.014	.028
Structuring the content	0	0	24	66.7	11	30.6	1	2.8	.053	.014
Demonstration of instruction strategies	1	2.8	18	50.0	16	44.4	1	2.8	.093	.478
Content delivery	0	0	20	55.6	16	44.4	0	0	.983	.037
Knowledge of the contents in details	1	2.8	20	55.6	15	41.7	0	0	-.081	.050
Link subject to social life	4	11.1	21	58.3	11	30.6	0	0	.063	.024
Knowledge of subject matter transmission	0	0	19	52.8	16	44.4	1	2.8	.116	.021
Scholarship	0	0	20	55.6	16	44.4	0	0	-.174	.060
Being smart	0	0	15	41.7	17	47.2	4	11.1	.073	.039

#### **4.3 The perceived level of knowledge of expertise in subject matter by item**

The results of the table 4.3 above shows the distribution of the respondents' responses for each of the twelve dimensions of the construct subject matter expertise. According to the results show in the table 4.2, student nurse-educators perceived a fair level of knowledge of expertise in subject matter expertise. The results demonstrate that amongst the twelve items used to measure the subject matter expertise, the average level of perceived knowledge of expertise in subject matter was directed to "the understanding of facts and principles"  $n = 24$ , "the structure of the content"  $n = 22$ , "content delivery", "knowing details", "scholarship" each having response of  $n = 20$ . As displayed on this table, the scored items have total responses ranging between 11 and 24.



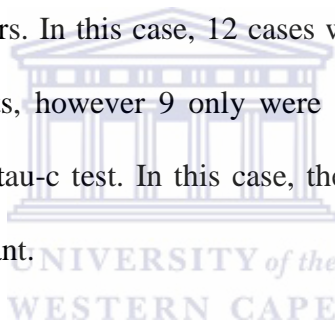
Taking into account the rated items, the respondents rated their perceived level of knowledge as "good" from the scores of 11 to 23. Most respondents did not rate themselves as "excellent". These results have shown that the level of knowledge of expertise in subject matter perceived by respondents is subject to the value rated. This applies the high item value to the high level of knowledge perceived in that area. Therefore, student nurse-educators' overall level of knowledge of expertise in subject matter is determined in the average category, with the median of 3.50.

#### **4.4 Association between student nurse-educators ratings and their knowledge of expertise in subject matter by item**

In the description below, the Likert scale was ordinal and it was totally ordered by the magnitude of the latent variable. A single Likert-type item asks the respondent to which of several ordered alternatives they belong. Those persons with the higher level properties in the natural variable

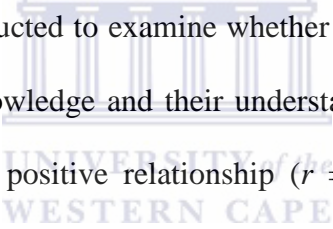
are expected to get higher scores than those persons from lower properties. Ignoring the discrete nature of the responses could lead to inferential errors (Agresti, 2013). As the researcher has acknowledged the discrete nature of the observations, the data were then summarized as counts occurring in the various response categories. The researcher took the option to analyse each Likert-type item given that it provides a discrete approximation of the continuous latent variable (Clark-Carter, 2010).

In the table 4.3 the observed frequencies from the current data file are presented, showing that 9 items out of the 12 (75%) were significantly associated with the perceived level of knowledge of expertise by student nurse-educators. In this case, 12 cases were expected to be associated with the level perceived by respondents, however 9 only were observed. The Test Statistics table reports the results of the Kendall tau-c test. In this case, the report of the test results included only those items that were significant.



Kendall tau-c was computed to examine the association between the knowledge of expertise in subject matter and the student nurse-educators ratings. Out of 36 student nurse-educators, 30, 6% (11)  $n = 36$  felt that they perceived themselves to possess an average level of ability in knowledge of the subject matter, while 61.1% (22)  $n = 36$  perceived themselves perceived as good. Only 8.3% (3)  $n = 36$  perceived themselves to be excellent. The result of the test analysis revealed  $r = -.074$ ,  $N=36$ ,  $.045 < p < 0.05$ . Therefore, there is a positive association between the perceived level of knowledge and the knowledge of subject matter. This suggests that the level of knowledge as perceived by student nurse-educators is associated with knowledge of the subject matter.

When comparing student nurse-educators perceived level of knowledge and the subject matter, on the extent to which respondents perceived themselves as possess the ability to understand the subject taught, 30.6% (11) n= 36 student nurse-educators fell in the category average, 63.9% (23) n=36 in the category good and 5.6% (2)n=36 in the category excellent. Using the Kendal Tau-c correlation coefficient, the test result found there is a strong positive association between student nurse-educators perceived level of knowledge and the understanding of the subject,  $r = .211$ ,  $N = 36$ ,  $.009 < p0.05$ . The researcher concluded that there was a strong association between the perceived level of knowledge and the understanding of the subject.

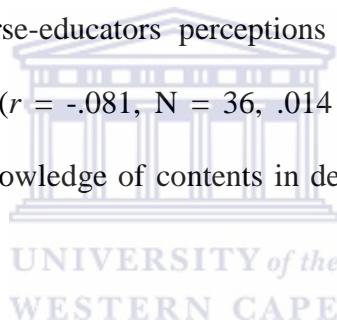


A Kendall tau-c analysis was conducted to examine whether there is an association between the respondents perceived level of knowledge and their understanding of facts and principles. The results revealed a significant and positive relationship ( $r = -.014$ ,  $N = 36$ ,  $.009 < .05$ ). The association was weak in strength. The perceptions of respondent were associated with the perceived level of knowledge in understanding of facts and principles.

The researcher used Kendall tau-c analysis to examine whether there is an association between the perceptions of respondents with the perceived level of knowledge in structuring of the content. The results revealed a significant and positive association ( $r = .053$ ,  $N= 36$ ,  $.014 < p .05$ ). The association was moderate in strength. Structuring of the content was associated with the level of knowledge perceived.

A Kendall tau-c test was conducted to examine whether there was an association between content delivery and the perceived level of knowledge by student nurse-educators. The results revealed that there was a significant association between the two variables ( $r = .983$ ,  $N = 36$ ,  $.037 < p .05$ ). A strong association was found between these two variables. This suggests that content delivery ability was related to the perceived level of knowledge by student nurse-educators.

The Kendall Tau-c was performed to find out whether there is an association between student nurse-educators perceived level of knowledge and knowledge of contents in details. The test analysis showed that student nurse-educators perceptions was associate with the ability of structuring the content in details ( $r = -.081$ ,  $N = 36$ ,  $.014 < p.05$ ). This shows that the way students perceive their level of knowledge of contents in details relates significantly with their perceptions.



The report of the test analysis using the Kendall tau-c to examine the association between student nurse-educators perceptions and their ability in linking the subject to social life indicates that student nurse-educators' perceptions relate positively with their ability of linking subject to social life ( $r = .063$ ,  $N = 36$ ,  $.024 < p.05$ ). The result concludes that the student nurse-educators' perception of their teacher identity and correspondingly their perceived level of knowledge in linking subject to social life is associated.

A Kendall tau-c test was conducted to examine whether there was an association between student nurse-educators' perceptions and their perceived level of knowledge of expertise in transmission of their subject matter. The results revealed that there was a significant relationship between the



two variables ( $r = .716$ ,  $N = 36$ ,  $.021 < p.05$ ). The results reported that there is a positive association between student nurse-educators' perceptions and their perceived level of knowledge of expertise in transmission of the subject.

The results obtained from the data about the ability of being smart and the perceived levels of knowledge of student nurse-educators, exhibit the  $r = .073$ ,  $N = 36$ ,  $.039 < p.05$ . This implies that there is a statistically significant positive association between being smart and student nurse-educators' perceived level of knowledge.

However the Kendall tau-c performed to examine whether there was an association between student nurse-educators perceived levels of knowledge and understanding of contents ( $r = .051$ ,  $N = 36$ ,  $.694 > p.05$ ); demonstration of instruction strategies ( $r = .093$ ,  $N = 36$ ,  $.478 > p.05$ ); and scholarship ( $r = -.174$ ,  $N = 36$ ,  $.060 > p.05$ ) as presented here, does not differ significantly from the hypothesized values that we supplied. Based on these p-value of these variables mentioned above with their corresponding results from the test statistics table, the researcher fail to reject the null hypothesis and conclude that the test rejected the perceived level of knowledge rated by student nurse-educators on these variables.

**Table 4.4: The perceived level of knowledge of expertise in pedagogy**

Item	Scales								Correlation coefficient	P value
	Poor(1)		Average(2)		Good(3)		Excellent(4)			
	n	%	n	%	n	%	f	%		
Knowledge of expertise in pedagogy										
Communication skills	0	0	14	38.9	19	52.8	3	8.3	.903	.045
Problem solving skills	0	0	21	58.3	11	30.6	4	11.1	.065	.037
Assessing prior learning	0	0	15	41.7	17	47.2	4	11.1	.067	.006
The use of technology	0	0	12	33.3	17	47.2	7	19.4	-.908	.029
Support students understanding	0	0	24	66.7	12	33.3	0	0	-.174	.003
Caring and nurturing	0	0	16	44.4	19	52.8	1	2.8	-.111	.037
Teaching values	0	0	28	77.8	8	22.2	0	0	.062	.933
Being role model	0	0	4	11.1	22	61.1	10	27.8	-.014	.725
Working with others	1	2.8	27	75.0	8	22.2	0	0	.049	.250
Working with individual students	0	0	21	58.3	15	41.7	0	0	.222	.045
Working with heterogeneous groups	1	2.8	20	55.6	15	41.7	0	0	.046	.709
Holistic development	0	0	16	44.4	17	47.2	3	8.3	.109	.046

#### 4.5 The level of knowledge of expertise in pedagogy

As displayed on the table that follows, the findings of this study suggest that many of the student nurse-educators are making an effort to master the skills and knowledge relate to the pedagogical expertise. The perceived level of knowledge is demonstrated by how much an item was rated. The results of Kendall tau-c analysis computed to examine the association among student nurse-educators ratings of their knowledge levels along the twelve items of the knowledge of expertise in subject matter are also presented.

The lower the value of an item in the scale, the lower the perceived level of knowledge in the concerned area of expertise, while the high level of the perceived knowledge is validated by the high score values of the item on the scale. The findings indicate that “being role model” was the

lower level of knowledge perceived as display in the respondents' responses with 11.1% (4) n = 36 on the "average" category; followed by "working with others" with 75.0% (8) n = 36 in the category "Good"; and "caring and nurturing" with a response of 1 in the category "excellent". The item "supporting students understanding" was rated with a total response of 66.7% (24) n = 36, "working with individual students" and "problem solving skills" both had total response of 58.3% (21) n = 36, while the respondent responses rated with the item "working with heterogeneous groups" 55.6% (20) n = 36, "caring and nurturing" as well as "holistic development" each has a response of 44.4% (16) n = 36.

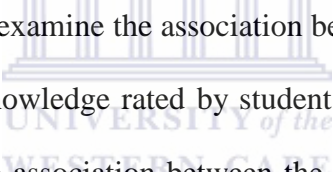
The lower scored item obtained in this category ranged from 4 to 15. The other groups of respondents perceived themselves as having either "Good" or "Excellent" levels of knowledge in one or more of the items in the "pedagogical expertise" category. The greater value among items in the rating "good" ranged from 61.1% (22) n = 36 perceived "Being role model", followed by "Communication skills" and "Caring and nurturing" each with 52.8% (19) n = 36, "Assessing prior learning" and the "Use of technology" 47.2% (17) n = 36.

#### **4.6 Association between student nurse-educators ratings of their knowledge of expertise in pedagogy by individual item**

The researcher performed a test analysis to examine whether there was an association between problems solving skills and the perceived level of knowledge rated by student nurse-educators. A Kendall tau-c association for the data revealed that problem solving skills and the perceived level of knowledge rated by student nurse-educators were significantly positively related,  $r = .65$ ,  $N =$

36,  $p < .05$ , two tails. Therefore, the researcher concludes that problem solving skills were related to the perceived level of knowledge as rated by student nurse-educators.

The Kendall tau-c analysis was used to examine the association between the ability to assess prior learning and the perceived level of knowledge scored by student nurse-educators on four measures. There was a significant association between the ability to assess prior learning and their perceived level of knowledge scored on four measures by student nurse-educators,  $r = .65$ ,  $N = 36$ ,  $006 < p.05$ , two tails. In summary, the perceived level of knowledge rated by student nurse-educators was found to be a potent predictor of the ability to assess prior learning.

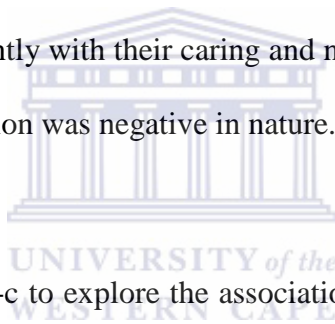


Kendall tau-c analysis was used to examine the association between the ability to use technology tools and the perceived level of knowledge rated by student nurse-educators on four measures. Results indicated a strong negative association between the ability to use technology tools and the perceived level of knowledge scored by student nurse-educators,  $r = -.908$ ,  $N = 36$ ,  $.029 < p.05$ . This suggests that perceived level of knowledge scored by student nurse-educators predicted their ability to use technology tools.

Kendall tau-c analysis was used to examine whether there is association between student nurse-educators' ability to support students understanding ability and their perceived level of knowledge by the respondents. The result shows that student nurse-educators' ability to support students understanding is negatively related to their perceived rated level of knowledge as

scored,  $r = -.174$ ,  $N = 36$ ,  $.003 < p.05$ . This implies that supporting students understanding ability is correspondingly related to their perceived rated level of knowledge in the scale.

Kendall tau-c analysis was computed to examine the association between the ability to care and nurture students and the perceived level of knowledge of expertise rated on the four measures. The report for the test analysis indicates that the stated assumption that had speculated that the way student nurse-educators perceive their level of knowledge of expertise does not relate significantly with their abilities towards caring and nurturing is rejected. This shows that the alternative assumption is retained, that student nurse-educators' perception of their levels of knowledge scored relates significantly with their caring and nurturing abilities,  $r = -.111$ ,  $N = 36$ ,  $.037 < p.05$ . However, that association was negative in nature.



The test analysis used Kendall tau-c to explore the association between the ability to work with heterogeneous group of students and the perceived level of knowledge of expertise scored by student nurse-educators. The resultants revealed a weak positive association between the two variables,  $r = .046$ ,  $N = 36$ ,  $.009 < p.05$ . This implies that the perceived level of knowledge scored predicted the student nurse-educators ability to work with heterogeneous groups of students.

A Kendall tau-c correlation analysis was conducted to examine whether there is an association between the ability to foster the holistic development of students with the perceived level of knowledge rated by student nurse-educator. The ability to foster holistic development of students was positively associated with the perceived level of knowledge rated by student nurse-

educators,  $r = .109$ ,  $N = 36$ ,  $.046 < p.05$ . Therefore, the hypothesis that postulated no significant association between holistic development ability with the perceived level of knowledge rated by student nurse-educator is rejected.

**Table 4.5: The perceived level of knowledge of expertise in didactics**

Items	Scales								Correlation coefficient	P value
	Poor(1)		Average(2)		Good(3)		Excellent(4)			
	n	%	n	%	n	%	n	%		
<b>Knowledge of expertise in didactics</b>										
Planning	0	0	14	38.9	17	47.2	5	13.9	-.074	.045
Organizing	0	0	17	47.2	16	44.4	3	8.3	-.194	.000
Explaining	0	0	15	41.7	19	52.8	2	5.6	.051	.063
Varying teaching methods	0	0	19	52.8	15	41.7	1	2.8	-.014	.028
Classroom management	0	0	15	41.7	20	55.6	1	2.8	.053	.014
Creator of learning environment	0	0	19	52.8	15	41.7	2	5.6	-.093	.478
Learning process	0	0	15	41.7	19	52.8	2	5.6	-.183	.185
Metacognition skills	0	0	23	63.9	12	33.3	1	2.8	-.081	.050
Assessing learning	0	0	15	41.7	20	55.6	1	2.8	.063	.004
Students self-evaluations	0	0	24	66.7	12	33.3	0	0	-.116	.021
Scaffolding	1	2.8	17	47.2	18	50.0	0	0	-.174	.160
Synthetizing	0	0	16	44.4	17	47.2	3	8.3	-.073	.002

#### 4.7 The perceived level of knowledge of expertise in didactics

Table 4.5 presents the frequency distribution of the items related to knowledge of expertise in didactics. The knowledge of expertise in didactics has influenced the success of the teaching-learning process. The following results represent respondent responses as a mean of the level of knowledge of expertise in didactics. Further, the reports on analysis done to ascertain whether there are association between student nurse-educators ratings and the twelve items that represent the knowledge of expertise in didactic are presented.

The most frequently rated items on the variable didactics in the scale category 'Average' are "Self-evaluation" 66.7% (24) n = 36, "Meta-cognition skills" 63.9% (23) n = 36, "Creation of learning environment" and "Variation of teaching methods" both were rated with 52.8% (19) n = 36 compared to other items such as "Scaffolding" and "Organising" with each with 47.2% (17) n = 36; "Assessing learning", "Learning process", and "Classroom management" all stood at 41.7% (15) n = 36. This implies that the more an item has a high frequency of responses the great is the perceived level of knowledge of expertise in the subject area.

By comparing with the category "Good", most items rated started from 12 to 20. These variables include the "Assessment of learning" and "Classroom management" 'each was rated with 55.6% (20) n = 36, followed by "Ability of explaining and learning process" 52.8% (19) n = 36; "Scaffolding", 50.0% (18) n = 36; "Planning and synthetising abilities" 47.2% (17) n = 36. Likert scores for the level of knowledge perceived by student nurse-educators in the category "Average" were not far off from those obtained in the "Good" category. However, the difference is significantly when comparing the categories "Poor" and "Excellent". This mean that the most rated variables fell within the categories "Average" and "Good", and are underscored. The results from the table 4.4 show that the respondents have perceived an improvement with regard to knowledge of expertise in didactics.

#### **4.8 Association between student nurse-educators ratings and their knowledge of expertise in didactics**

Table 4.5 presents the test results of performing Kendall tau-c to examine the association

between the perceived levels of knowledge of student nurse-educators and the twelve items that constitute the knowledge of expertise in didactics.

The Kendall tau-c test was conducted to examine whether there was an association between student nurse-educators perceived level of knowledge and the planning of a lesson. The results revealed that there was a significant association between the two variables,  $r = -.074$ ,  $N = 36$ ,  $.045 < p.05$ . A strong negative association was found. This implies that the level of knowledge rated is linked to the student nurse-educators' perceptions.

Kendall tau-c analysis was computed to explore whether there is an association between student nurse-educators perceived level of knowledge and varying teaching methods ability during a session of a lesson. The results shown a weak downhill linear association ( $r = -.014$ ,  $N = 36$ ,  $.028 < p.05$ ). However, the perceived level of knowledge with varying teaching methods ability during a session of a lesson was associated.

The Kendall tau analysis was performed to establish the association between classroom management and the perceived levels of knowledge. The results suggest that there is a moderate positive association  $r = .053$ ,  $N = 36$ ,  $.014 < p.05$ . This indicates a significant relationship between the ways students perceived their level of knowledge in the scale and classroom management ability.

The researcher comparing the ability of assessing learning and the perceived levels of knowledge rated by student nurse-educators to find out whether there is an association. Using Kendall tau-c analysis, we reject the narrow assumption that the level of knowledge perceived by student



nurse-educators is not related to their ability to assess learning,  $r = .063$ ,  $N = 36$ ,  $.004 < p.05$ . This suggests that there is a strong positive association between the level of knowledge perceived by student nurse-educators and their ability of assessing learning.

The researcher performed Kendall tau-c analysis to examine whether there is an association between the ability to explain a subject and their perceived level of knowledge rated. The results revealed that there is a moderate negative significant association between the two variables,  $r = -.194$ ,  $N = 36$ ,  $.010 < p.05$ . The student nurse-educators were predicted to possess the ability to explain a subject taught as similar to their perceived level of knowledge.

The researcher compared the perceived level of knowledge of expertise of student nurse-educators and their ability to synthesise a lesson. The researcher expected that the ability to synthesise a lesson would depend on the perceived level. A Kendall tau-c test indicated that the ability to synthesise a lesson was negatively related with the perceived levels of knowledge of student nurse-educators,  $r = -.073$ ,  $N = 36$ ,  $.002 < p.05$ . Although the association is strongly negative.

Students' self-evaluations and the perceived level of knowledge as rated by student teachers were examined using Kendall tau-c to find out if there is an association between the two variables. An inspection of individual predictors revealed that students' self-evaluation with the perceived level of knowledge is,  $r = -.116$ ,  $.021 < p.05$ . The association is negatively weak in straight.

**Table: 4.6: Distribution of student nurse-educators' perceptions of teacher identity**

Variables	Scales												Total			<i>r</i>	<i>P</i> valu e
	Poor			Average			Good			Excellent							
	f	N	%	f	N	%	f	N	%	f	N	%	f	N	%		
Subject matter	8	1	2.7	218	18	72.2	162	16	63.8	17	1	5.5	435	36	34	-.082	.022
Didactics	1	0	0	209	17	66.6	200	17	66.6	21	2	8.3	431	36	33.28	.053	.652
Pedagogy	2	0	0	218	18	72.2	180	16	58.3	29	3	11.1	429	36	33.12	-.045	.005

#### 4.9 The perceived level of knowledge of expertise in subject matter, pedagogy and didactics

Table 4.6 summarises the frequency distribution of variables related to the level of knowledge of expertise in subject matter, pedagogical and didactic expertise. In order to get an overview of how the level of knowledge of expertise is perceived through respondent' responses on the three domains, the numeric data in table 4.6 represents the data of the variables rated by category in the scale as well as the rankings of respondents. The total sum represents the respondents' responses rated for each domain and the total sum in the arrow axis represent the respondent' responses rated by category. The competencies or abilities measured on student nurse-educators are represented in the form of numerical data. Because of the intrinsic nature of what is being measured, these skills, attitudes and knowledge do not represent the observable behaviours themselves, but they represent potential for behaviours.

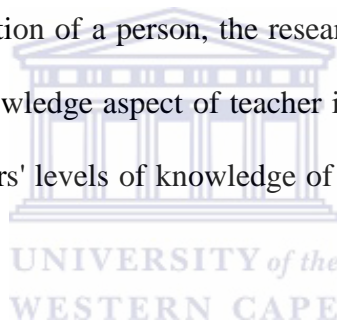
The respondent' responses are the total summed scores of the twelve variables that constitute the construct in each domain across the scale (from poor to excellent). As seen in the table below, the three variables measured to describe the respondents perception related to their teacher identity from the knowledge perceived. Of 36 student nurse-educators, 12 perceived that they

possess the knowledge of expertise in subject matter with 435 scores. The same result was perceived in both didactics and pedagogy; their scores are not the same however. Even though, the perceived levels of knowledge of expertise in the three domains were similar, there were differences on different category in the scale.

Of 435 respondent responses rated in the subject matter domain, 2.7% (1) n = 36 student nurse-educator perceived a “Poor” level of knowledge of expertise, 72.2% (18) n = 36 of respondents perceived an “Average” level of knowledge of expertise with a score of 218. Further in the variable, 63.8% (n = 17) respondents acknowledged a “Good” level of knowledge and 5.5% (2) n = 36 of respondents perceived an “Excellent” level of knowledge of expertise in subject matter.

Looking at the results on the variable of didactics, the level of knowledge of expertise in didactics is perceived as at an “Average” level by 66.6% (17) n = 36 student nurse-educators, followed by 17 66.6% (17) n = 36 respondents who perceived that their level of knowledge of expertise in didactic was “Good”. Few student nurse-educators 8.3% (3) n = 36 perceived that they possess an “Excellent” level of knowledge of expertise in didactics domain. With respect to the pedagogy domain, of 36 student nurse-educators, 72.2% (26) n = 36 perceived themselves to have an “Average” level of knowledge of expertise, while 58.3% (21) n = 36 perceived themselves as having a “good” level. On the other hand, more student nurse-educators perceived themselves as possessing more knowledge of expertise in didactics at “excellent” level compared to the same category in other domains.

As indicated above, the table represents the student nurse-educators' perceptions of their teacher identity based on their points rated to the three domains of teacher expertise. There is a favourable tendency towards knowledge of expertise in subject matter, which indicates that 34% (12) n = 36 student nurse-educators perceiving them-selves to possess a high level of knowledge of expertise in subject matter (f = 435); Followed by knowledge of expertise in didactics 33. 28% (12) n = 36 (f = 431) with 33.12% (12) n = 36 student nurse-educators perceived to possess less ability in pedagogy (f = 429). There is a discrepancy between the number of respondents who rated in each domain and the scores rated. This is explained by the calculation to which each total number in each domain was divided by the total of the sample. The results were 11, 97 and 11, 92 persons. As there is no portion of a person, the researcher rounded to 12. Student nurse-educators rated more than one knowledge aspect of teacher identity. For each feature of teacher identity, the student nurse-educators' levels of knowledge of expertise were ranked according to their frequency.



Excellence was rated as a high level of knowledge as perceived on the three domains of teacher identity. Although only a few of student nurse-educators perceived themselves as possessing the level of this knowledge. Difference comes with regards to the domain. A great number of respondents perceived themselves to be excellent in pedagogical expertise n = 2, another group took the same position with the “didactic expertise” n = 2, with difference in their score. Few respondents perceived themselves to be excellent in “subject matter expertise” n = 1 than in the other two domains. On the other hand, fewer respondents perceived themselves as having a “Poor” level of knowledge in the three domains. Some respondents who rated high on one domain or another did not perceive themselves to possess abilities in other domains. There

appeared to be a slight difference between the student nurse-educators perceptions on the three domains of their teacher identity. However they perceived their level of knowledge of expertise to be above the average.

The problem of assuming that the interval between two adjacent response options is always the same doesn't make sense when labelling all the options, as this clearly makes the data ordinal (or nominal). However, if only the first and the last response options are labelled and the respondent is asked for the strength of their reported opinions (for example on a scale of 1-4, where 1= poor and 4 = excellent), then the intervals can be assumed to be equal. As already mentioned, there has been some controversy regarding the nature of the data produced by self-reported scales, these being considered a grey area between ordinal and continuous variables (Field, 2009; Kinnear & Gray, 2008). Although the perception of student nurse-educators cannot be measured with the same precision as pure scientific variables, it is generally accepted in the social sciences that self-reported data can be regarded as interval variable (Pallant, 2010; Kerby, 2014). Such authorities maintain that treating self-reported scales as interval variables is most realistic if the scales have at least 4 possible values and the variable distribution is "nearly normal" (Kerby, 2014, p.168).

The responses to a Likert scale being ordinal nonparametric statistics were appropriate as research subjects provided ordinal data in response to questions asked on 5-level Likert scales without integer anchors. All responses were scored by measuring the linear distance between the leftmost points on the items axis. Distribution analysis was performed on the items scores for each Likert level in order to characterize the distribution of participant responses. It appears that

the two Likert levels are perceived as being centred at intervals approximately equal to 3/5 of the scale.

A Likert scale is what is termed a summated instrument scale. This means that the items making up a Likert scale are summed to produce a total score. In fact, a Likert scale is a composite of itemised scales, when scores on a number of items are summed to obtain a total score, which then frequently is highly reliable (Kerby, 2014). “Through aggregation the random sources of error that contaminate each observed score have a chance to cancel out and leave standing a better estimate of the true score” (Strube, 2000, p. 30). For this reason, the researcher employed multiple-item measures as theoretical concepts so that the analysis of individual item can make sense in explaining what was actually perceived through each item. This then makes a big picture of the phenomena under investigation by summarizing items by variable of interest.

Typically, each scale item has 4 categories, with scale values ranging from 1 to 4. This study used Likert items and scales to produce the ordinal data that can be ranked, and in addition to being ranked, ordinal data was tallied as the investigator wanted to count how many people chose each of the responses, compare their numbers and determine which knowledge of expertise is more importantly perceived in the three domains. The number of student nurse-educators who rated each item on the scale was obtained by dividing the total frequencies of a category in the scale with the total number of items in each variable of interest (N-12). The knowledge of expertise in each domain then reflected the student nurse-educators' perceived capabilities. For the above reasons, the sets of similar items were dispersed in the same questionnaire in order to probe different aspects of the same construct. When these items are put together, the combined findings can give information about the underlying construct.

#### **4.2.8 Association between student nurse-educators ratings and their knowledge of expertise in Subject matter, Pedagogy and Didactics**

Table 4.6 represents the proportion in the dependent variable (overall perceptions) that is explained by the three variables. To establish whether the perceived knowledge of expertise in subject matter, pedagogy and didactics rated by student nurse-educators related with their responses, cross sectional analyses were conducted, and the results are summarised in table 4.6. Only two of the three knowledge of expertise were significant. Knowledge of expertise in subject matter was positively associated to the perceived knowledge rated. Interestingly, knowledge of expertise in didactics was however, negatively associated with the perceived rated knowledge. Knowledge of expertise in pedagogy was found not significant with regards to their perceived knowledge expected. It is expressed as correlation coefficient and p value. For testing the assumption postulated, Kendall Tau-c analysis was conducted to examine whether the perceptions of student nurse-educators were associated with their perceived level of knowledge of expertise in subject matter, pedagogy and didactics.

A Kendall tau-c was conducted to examine whether knowledge of expertise in subject matter, pedagogy and didactics is associated with the overall perceived level of knowledge rated by student nurse-educators on four measures. The knowledge of expertise in subject matter was revealed to be statistically significant,  $r = .082$ ,  $N = 36$ ,  $.022 < p .05$ . The result indicates a strong positive association between the two variables. The researcher conclude that the perceived level of knowledge rated on four measures by student nurse-educators predicted their ability of knowledge of expertise in subject matter; while the Kendall tau-c analysis indicated no

significant association between the knowledge of expertise in pedagogy with the perceived level of knowledge rated by student nurse-educators on the four measures,  $r = .053$ ,  $N = 36$ ,  $.652 > p.05$ . This suggests that there is no association between knowledge of expertise in pedagogy and the perceived level of knowledge as rated by student nurse-educators. The result in the table above indicates that there is a weak negative association between knowledge of expertise in didactics and the perceived level of knowledge as scored by student nurse-educators,  $r = -.045$ ,  $N = 36$ ,  $.005 < p.05$ . This implies that the knowledge of expertise in didactics correspondingly relates to the perceived level of knowledge by student nurse-educators.

**Table 4.7: Association between subject matter, pedagogy and didactics expertise.**

			Didactics expertise	Pedagogy expertise	Subject matter expertise
Kendall's tau-c	Didactics expertise	Correlation Coefficient	1.000	.773*	.244
		Sig.(2-tailed)	.000	.029	.051
		N	36	36	36
	Pedagogical expertise	Correlation Coefficient	.773*	1.000	.055
		Sig.(2-tailed)	.029	.000	.035
		N	36	36	36
	Subject matter expertise	Correlation Coefficient	.244	.055	1.000
		Sig.(2-tailed)	.051	.035	.000
		N	36	36	36

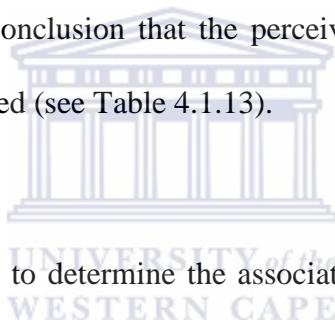
#### 4.2.9 The association between subject matter, pedagogy and didactics expertise

Table 4.7 presents the results on the association between subject matter, pedagogical and didactics expertise. Taking into account the multi-collinearity of the construct “teacher identity” that is explained by other variables (knowledge of expertise in subject matter, pedagogy and didactics), it was important to conduct an analysis to examine whether they are related.



From the results given in the table above, the association between the three variables was as follows: there is a positive, strong association between the perceived level of knowledge of expertise in pedagogy and didactics,  $r = .773$ ,  $N = 36$ ,  $.029 p < .05$ . The test concludes that the association being studied is statistically significant between the perceived level of knowledge of expertise in pedagogy and didactics.

A Kendall Tau-c analysis was conducted to examine whether there is an association between the perceived level of knowledge in subject matter with didactic. The results revealed a significant and positive relationship ( $r = .970$ ,  $N = 36$ ,  $p = .050$ ). The association was strong. Therefore, the results from the analysis gave a conclusion that the perceived levels of knowledge in subject matter with didactics were associated (see Table 4.1.13).



A Kendall Tau-c analysis was run to determine the association between the perceived level of knowledge of expertise in pedagogy and subject matter. There was a positive correlation between subject matter and pedagogy, which was statistically significant,  $r = .055$ ,  $N = 36$ ,  $.035 < p < .05$ . As stated, this table shows that the overall result of the analysis test shows the statistical significance of all three independent variables.

**Table 4.8: Perceived level of classroom environment influence on teacher identity**

Variables \ Scale	Strongly agree		Disagreed		Agree		Strongly agreed		N
	n	%	n	%	n	%	n	%	
Teaching context	0	0	2	5.6	17	47.2	17	47.2	36
Social system	1	2.8	0	0	17	47.2	18	50	36
Norms among peers	1	2.8	0	0	22	61.1	13	36.1	36
Expectation of peers	0	0	0	0	19	52.8	17	47.2	36
Expectation of prescriptions	0	0	0	0	23	63.9	13	36.1	36

#### 4.12 Distribution of classroom environment by individual item

Table 4.8 below presents the respondents' responses regarding the classroom environment.

Among the items measured, 63.9% (23) n = 36 of student nurse-educators agreed that expectations deriving from prescribed behaviour has influenced their teacher identity, while 61.1% (22) n = 36 agreed that peer norms shaped their perceptions of their teacher identity. On the other hand, 50% (18) n = 36 of respondents strongly agreed that the social system shaped their teacher identity, following by classroom the teaching context and expectation of prescriptions each respectively registering 47.2% (17) n = 36.

**Table 4.9: Perceived level of biographical influence on teacher identity**

Variable	Scale	Strongly disagreed		Disagreed		Agree		Strongly agreed		N
		n	%	n	%	n	%	n	%	
Previous teachers as role model		0	0	0	0	16	44.4	20	55.6	36
Image of self as learner		0	0	0	0	19	52.8	17	47.2	36
Family life		2	5.6	3	8.3	20	55.6	11	30.6	36
Being authoritarian		5	13.9	4	11.1	19	52.8	8	22.2	36
One own experiences		0	0	1	2.8	20	55.6	15	41.7	36

#### 4.13 Perceived influence of biographical factor on teacher identity

The table 4.9 indicates occurrence of variable biographical factors. As shown in this table, 55.6% (20) n = 36 of the respondents agreed that family life and one's own experiences are the important factors that influenced their perceptions on their teacher identities. Self-image as a learner and being authoritarian were rated in the second highest position with 52.8% (19) n = 36.

While the majority agreed on self-image as a learner and being authoritarian, others strongly

agreed that role modelling 55.6% (20) n = 36 had impacted on their perceptions of their teacher identity formation. Few respondents strongly disagreed that family life 5.6% (2) n = 36, being authoritarian 13.9% (5) n = 36 did not influence their perceptions on their teacher identity. With carefully observation of this table, it can be seen that the results are divided into two poles. Those who believe these factors influenced their perceptions on their teacher identities and those who did not believe.

**Table 4.10 Perceived level of teaching experience influence on teacher identity**

Scales Variables	Strongly disagree		Disagreed		Agree		Strongly agreed		N
	n	%	n	%	n	%	n	%	
Monitoring classroom	0	0	0	0	22	61.1	11	30.6	36
Classroom performance	0	0	0	0	22	61.1	17	47.2	36
Performance due to personal experience	0	0	0	0	22	61.1	14	38.9	36
Predicting events accurately	0	0	0	0	22	61.1	17	47.2	36
Focus on students tasks and academic work	0	0	0	0	22	61.1	11	30.6	36

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Tables 4.10 present the frequency distributions of variable teaching experience. It is clear from the results presented in the 4.10 table that all the respondents agreed or strongly agreed that teaching experience has an impact on the perception of their teacher identity. Amongst respondents, 61.1% (22) n = 36 agreed and from 30.6% (11) n = 36 to 47.2% (17) n = 36 strongly agreed. Classroom performance and predicting events accurately had similar results of 47.2% (17) n = 36.

**Table 4.11: Perceived level of influence among the three factors**

Scales Variables	Strongly disagree			disagree			agree			Strongly agree			Total		
	f	n	%	f	n	%	f	n	%	f	n	%	f	N	%
<b>Classroom environment</b>	78	8	26	98	9	33	2	0	1	2	0	1	180	36	100
<b>Biographical factors</b>	71	6	24	94	8	31	8	1	3	7	1	2	180	36	100
<b>Teaching experience</b>	13	1	4	22	2	7	0	0	0	1	0	0	36	36	100
<b>Total</b>	162	15	41	214	19	54	10	1	2.5	10	1	2.5	396	36	100

#### 4.15 Summary distribution of factors influencing on teacher identity

Of the 36 respondents who participated in this survey, 41% (15) n = 36 strongly agreed, 54% (19) n = 36 agreed, 2.5% (10) n = 36 disagreed and 2.5% (10) n = 36 strongly disagreed that teaching context, biographical and teaching experience factors influence teacher identity. Taking into consideration the frequency of respondent responses, it is clear that classroom environment and biological factors were the most highly rated influences over teaching experience. These two factors (classroom environment and biological) were positively perceived to play an important role on the perceptions of teacher identity. However, teaching experience was negatively perceived by student nurse-educators regarding their perception of teacher identity consequently on teaching practices and classroom performance.

**Table 4.12: Association between knowledge of expertise in subject matter, pedagogy, didactics and gender.**

Variables	Scales		Gender				Correlation coefficient	P Value
			Female		Male			
	N	%	N	%	N	%		
Knowledge of expertise in subject matter	28	88.9	4	11.1			.545	.556
Knowledge of expertise in pedagogy	28	88.9	4	11.1			.461	.812
Knowledge of expertise in didactics	28	88.9	4	11.1			.584	.423

**4.16. Association between gender and the perceived knowledge of expertise in subject matter, pedagogy and didactics**

Table 4.12 describes the results of analysis performed to assess the association between knowledge of expertise in subject matter, pedagogy, didactics and gender. A Cramer’s V test was computed to examine the association between the perceived level of knowledge of expertise in subject matter and gender. The report indicates that there is no significant association between the perceived level of knowledge of expertise in subject matter and gender,  $r = .545$ ,  $N = 36$ ,  $.556 > p .05$ . This implies that there is no significant difference between the two variables.

When examining the gender of the student nurse-educators regarding the perceived knowledge of expertise in pedagogy, female respondents were dominant 89, 9% (32)  $n = 36$  and 11, 1% (4)  $n = 36$ . However, the test of analysis using Cramer’s V test indicated that there is no significant association between the two variables,  $r = .461$ ,  $N = 36$ ,  $.812 > p .05$ . This suggests that gender is not related to the perceived knowledge of expertise in pedagogy.

The researcher conducted a Cramer’s V test to examine whether there was an association between gender and the perceived knowledge of expertise in didactics. The results revealed that there is no significant association between the two variables,  $r = .584$ ,  $N = 36$ ,  $.423 > p .05$ . This means both

female and male student nurse-educators did not perceive themselves to be influenced by their gender in terms of their possessing the knowledge of expertise in didactics. Further, when the data of the total student nurse-educators population was analysed no significant association could be observed between gender and the perceived knowledge of expertise in subject matter, pedagogy and didactics.

**Table 4.13 Difference in perceptions among male and female student nurse-educators**

	Gender	N	Mean Rank	Median	Z	U	Sig.
Knowledge of expertise in subject matter	Male	4	12.63	3.3333	-1.190	40.500	.234
	Female	32	19.23	3.5000			
	Total	36		3.5000			
Knowledge of expertise in pedagogy	Male	4	23.50	3.6667	-1.013	44.000	.311
	Female	32	17.88	3.4583			
	Total	36		3.5000			
Knowledge of expertise in didactics	Male	4	13.63	3.4167	-.990	44.500	.322
	Female	32	19.11	3.5833			
	Total	36		3.5417			

#### 4.17. Difference in perception of male and female student nurse-educators with regards to teacher identity

A Mann-Whitney U Test was computed to examine the difference between males and females perceived levels of knowledge in subject matter, pedagogy and didactics. The resultants are presented. A Mann-Whitney U Test revealed no significant difference in the perceived levels of knowledge in subject matter scores of males (Md = 3.33, n = 4) and females (Md = 3.50, n = 32), U = 40.500, z = -1.190, p = .234, r = .033. The resultant on the second variable showed no significant difference in the perceived levels of knowledge in pedagogy scores of males (Md = 3.66, n = 4) and females (Md = 3.45, n = 32), U = 44.000, z = -1.013, p = .311, r = .028. Finally, the analysis on the third variable indicated a significant difference in the perceived levels of knowledge in pedagogy scores of males (Md = 3.41, n = 4) and females (Md = 3.58, n = 32), U =

44.500,  $z = -.990$ ,  $p = .322$ ,  $r = .027$ . The female respondents perceived slightly high level of knowledge of expertise in didactics (Mean Rank = 19.11) than the male respondents (Mean Rank = 13.63).

#### **4.18. CONCLUSION**

This chapter discussed the data analysis and interpretation with reference to the literature review. The aim of this study was to describe the perceptions of student nurse-educators' teacher identity from the perspective of personal knowledge. Chapter 5 concludes the study, discusses its limitations and makes recommendations for practice and further research.



## **CHAPTER FIVE**

### **5 DISCUSSION, SUMMARY OF RESULTS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

The aim of this chapter is to discuss and summarise the findings and link them to existing literature on related issues. The study focused on the perceptions of nursing student teachers' identity from the perspective of personal knowledge at the University of the Western Cape, School of Nursing.

This last chapter is divided into four main sections; a summary of the findings, their implications, the limitations of the study, and ideas for future research. The summary of the findings provides a general idea of what the study sought to explore and findings obtained. The chapter also provides some recommendations that the investigator proposes to the various stakeholders based on the study's findings and, finally, the conclusion, contains remarks that are made by the investigator with respect to the study. However, we cannot make a conclusive statement on the association between these variables simply by looking at the r-value, because the r-value is extremely sensitive to the data distribution given the small size of the study population. Therefore, a significance test was conducted to establish whether an association is significant given its data distribution and population size.

#### **5.2 SUMMARY OF THE FINDINGS**

The concept of teacher identity has led to a great deal of assumptions and theorising. However, this concept has gone untried in nursing field, especially on student nurse-educators. A large



number of studies have examined the metaphors used by either student teachers or practicing teachers to represent their teacher identity with respect to who they are (Zhao, Coombs & Zhou, 2010; Massengill Shaw, & Mahlios, 2008; Beijaard et al., 2000). This study employed the same concepts; nevertheless, it asked the respondents to represent themselves not as professional teachers who already practice, rather to represent their perceived knowledge related to the three principal domains of teacher identity.

The researcher intended to describe the student nurse-educators' perceptions of their teacher identity, and their relevant learning experiences with reference to their knowledge of expertise in subject matter, didactics, and pedagogy. The three principal questions of the investigation were:

1. What are the perceived knowledge levels of student nurse-educators specific to subject matter, pedagogical and didactics expertise?
2. Is there an association between the perceived level of knowledge of expertise in subject matter, pedagogy and didactics with student nurse-educators rating?
3. Is there an association or difference between gender and the perceived level of knowledge of expertise in subject matter, pedagogical and didactics?

Of 36 questionnaires distributed to student nurse-educators at the School of Nursing of UWC who completed their theoretical courses and teaching practice, all were completed and returned.

No missing data were detected. The main findings that can be drawn from this study are on:

## **5.2.1 What is the perceived knowledge of expertise of student nurse-educators specific to the subject matter, pedagogy and didactics?**

This study firstly, confirmed what has been reported by other studies (Beijaard et al., 2000; Thomas and Beauchamp, 2011), which is the fact that, the teacher identity development is a matter of common concern among all teachers during any stage of their professional cycle. In each domain, the results shown of, their perceptions according to their ratings on the scale. For each aspect of teacher identity, the student nurse-educators were asked to rate their perceived level of knowledge of expertise during their teaching practice. They also rated more than one knowledge aspect of teacher identity. For each feature of teacher identity, all the student nurse-educators' level of knowledge of expertise was ranked according to their frequency. The frequency of the knowledge level ranged from the high scores for knowledge of expertise in subject matter (which keeping pace with new developments), followed by didactics (the students' well-being is the starting point for the lessons) to the low scores in the pedagogical domain.

### **5.2.1.1 The perceived level of knowledge of expertise in the subject matter**

Student nurse-educators were asked to rate their perceived level of knowledge of subject matter, with a rating of 1 indicating poor (serious knowledge gaps in the topic) and 4 indicating excellent (very knowledgeable of the topic). The overall results of the perceived level of knowledge of expertise in subject matter indicates that that 34% of student nurse-educators perceive possessing higher level of knowledge, with the average median of 3.50. Taking into account the different level on the scale, 2.7% (1) n = 36 of respondents perceived them-selves to possess poor knowledge, 72.2% (18) n = 36 of student nurse-educators observed possessing good level of knowledge, 63.8%(16) n = 36 perceived themselves to possess a good knowledge, and 5.5% (1)

n = 36 respondent perceived themselves to possess a highly level of knowledge. Thus, the respondents perceived a rational level of knowledge in subject matter.

The researcher conducted Kendall tau-c tests to investigate these findings. After conducting the analysis, the resultant showed that the knowledge of expertise in subject matter was positively associated to the perceived level of knowledge rated,  $r = .082$ ,  $N = 36$ ,  $.022 < p.05$ . However tests performed to examine whether there was an association between student nurse-educators perceptions and the perceived level of knowledge of understanding of contents ( $r = .051$ ,  $N = 36$ ,  $.694 > p.05$ ); demonstration of instruction strategies ( $r = .093$ ,  $N = 36$ ,  $.478 > p.05$ ); and scholarship ( $r = -.174$ ,  $N = 36$ ,  $.060 > p.05$ ) as presented here, revealed that they do not differ significantly from the hypothesized values that we supplied. Based on these p-value of the variables mentioned above, the study concludes that the test did not find a significant association between the perceived level of knowledge perceived on the part of student nurse-educators and these variables.

#### **5.2.1.2 The perceived level of knowledge of expertise in the pedagogy**

This section discusses respondents' perceptions regarding their level of knowledge of expertise in pedagogy. The overall resultant of the ratings showed that 33.12% of student nurse-educators perceived possessing the knowledge in pedagogy, with the average median of 3.50. After performing a descriptive analysis, the results revealed that no student nurse-educators perceived a serious gaps (poor) of knowledge of expertise; 66.6% (17) n = 36 of respondents perceived themselves as possessing an average level of knowledge of expertise; similar to the category average, 66.6% (17) n = 36 perceived themselves as possessing a good ability of knowledge of

expertise in pedagogy; only a few 8.3% (2)  $n = 36$  perceived themselves to be very knowledgeable.

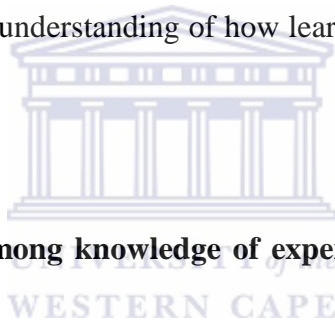
A Kendall tau-c test was used to explore the association between the perceptions of student nurse-educators ratings and their perceived level of knowledge of expertise in pedagogy required to teach a given subject. The result from the table 4.17 reported a moderate negative association between the two variables,  $r = .053$ ,  $N = 36$ ,  $.652 > p .05$ . It is therefore conclude that there is no significant association between student nurse-educators ratings and the perceived level of knowledge of expertise in pedagogy.

The researcher presents the results of analysis performed on individual item that were not significant. After performing the analysis on teaching values ability,  $r = .062$ ,  $N = 36$ ,  $p = .933 > .05$ ; being role model,  $r = -.014$ ,  $N = 36$ ,  $.725 > p .05$ ; working with others,  $r = .049$ ,  $N = 36$ ,  $.250 > p .05$ ; and working with heterogeneous groups,  $r = .046$ ,  $N = 36$ ,  $.709 > p .05$  and the perception of the respondents, but no significant associations were found.

### **5.2.1.3 The perceived level of knowledge of expertise in didactics**

Out of 36 respondents, 33.28% of student nurse-educators perceived themselves as to possess knowledge in didactics, with the average median of 3.54. 72.2% (18)  $n = 36$  student nurse-educators perceived to possess knowledgeable level of expertise, while 58.3% (16)  $n = 36$  perceived them-selves possessing a very knowledgeable level of expertise. Only 11.1% (3)  $n = 36$  perceived themselves as to possess a high level of knowledge in didactics. No respondent perceived possessing knowledge gaps in the category poor.

This section presents the overall results of analysis performed to examine the association between respondents' ratings and the perceived knowledge of expertise in didactics. Student nurse-educators perceptions were associated with their perceived level of knowledge of expertise in didactics,  $r = -.045$ ,  $N = 36$ ,  $.005 < p .05$ , which made it clear that their perceptions were rated negatively with the perceived level of knowledge. This implies that there was a significant but weak association between the two variables. Expertise in didactics emphasises the process of teaching and of learning transaction. Student nurse-educators perceived that they possess a very high level of knowledge of expertise about how to teach specific subject-related content. That knowledge was integrated with an understanding of how learning experiences are facilitated in a particular subject.



### **5.2.2 Is there an association among knowledge of expertise in subject matter, pedagogy and didactics?**

The researcher also tested the theoretically derived model of Beijjard et al., (2000) among respondents to examine whether the knowledge of expertise perceived in subject matter, pedagogy, and didactics are similar across the teacher identity construct. The results indicate that these variables are related and are an integral part of the teacher identity. Findings indicate that knowledge ratings are highest among the domains of subject matter, pedagogy and didactics, indicating that student nurse-educators felt positive about their knowledge related to these domains and were less confident when it comes to knowledge of expertise in pedagogy. The teacher identity variables are related in several notable ways. Firstly, the knowledge of expertise in subject matter is related to pedagogy,  $r = .055$ ,  $N = 36$ ,  $.035 < p .05$ . Secondly, the subject

matter expertise is again related to didactics expertise,  $r = .970$ ,  $N = 36$ ,  $p = .050$ , and thirdly, the last relationship link pedagogical expertise to didactics expertise,  $r = .773$ ,  $N = 36$ ,  $.029 p < .05$ , calling into question the distinctiveness of these domains.

### **5.2.3 Is there an association and/or difference between gender and the perceived level of knowledge of expertise in subject matter, pedagogy and didactics?**

The analysis computed to examine the association between gender and the perceived level of knowledge in subject matter, pedagogy and didactics indicates no significant association was found between the three variables as presented here: gender and subject matter,  $r = .545$ ,  $N = 36$ ,  $.556 > p .05$ ; gender and pedagogy,  $r = .461$ ,  $N = 36$ ,  $.812 > p .05$  and gender and didactics,  $r = .584$ ,  $N = 36$ ,  $.423 > p .05$ . On the other hand, a Mann-Whitney U Tests was computed to examine the difference between males and females perceived levels of knowledge in subject matter, pedagogy and didactics. The results revealed no significant difference in the perceived levels of knowledge in subject matter scores of males ( $Md = 3.33$ ,  $n = 4$ ) and females ( $Md = 3.50$ ,  $n = 32$ ),  $U = 40.500$ ,  $z = -1.190$ ,  $p = .234$ ,  $r = .033$ ; the resultant on the second variable also showed no significant difference in the perceived levels of knowledge in pedagogy scores of males ( $Md = 3.66$ ,  $n = 4$ ) and females ( $Md = 3.45$ ,  $n = 32$ ),  $U = 44.000$ ,  $z = -1.013$ ,  $p = .311$ ,  $r = .028$ . However, a significant difference was found in the perceived levels of knowledge in pedagogy scores of males ( $Md = 3.41$ ,  $n = 4$ ) and females ( $Md = 3.58$ ,  $n = 32$ ),  $U = 44.500$ ,  $z = -.990$ ,  $p = .322$ ,  $r = .027$ . The female respondents perceived slightly high level of knowledge of expertise in didactics (Mean Rank = 19.11) than the male respondents (Mean Rank = 13.63).

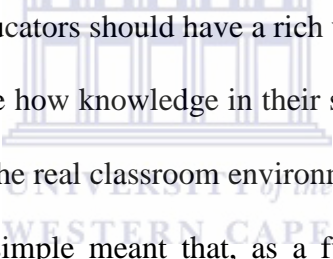
### 5.3 DISCUSSION

Based on the literature review, the merging of the worlds of the student nurse-educators' perceived knowledge of expertise in subject matter, pedagogical and didactic, combined to, form teacher identity. The factors that interact in shaping the development of their teacher identities were also explored. Grounded in the purpose of examining these perceptions, the study has provided new insight to complement the framework provided by Beijaard et al., (2000). The results of this study have shown that student nurse-educators perceived that they possess a knowledgeable level of expertise in the two domains (knowledge of expertise in subject matter and didactics), but they perceived themselves to have knowledge gaps in pedagogy. However, they perceived positive and acceptable levels of knowledge on the three domains.

The results were therefore presented under three headings, the first result records the perceived level of knowledge in the three domains, the second result records the association among knowledge of expertise in subject matter, pedagogy and didactics, while the third examines at the association and difference of student nurse-educators' perceptions of the knowledge of expertise of the three variables (knowledge of expertise in subject matter, pedagogy and didactics) with regards to gender.

Student nurse-educators responding to the current survey perceived their knowledge of expertise at the highest levels for the scales with the average median in subject matter (3.50), didactics (3.54), and pedagogy (3.50). These average median scores indicate that respondents report that their perceived knowledge is good related to their abilities for the possession and organization of knowledge of a particular subject matter, knowledge related to how to teach various contents, and knowledge related to how to assess students learning.

In this descriptive investigation of student nurse-educators' perceptions of teacher identity, a statistically significant negative association was observed between the knowledge of expertise in subject matter and student nurse-educators perceptions,  $r = -.082$ ,  $N = 36$ ,  $.022 < p.05$ . This implies that student nurse-educators perceived an acceptable level of knowledge in subject matter required for entering the teaching profession; they also showed that they have a flexible and sophisticated understanding of subject matter in order to enhance nurse students' learning and understanding. However, they also perceived that they have knowledge gaps in some areas of the knowledge related to subject matter. This suggests that student nurse-educators should know the subjects they teach and how to teach those subjects to students.



It is expected that student nurse-educators should have a rich understanding of the subject(s) they teach as well as that they appreciate how knowledge in their subject is created, organized, linked to other disciplines and applied to the real classroom environment (in other words, this mean that Knowing the subjects one teach simple meant that, as a future nurse-educators, they should possess and understand the subject contents they will taugh.

This would ensure that, they command specialized knowledge of how to convey and reveal subject matter to students. They were aware of the preconceptions and background knowledge that students typically bring to each subject and of strategies and instructional materials that can be of assistance, and be able to understand where difficulties are likely to arise and that they should modify their practice accordingly (Back, 2012).

Knowledge of expertise in subject matter is a profound knowledge base in the subject(s). It can be said that teaching is concerned with getting across information to the students learn, and the student nurse-educators perceived that they had a very high level of knowledge of expertise in



the subject matter. According to Chong (2011) the knowledge base utilised in teaching has implications where the focus lies in teaching for successful teaching. It is held that teachers should possess thorough and conceptual expertise in their subject, in order for them be able to share their knowledge so that their students develop understanding and knowledge in the field.

It is generally assumed that “teachers require a deep and full understanding of the subject matter area. This means that, an understanding characterised by knowledge of various concepts and their relationships” (Hunt & Handsfield, 2013, p.709). Expertise in the subject matter influences the way in which student nurse-educators will teach. It is believed that a teacher who knows his/her subject will be more interesting and adventurous in the ways in which he/she teach and will be more effective. On the other hand, a teacher with only a limited knowledge of a subject may avoid teaching difficult or complex aspects of it and teach in a didactic manner which avoids pupil participation and questioning and fails to draw upon students’ experience (Boyd & Tibke, 2013).

Judging by the results of this study, the investigator estimates that it is important for student nurse-educators to possess broad and deep knowledge in their subject matter so that they can develop optional tasks, explain things at a high quality level, and diagnose nursing students’ understandings and misconceptions adequately. Therefore, a culture of lifelong learning should be cultivated in order to always stay functional and up-to-date in the subject matter, in order to teach well.

These findings are supported by Back (2012) who reported that 98% of students totally depend on the knowledge of the contents of the subject which is possessed by their teachers. This is as a result of the competence and confidence the teachers exhibit in their teaching which is a

reflection of their in depth knowledge of the contents of the subject. The perceptions by student nurse-educators that they possess a deep understanding of the subject (topic) they are teaching is capable of engendering confidence in the students.

Understanding of facts and principles was significantly associated with respondents' perceptions,  $r = -.014$ ,  $N = 36$ ,  $.028 < p.05$ . It is assumed that student nurse-educators are expected to possess the content of the subject matter which includes, facts, concepts, principles or laws that have been gathered through decades of inquiry into the subject. They must be aware of both the increase in volume and to change in character over time with reference to the discovery of new details about the subject, and the development of new interpretation. They need to be flexible, to adapt change since concepts and theories change over time.



Consistent with previous studies (Pennlert, 2013; European Commission, 2010b), the analysis revealed a moderate positive association for structuring the content ability and the perceptions of student nurse-educators,  $r = .053$ ,  $N = 36$ ,  $.014 < p.05$ . Structuring the content refers to the network of relationships among facts and ideas which students have developed. Though a subject may contain numerous particular facts or ideas, these are not important in their discrete, isolated forms. Instead, they gain meaning through the patterns of relationships that are constructed among them. It is the patterns, the networks, the interstices among these facts and ideas that form a body of knowledge, such that the significance of any one idea or fact is ascertained by its apparent relation to other ideas and facts. Therefore the ability to structure the content derives from a good lesson plan. The way contents are structured and organized play an important role in the flow of a lesson's delivery.

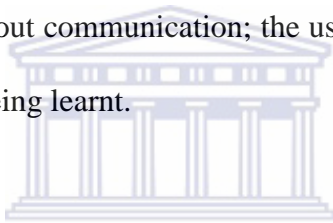
The variety of studies conducted to date suggest that understanding the role of knowledge in teaching and teachers development is vital, timely, and dynamic in education (Cameron-Standerford & VanAbel, 2012). The role of knowledge of expertise in subject matter plays an important part in teachers as definitive links have been found between teachers' subject matter knowledge and their instructional organisation, planning, and practice (Botha & Reddy, 2011).

Liakopoulou (2011) conducted a study to find out how subject matter knowledge affects teaching. He found that within their field of expertise, effective teachers possessed a rich topical knowledge and a great knowledge of the discipline's concepts. This implies that, in subject matter teachers should have a deep understanding of higher-order principles basics to connect topics within the discipline, and thus be able to clearly identify which subject concepts would be most difficult for students to comprehend. This study, too, suggests that having knowledge of expertise in subject matter allows one to be a good teacher. Investigating how disciplinary expertise mediates the selection, organisation, and presentation of subject matter seems too hold out the capacity for a better understanding of the teaching act and, in turn, has implications for teachers' preparation.

The Kendall tau-c analysis performed to find out the association between knowledge of expertise in pedagogy and the perceptions of respondents indicates that there was non-significant association between the two variables,  $r = .053$ ,  $N = 36$ ,  $.652 < p.05$ . The findings of analysis indicate that the student nurse-educators perceived a gap in expertise in pedagogy. However, the

results of an individual item analysis indicted that some areas were significantly associated with their perceptions.

A strong positive association was found between communication ability and respondents' perceptions after computing the two variables using the Kendall tau-c test. The report indicated that the two variables were significantly related,  $r = .903$ ,  $N = 36$ ,  $.045 < p.05$ . Analysis showed that the communication ability emerged as significant among student nurse-educators. This finding is in line with Lindström (2012) who reported that any educational system depends to a large extent on the effectiveness of the communication system being adopted. Further, no single subject can be learnt properly without communication; the use of its appropriate terms facilitates the understanding of whatever is being learnt.



The extent to which any classroom interaction will be determined by the competence of the teacher in initiating and promoting effective communication between and among his students. This implies that student nurse-educators should attempt to communicate effectively, to present the subject unambiguously, coherently and logically for the students to understand and follow. Effective communication clears up ambiguities, simplifies concepts and clarifies principles. This facilitates cognitive learning on the part of the students, and as students learn they develop a sense of achievement, satisfaction and growth. This would engender a more constructive students' disposition towards the subject matter learned if the communication ability was significantly related to their perceptions.

The pedagogical expertise refers to the knowledge of effective instructional practices pertinent to specific content areas. These require student nurse-educators not only to understand the subject matter content but also how to translate the subject matter content and methods into instructional practices. The participants of this study perceived themselves to have a conversant level of knowledge in pedagogical expertise. From the perspective of teaching and learning, understanding human thought, behaviour, and communication is considered essential knowledge (Beijaard et al., 2000), and emphasis from this perspective is on relationships, values, moral and emotional aspects of development.

The ability to work with heterogeneous groups and the perceived level of knowledge were found to be significant. The results revealed a positive weak association between the two variables,  $r = .046$ ,  $N = 36$ ,  $.049 < p.05$ . Researchers suggest that narrowing the range of abilities in the classroom, students will learn better because tasks will be more appropriate. Actually, despite the fact that many teachers continue to group students by their ability, research findings overwhelmingly suggest that homogeneous grouping does not consistently help anyone learn more or better (Määttä & Uusiautti, 2013). In fact, organizing students into heterogeneous groups creates differences in what they learn by exposing them to different kinds of material. Such grouping practices tend to compound racial, ethnic, and economic differences in schools, as poor children and children of colour are least likely to be served in enriched, gifted, or high-ability tracks. Ability grouping also takes a serious toll on students' self-concepts and on their opportunities to form meaningful relationships across groups (Živković, 2012).

The analysis found a negative association between the ability of varying and employing appropriate instructional methods and the perceived level of knowledge. The finding indicates

that the perceptions of student nurse-educators towards the ability of varying and employing appropriate instructional methods was significant,  $r = -.014$ ,  $N = 36$ ,  $.028 < p.05$ . The outcome of this finding is based on the fact that student nurse-educators who make use of different instructional methods in lesson delivery are likely to achieve a set goal, and the concept would be properly learned by the students.

To corroborate these findings, in a study designed to obtain the perceptions of teachers on how using different methods would impact on students learning. The investigator observed that teaching by its nature requires a variety of methods and that the importance of having a variety of methods during a lesson delivery is to enable the teacher to carry every learner along. This view also calls for teachers to be systematic and methodical. From the above evidence, it can be observed that student nurse-educators should have the extra responsibility of being innovative, and employing varieties in their instructional delivery to keep their students always alert and prepared to react positively and learn (Tarman (2012),

When students feel that their teachers are adopting appropriate methods to teach them, they become more actively involved in the teaching/learning process. Learning to the constructivists is an active process; the more the students are actively involved the more they learn, and the more they develop a positive attitude towards what they learn.

Student nurse-educators would therefore demonstrate instruction skills that guide the teaching-learning transaction process by using classroom management skills and classroom interactions to accomplish the tasks required. Furthermore, data analysis indicates that the student nurse-

educators' skills in classroom management relates significantly with their perceptions,  $r = .053$ ,  $N = 36$ ,  $.014 < p.05$ . The outcome is based on the fact that when a conducive, disciplined, and orderly learning environment is provided, it will promote positive learning attitude for the students. Dewey (2011), in his study found out that a classroom serves as a theatre stage for learning, and the prevailing control and discipline are strong determinants of successful learning and commensurate output.

The nature of the classroom's atmosphere depends on how the teacher teaches. When the teacher is firm and fair, he/she creates a better classroom climate with minimum tension and anxiety and the students are able to perform better. These climates lead to motivation, a positive attitude and interest in the subject taught. This indicates that student nurse-educators perceived a great ability to accommodate a variety of student skills and abilities when teaching a subject area of expertise. They perceived themselves to appear more flexible and opportunistic and demonstrate a willingness to change activities when they deemed appropriate (Beara, Okanović, 2010).

According to Pillen, Den Brok and Beijaard (2013) curricular knowledge consists of knowledge of the scope and sequence of teaching programmes and the materials used in them. The participants of this study have proven they perceive themselves to possess the necessary expertise in planning, assessing and interacting with their students. In short, they perceive themselves to possess the didactic expertise necessary always to monitor the process even when any unpredictable events, modified the actual situation. The didactic expertise is also demonstrated by structuring practices such as a summary of earlier lessons, homework review, and assessing students' understanding during classroom. The student nurse-educators see

themselves as having guided the process and intervened as necessary to help nurse students through the development sequence during a given teaching session. They perceived that they were able to support the nursing students' development as human beings.

Aguay, Gonzále and Monereo (2012) investigated how a new identity is constructed by nurses when initiating their activities as teachers. With regard to the didactic expertise, the findings of their study showed that the respondents acknowledged the great importance of processing and planning of a lesson. They stated that attention must be paid continually to adjusting the previously established plan; thus, equating the logic of the act in its responses during the teaching process. This study showed that nurse student teachers were responsible for designing their nurse students' learning process. Prominence is on the creation of learning environments that support the nursing students' learning process. Löfström, Markku, Hannula & Poom (2010), meanwhile stress that prominence be given to the creation of learning environments that support the nursing students' learning process, the optimal use of teaching and learning methods, scaffolding and other support techniques.

The present study also examined the association between knowledge of subject matter, pedagogy and didactics across the scale. The results computed using Kendall-tau-c indicates a significant association among the three variables, where knowledge of expertise in pedagogy and didactics; knowledge of expertise in pedagogy and didactics, and knowledge in subject matter with didactics are concerned. The results revealed a significant and positive relationship. Teachers being responsible for guiding students towards learning worthwhile content, and being required to know and understand the subjects they teach, scholars have identified three aspects of subject



matter knowledge for teaching. These include, firstly the knowledge of central facts, concepts, theories; secondly, procedures within a given field and knowledge of explanatory frameworks that organize and thirdly, skills to connect ideas and knowledge of the rules of evidence and proof (Shulman, 1986).

The results of the current study were field-related to some extent (Löfström, Hannula & Poom-Valickis, 2010). Those authors analysed the metaphors using signs, symbols or verbalisations of reflections to examine the teacher identity of university students' in Estonia. Their findings reveal that the model by Beijaard and colleagues can be applied as an analytical frame of reference when examining the teacher identity of student teachers. This suggests that if teachers do not understand how scholars working in different fields think about their subjects, they may misrepresent those subjects to their students. Knowledge of expertise in pedagogy refers to the transformation of the subject matter into content that can be transmitted to the students. The idea of instructional skills suggested by Shulman (1986) deals with the content of a lesson to be taught. In order to connect students and subject matter in age-appropriate and meaningful ways, student nurse-educators must develop a pedagogical stance rooted in knowledge of students' development and learning

The fundamental requirements for proficient teaching are based on a broad grounding in educational theories, knowledge of the subjects to be taught, of the skills to be developed, and of the curricular arrangements and materials that organize and embody that content. Furthermore, also required is the knowledge of general and subject-specific methods for teaching and for evaluating student learning; knowledge of students and human development; and the capacities

and dispositions to employ such knowledge wisely in the interest of students (Council on Higher Education, 2010). All these aspects do not work in isolation, but they are all integral to the process of learning-teaching transaction. This implies that all three variables are integral to the teacher identity.

Using Kendall tau-c to assess whether knowledge of expertise in subject matter, pedagogy and didactics were related to gender, the results revealed no significant association. This implies that both male and female student nurse-educators did not perceive that their sex influenced their abilities of expertise in subject matter, pedagogy and didactics. One of the reasons might be that they had not reached in the development of their teacher identity to make a real assessment.

The results of this study contradicted those findings of Ronfeldt (2012) that reported a positive correlation between gender and education performance at school between male and female. The study conducted by Dayalatha (2014) in Sri Lanka to explore the perceptions of student teachers on development of competencies through a distance education programme revealed a positive correlation with various aspects of competencies. However, no significant correlation was found with regards to theoretical knowledge. On the other hands, no significant gender difference appeared between the male and female student nurse-educators in their perceived level of knowledge of expertise regarding subject matter and pedagogy; while significant gender differences appeared in this study between male and female student nurse-educators, related to their perceptions, which showed that the females perceived possessing high levels of knowledge of expertise in didactics than males.

On the other hand, a significant difference was found between female and male student nurse-educators with regards to their perceptions towards subject matter, pedagogy and didactics expertise. Females perceived them-selves to possess slightly high level of knowledge of expertise in didactics than males.

#### **5.4 IMPLICATIONS OF THE STUDY**

The ways in which student nurse-educators perceived their teacher identity merits exploration during teacher education training. Firstly, investigating student nurse-educators identity from the personal knowledge perspective is a useful approach that contributes to the understanding of the ways in which possessing the combined knowledge of expertise in subject matter, pedagogy and didactics may lead to a positive teacher identity.

Understanding the perceptions of the student nurse-educators towards teacher identity development during teacher preparation could be very helpful for better preparing nurse educators for the challenges of the teaching profession in the future. The use of the Beijaard et al. (2000) framework in this study provided a means for exploring the development process that nursing student teachers go through, and allowing them to focus on the role (s) that they will assume. This information should be made available to nurse student teachers so that they will have a clearer idea of what to expect in terms of the process of identity development during their careers.

These findings have important implications, especially for teacher preparation, which will need to adapt so as to prepare future nurse-educators for settings other than the traditional classroom.

Through this study, a better understanding of student nurse-educators' perceptions of knowledge in relationship to teacher identity now exists, in addition to beginning to measure aspects of the framework used itself. Although there is a vast amount of future research to be conducted in this area, the current study represents a first step in examining a useful organizational structure that describes the complex relationship between and among the essential areas of subject matter, pedagogy, and didactics.

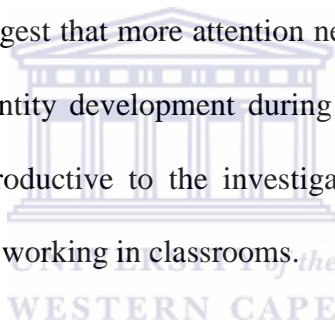
This study has shown that one of the factors which enable teachers to be effective is their rich subject matter, pedagogical and didactic expertise. Therefore, student nurse-educators need support from nurse facilitators to develop this expertise. To assist with such the development, the researcher proposes a conceptual tool known as "content representations". This model makes explicit the different dimensions of, and links between, knowledge of content, teaching and learning about a particular topic. During their planning and delivery of a unit of a lesson in their classrooms, the nurse facilitators should examine the effect of these three domains on teaching and learning transaction, to establish whether the developments of these areas of expertise is occurring.

This will be done by:

- Helping student nurse-educators to gain access to the knowledge and experience of content experts' and expert teachers.
- Consideration needs to be given to how all student nurse-educators can benefit from being involved in content representations design with expert teachers across a variety of learning areas and topics.

- Using the content representations to inform their teaching to develop confidence in what they will teach and to try new pedagogical approaches.

There are numerous challenges faced by student nurse-educators in constructing their teacher identities and it is suggested that they be informed of influencing factors, the need to co-operate in teams, to build professional learning communities, to participate in school development, and be able to evaluate and change working conditions. These activities shape the learning environment on the school level where the school climate, ethos and culture affect directly and indirectly nursing student teachers' perceptions of their teacher identities hopefully in a positive way. The findings of the study suggest that more attention needs to be paid to raising awareness of the process of professional identity development during teacher education programmes. In addition, the study has proven productive to the investigator as he seeks to understand the complex processes of teaching and working in classrooms.



## **5.5 LIMITATIONS OF STUDY**

This study had several limitations. The study was primarily limited by its small size of sample.

The student nurse-educators were not randomly selected from a larger population. The sample was also relatively homogeneous with mostly female nurse student teachers. The self-reported questionnaire used to collect the data may have increased the positive response in favour of the respondents' opinions leading to nearly perfect scores.

The inexperience of the researcher on the topic, and the different data collection periods, which may have influenced the results. Therefore, the results cannot be generalised to other student

populations since the scope of the study is limited to the context of the School of Nursing of the University of the Western Cape.

## **5.6 FUTURE RESEARCH**

Research is required to determine whether the present results can in fact be generalised to other teacher education programmes. Although this research examined the perceptions of nursing student teachers' identity from the personal knowledge perspective, other approaches genre such as employing in depth interview should also be examined.

## **5.7 CONCLUSION**

Teacher identity plays an important role in the effectiveness of teaching (Zeichner, 2010). However, learning how to teach is a challenging process that requires competent instructors. Findings indicate that knowledge ratings are high among the domains of subject matter, didactics and pedagogy, implying that student nurse-educators felt very knowledgeable about their perceived level of knowledge related to these domains. Association among each of the domains within the framework revealed a strong association between the domains of knowledge of expertise in pedagogy and didactics, and knowledge of expertise in subject matter with didactics. The results revealed a significant and positive relationship as well between knowledge of expertise in pedagogy and subject matter, while the results indicate a moderate and positive association, which was statistically significant.

This study attempted to use the Beijaard et al. (2000) model as a framework for measuring the perceptions of student nurse-educators who theoretically had knowledge related to each of the

represented domains. It also attempted to examine whether the perceived level of knowledge as rated was associated with their perceptions. The study found that knowledge of expertise in subject matter and didactics were associated with their perceived knowledge rated. However, the results from analysis revealed that no significant association was found between knowledge of expertise in pedagogy and their perceived knowledge rated. Taking into account the relation between gender and the perceived level of knowledge in the three domains, no significant association was found between the two variables.

The result has proved to some extent to be a difficult and complex process. What is evident from the results of this study is that student nurse-educators feel strongly about their ability to deal with issues related to subject matter and didactics and more tentative when it comes to issues dealing with pedagogy. This result is likely to be related to the activities that traditional teachers do on a daily basis, such as planning lessons, using teaching strategies to convey content, mapping content to district standards, and assessing students' understanding of various topics, which are the emphasis of teacher education programmes.

Concluding this research study it can be argued that a strong teacher identity has developed among these student nurse-educators. The levels of knowledge perceived by respondents with respect to the subject matter, pedagogical and didactics expertise were high. Only competent, well trained teachers who have combined knowledge of subject matter, pedagogical and didactics, necessary for being effective in today's classroom, will be able to guide nursing students into developing a high level of nursing. As the principal role of the teachers is to ensure

that students learn, therefore, the three domains that constitute the teacher's identity must be adequately acquired by student nurse-educators in order students to accomplish this goal.





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## APPENDIX 1: INFORMATION SHEET



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### INFORMATION SHEET

Project Title: Student nurse-educators', at a nursing school in the Western Cape, perceptions of teacher identity from a personal knowledge perspective

#### **What is the purpose of the study?**

As part of the requirements for a masters degree in the nursing education programme at UWC's School of Nursing, I have to carry out a research study. The study is concerned with the exploration of student nurse-educators perceptions on their teacher identity from personal knowledge as shaped by teaching practice at the School of Nursing in the University of the Western Cape with regard to the level of expertise in subject matter, pedagogy and didactic. This research project is to contribute to the nursing body of knowledge and consequently foster a more comprehensive understanding about learning to teach taking into cognizance the nursing educators' experiences during the encounter.

### **What will I be asked to do if I agree to participate?**

The information that will be collected via this questionnaire is anonymous and intended to help me to understand how you represent your level of expertise as a teacher. This information may help nursing education to better prepare and support the next generation in the development of their teacher identity during teaching practice. It is important that you answer the questions as fully and as honestly as possible. You will be asked to complete an individual questionnaire. In this questionnaire, I wish to know the way teaching practice shaped the development of your teacher identity from personal knowledge perceptions at the School of Nursing UWC.

### **What will the study involve?**

You will complete a survey, which will take 30-45 minutes to complete. The survey includes questions about your teacher identity displayed during teaching practice; the way you see your level of expertise in subject matter, pedagogy, and didactic. You will be asked to represent your teacher identity by awarding a total of 5 points to the three aspects of this identity using different statements. (For example, the extent to which you understand the ideas about the subject you teach).

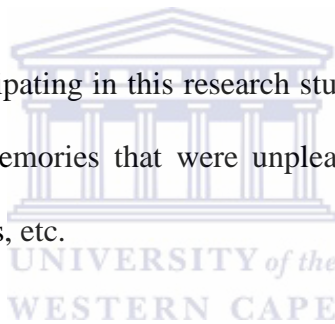
### **Would my participation in this study be kept confidential?**

We will do our best to keep your personal information confidential. To help protect your confidentiality, all the recording information will be locked up in a safe drawer during the studies, and when the study is completed, all information will be destroyed. Complete anonymity will be achieved by replacing the actual names of the research participants with code names or numbers and only the researcher can link them together. This will be achieved thus;

- Your name will not be included in the study and the questionnaire form;
- A code will be placed on the page questionnaire form;
- Through the use of an identification key, the researcher will be able to link your page answer to your identity; and
- Only the researcher will have access to the identification key.
- If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

### **What are the risks of this research?**

There may be some risks of participating in this research study. Because we are reviewing your perceptions, it may bring back memories that were unpleasant or emotionally hurtful. These might include fear, embarrassments, etc.



### **What are the benefits of this research?**

Because these events and experiences have already taken place, the result of the research will not benefit participants directly, but it is hoped that people having the same problems or needs in the future will have a better experience and improved quality of teaching practice by providing full details of the findings of the study once available.

### **Describe the anticipated benefits to science or society expected from the research, if any.**

The findings of this study will contribute in encouraging nurse educators to engage in supporting nursing student teachers during the transition from student teacher to teacher.

## **Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.

This research is being conducted by **Leka Alindekane**, School of Nursing, at the University of the Western Cape. If you have any questions about the research study itself, please contact Leka Alindekane at: [lekasila@gmail.com](mailto:lekasila@gmail.com)

Should you have any question regarding this study and your rights as a research participant or if you wish to report any problem you have experienced related to the study, please contact:

Head of Department: Professor Jooste

Private Bag X17, Bellville 7535

Telephone: 021959-2679

Email: [kjooste@uwc.ac.za](mailto:kjooste@uwc.ac.za)

Dean of the Faculty of Community and Health Sciences:

Professor Jose Frantz

(02195592631)

Faculty of Community and Health Science

University of the Western Cape

Private Bag X 17

Bellville 7535

Tel: 021959 2631

E-mail: [jfrantz@uwc.ac.za](mailto:jfrantz@uwc.ac.za)

This research has been approved by the University of the Western Cape' Senate Research Committee and Ethics Committee.

**APPENDIX 2: INFORMED CONSENT**



**UNIVERSITY OF THE WESTERN CAPE**

Private Bag X 17, Bellville 7535, South Africa

*Tel: +27 21-959, Fax: 27 21-959*

Title of Research Project: Student nurse-educators', at a nursing school in the Western Cape, perceptions of teacher identity from a personal knowledge perspective

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name.....

Participant's signature.....

Witness.....

Date.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Study Coordinator's Name: Mrs. Julie Hester

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021) 959-2271

Cell: 073 381 6341

Fax: (021) 959-2679



## APPENDIX 3: QUESTIONNAIRE FOR RESPONDENTS

### UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa Tel: 0219592271 Fax: 0219592679



**Title:** Student nurse-educators', at a nursing school in the Western Cape, perceptions of teacher identity from a personal knowledge perspective

#### **Instructions for completing the questionnaire**

The questionnaire has three sections. In the first section you are asked to provide your details on demographics information including gender, age and grade level of the study. The second part of the questionnaire consists of 15 items, five for each influencing factor described in the theoretical section (context, experience, and biography). You are asked to indicate the factor (s) that shape the perceptions of your teacher identity.

The third section, ask you to distribute 5 points over three aspects of your teaching expertise. Please indicate your level of agreement with the following statements, where Excellent: 5, Good: 4, Average 3, Poor 2, Very Poor: 1. It is expected that it will take about 30 minutes to complete the questionnaire. If you have comments, suggestions or other relevant information then please add these.

As used here, sensitivity refers to the likelihood that the scale will detect a true change in the nursing student teachers' knowledge and skills that form teacher identity being measured, if one occurs. E.g. Excellent (5): Significantly above criteria required for successful teaching performance Very Poor (1): Not able or willing to perform the essential functions related to teaching behaviour.

Thank-you.

### Section 1: Demographic information

1. What is your gender?

Male:

Female:

2. What is your age?

3. What is your class level?

First year:

Second year:



### Section 2: Please indicate whether you agree or disagree with the items

What are the classroom environmental influences that shape your perception of teacher identity? Please indicate whether you agree or disagree with the following statement:

The specific teaching context affects yours teaching in classroom

The social system shapes your perception of teaching profession

Norms among peers were important in supporting you

Expectation of students empowered you to nurture them

Expectation of prescriptions based on the curricula used influenced your teaching instructions

What is the most important life experience (s) that influences your perception of teacher identity? Please indicate whether you agree or disagree with the items on a four-point scale (ranging from 1: Strongly disagree, 2: disagree, 3: agree, to 4: strongly agree).

- Previous teacher influenced your teaching style
- Image of self as learner shaped your way of supporting students
- Family life influenced you to be passionate and caring teacher
- Being authoritarian helped you to manage properly the classroom
- One's personal experience of and reaction to biases based on socioeconomic background

How do your experiences influence the way you teach with regards to the teacher identity in the following areas? (Please indicate the extent to which you agreed or disagreed with the items on a four-point scale (ranging from 1: Strongly disagree, 2: disagree, 3: agree, to 4: Strongly agree).

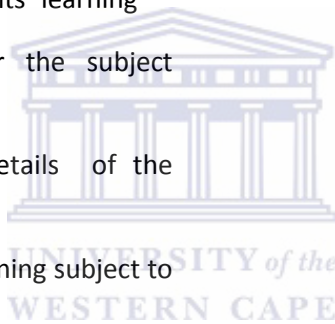
- The way you monitor classroom events
- The degree of conscious effort involved in classroom performance
- The degree to which performance is guided by personal experience
- The degree to which you can predict events accurately
- You focus, as student work and academic tasks become the major organizing framework of instruction

**Section 3: Please, rate your perceived level of knowledge on these items specific to subject matter, pedagogy and didactics.**

**Table 1: Representation of teacher identity formation from student nurse-educators' knowledge perspective**

Nursing student teacher identity characteristics	Very poor	Poor	Average	Good	Excellent
Section 1: Subject expertise	1	2	3	4	5
To what extent do you as a future teacher possess knowledge relevant to students learning needs?					

1. The extent to which you possess knowledge of the subject matter
2. The extent to which you understand the ideas behind the subject
3. The extent to which you understand the principles and facts of the subject
4. The extent to which you organise and structure the contents of a subject in a better ways
5. The extent to which you link parts of the contents for effective learning
6. The extent to which you demonstration instruction strategies enhance students` learning
7. The extent to which you deliver the subject contents according to the lesson plan
8. The extent to which you know details of the subject
9. The extent to which you link the learning subject to a social issue
10. The extent to which you transmute instructions
11. The extent to which you possess the scholarship behind the subject field
12. The extent to which you are smart



**Section 2: Pedagogical Expertise**

**1                    2                    3                    4                    5**

**To what extent do you support students' social, emotional, and moral development?**

1. The extent to which you communicate with the students
2. The extent to which you clarify possible misconceptions of the students

3. The extent to which you attempt to assess the learners' prior knowledge
4. The extent to which you use of technical tools and resources during teaching
5. The extent to which you attempt to support students' understanding
6. The extent to which you care and nurture for students
7. The extent to which you value teaching
8. The extent to which you are a role model
9. The extent to which you work with others
10. To which extent you work with individual learners
11. The extent to which you work with heterogeneous groups
12. The extent to which you promote holistic development of students



**Didactics Expertise**

**1                    2                    3                    4                    5**

**To what extent do you plan, execute, and evaluate the teaching and learning process?**

1. The extent to which you develop a plan to meet the curriculum outcomes
2. The extent to which you organise the classroom to reflect a conducive learning medium
3. The extent to which you use contextual data to explain the content to students
4. The extent to which you vary teaching methods to match the contextual session
5. The extent to which you manage the classroom for a conducive learning

6. The extent to which you create a classroom to reflect a conducive learning environment
7. The extent to which you plan the learning activities to facilitate students' internalization of information
8. The extent to which you demonstrate a deeper reasoning
9. The extent to which you measure the learning objectives
10. The extent to which you are evaluated by students
11. The extent to which you interact with students when teaching
12. The extent to which you summarise the important points of the lesson after instruction

**Source: Questionnaire adapted from Beijaard, D., Verloop, N. & Vermunt, J. (2000)**



## APPENDIX 4: LIST OF TABLES AND FIGURES

Table 4.1: Characteristics of student nurse-educators

Table 4.2: Statistical representation of the age distribution of the student nurse-educators

Tableau 4.3: The perceived levels of knowledge of expertise in subject matter

Table 4.4: The perceived level of knowledge of expertise in pedagogy

Table 4.5: The perceived level of knowledge of expertise in didactics

Table: 4.6: Distribution of student nurse-educators' perceptions of teacher identity

Table 4.7: Association between subject matter, pedagogy and didactics expertise

Table 4.8: Frequency distribution of classroom environment

Table 4.9: Distribution of the scores on biographical factors

Table 4.10 Frequency distribution of teaching experience

Table 4.11: The summary scores of the influencing factors

Table 4.12: Association between knowledge of expertise in subject matter, pedagogy, didactics and gender

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Table 4.12: Association between knowledge of expertise in subject matter, pedagogy, didactics and gender

Table 4.13: Difference in perception between male and female student nurse-educators regarding their knowledge of expertise in subject matter, pedagogy and didactics.

Figure 1: Conceptual framework used for the study





## APPENDIX 5: ETHICS CLEARANCE



UNIVERSITY of the  
WESTERN CAPE

### OFFICE OF THE DEAN DEPARTMENT OF RESEARCH DEVELOPMENT

30 October 2013

#### To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape approved the methodology and ethics of the following research project by:  
Mr L Alindekane (School of Public Health)

Research Project: Nursing student teachers' perception of teacher identity from a personal knowledge perspective at a nursing school in the Western Cape.

Registration no: 13/9/17

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

*Ms Patricia Josias  
Research Ethics Committee Officer  
University of the Western Cape*

Private Bag X17, Bellville 7535, South Africa  
T: +27 21 959 2988/2948 . F: +27 21 959 3170  
E: pjosias@uwc.ac.za  
www.uwc.ac.za

A place of quality,  
a place to grow, from hope  
to action through knowledge

## APPENDIX 6: PERMISSION TO CODUCT POST GRADUATE PROJECT



30 January 2014

Leka Alindekane

Re: Permission to conduct post graduate project

Research project: Nursing student teacher's perceptions of teacher identity from a personal knowledge perspective

You are hereby granted permission to conduct your study at the School of Nursing, UWC.



*K Jooste*

Prof Karien Jooste

Director

School of Nursing

## APPENDIX 7: RESPONDENTS INVITATION LETTER

### UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa Tel: 0219592271 Fax: 0219592679



Subject: Invitation to a research survey

Dear student masters in nursing education:

You are invited to participate in a research study titled “Student nurse-educators’, at a nursing school in the Western Cape, perceptions of teacher identity from a personal knowledge perspective

”. This study is being conducted by Mr. Leka Alindekane from the Department of School of Nursing at University of the Western Cape. The purpose of this study is to describe student nurse-educators’ perceptions of teacher identity with respect to the subject matter, pedagogy, and didactics expertise at a School of Nursing, University of the Western Cape.

In this study, you will be asked to complete a questionnaire. Your participation in this study is voluntary and you are free to withdraw your participation from this study at any time. The survey should take only 30 minutes to complete. This survey has been approved by the Higher Degrees Committee of the University of Western Cape, and the permission to collect data has been granted

by the Director of the School of Nursing. There are no risks associated with participating in this study. The survey collects no identifying information of any respondent. All of the response in the survey will be recorded anonymously.

While you will not experience any direct benefits from participation, information collected in this study may benefit the profession of nursing in the future by better understanding the student nurse-educators teacher identity from cognitive aspect, and improving the training programme to better prepare them for the full role of nurse educators.

If you have any questions regarding this research project in general, please contact Leka Alindekane or his advisor Mrs. Julie Hester at [hjulie@uwc.ac.za](mailto:hjulie@uwc.ac.za) or 0827814356.

By completing and submitting this questionnaire, you are indicating your consent to participate in the study. Your participation is appreciated.

Leka Alindekane

