

**BEST PRACTICES OF ASSESSMENT OF THE AFFECTIVE DOMAIN IN
NURSING: AN INTEGRATED
LITERATURE REVIEW**

Nakedi Tshikanda

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of
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DECLARATION

I, Nakedi Tshikanda, declare that this research report. It is being submitted for the degree of Master of Science in Nursing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

.....

Signed at Johannesburg

On the day of, 2020

DEDICATION

I dedicate this work to my mother Julia Mabjwalwa Lebea who has always emphasized the importance of education.

To my husband Dr Khathutshelo Ashley Tshikanda for inspiring me to further my education.

ABSTRACT

Background: The teaching and assessment of the affective domain is often overlooked and more emphasis is placed on the cognitive and psychomotor domain. By identifying and critically evaluating the best practices of the most effective approaches to teach and assess the affective domain the study will improve the professional values and competencies of nurses and other multi-disciplinary professions in the health system.

Purpose: The purpose of the study was to explore the most effective approaches to teach and assess the affective domain in order to improve the assessment of competencies of nursing students.

Design: An integrative review using the Whittemore and Knafl (2005) framework. These stages included problem identification, literature search, data evaluation, data analysis and presentation of findings.

Methods: Literature search was conducted using PubMed, Scopus, ProQuest and EBSCO host – CINAHL, ERIC, MEDLINE and SCIENCE DIRECT were used to identify 20 articles used in this study.

Results: The synthesis of review findings on the best approach for teaching and assessing the affective domain of learning among nurses resulted in three (3) themes: teaching, assessment and the impact on both the teacher and student.

Key words: Affective domain, Nursing education, Teaching and assessment, Best practices

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LIST OF ABBREVIATIONS

OSCE: Objective Structured Clinical Evaluation

NEIs: Nursing education institutions

GUALS: Griffith university affective learning scale

CHAPTER ONE

1.1 INTRODUCTION AND BACKGROUND

The affective domain of learning is concerned with the manner in which we deal with things emotionally such as feelings, values, appreciation, enthusiasm, motivation and attitudes of those who participate (Krathwohl, Bloom, Masia, 1964). The affective domain is among the three (3) major domains of learning addressed in education with much more attention directed towards the development of the cognitive and psychomotor domains (Buchanan & Hide, 2008). To be certain that students develop the necessary skills to offer quality nursing care to both patients and their families, they must be able to demonstrate acquired affective skills. Learning in the affective domain occurs when the students are challenged to think critically about what guides their actions and how they relate to others, to reflect on their values and make conscious decisions (Valiga, 2014).

Even though the affective domain is ill defined and difficult to measure, many nursing values are derived from it (Neuman & Forsyth, 2008). The values that are referred to by Neuman & Forsyth (2008) as being important to nursing include in this order: an ability to listen, responding to interactions with others, demonstrating attitudes or values appropriate to particular situations, demonstrating balance and consideration, and at the highest level, displaying a commitment to principled practice on a day to-day basis, alongside a willingness to revise judgement and change behaviour in the light of new evidence. Assessment and teaching of the affective domain is important to the nursing profession mainly because many values in nursing derive from it. Muzyk et al. (2017) state that another importance reason for teaching and assessing the affective domain is that it deals with how individuals deal with the emotional context of situations involving people. It is important to nurture interpersonal qualities in all health professionals, which, in turn, becomes the responsibility of the teachers and mentors.

Miller (2010) acknowledges that the affective domain seems to be the most problematic area for assessment of the clinical or practical component in many courses in the health and teaching professions. According to Bruce, Klopper & Mellish (2011) setting clearly defined objectives for affective learning is extremely difficult. Ten Cate & De Haes (2000) agree from an educational

perspective that if objectives are not adequately tested they will not be taken seriously no matter how important reports and experts say they are.

Using the affective domain to select targeted teaching techniques might help foster development of key beliefs and values that underline the advanced competencies (Yanofsky & Nyquist 2010). Different terms are found in literature – all referring to the difficulty related to the affective domain, but there still seems to be no general solution for these problems (Miller 2010). The use of the taxonomies of learning, particularly for the affective domain, can be of great help in clarifying the learning objectives in these areas and in selecting both teaching and assessment techniques (Yanofsky & Nyquist 2010). The use of different approaches enhances the appraisal of personal attributes and qualities including those of cognitive and affective qualities. Extracting information from various sources in order to assess various attributes, and the use of multiple methods is thought to be important in the assessment of affective qualities (Skedsmo & Huber, 2018).

1.2 PROBLEM STATEMENT

The teaching and assessment of the affective domain is often overlooked and more emphasis is placed on the cognitive and psychomotor domains. While the cognitive and psychomotor domains are routinely taught and assessed in most medical schools, the affective domain remains obscure in terms of delivery and assessment due to its subjective nature (Aye et al., 2001). According to Miller (2010) the affective domain seems to be the most problematic area for assessment of the clinical or practical component in many courses in the health and teaching professions. There are studies on how to teach and assess the affective domain but despite this, educators still find it difficult to assess the affective domain. By identifying and critically evaluating the best practices or most effective approaches to teach and assess the affective domain the study will improve the professional values and competencies of nurses and other multi-disciplinary professions in the health system.

1.3 PURPOSE OF THE STUDY

The purpose of the study was to explore the most effective approaches to teach and assess the affective domain in order to improve the assessment of competencies of nursing students.

1.4 RESEARCH QUESTION

What are the most effective ways of teaching and assessing the affective domain in nursing ?

1.5 OBJECTIVES OF THE STUDY

To critically identify, examine and evaluate the most effective ways of teaching and assessing the affective domain by means of an integrative literature review.

1.6 OPERATIONAL AND THEORETICAL DEFINITIONS

1.6.1 Assessment of the affective domain: in this study means assessing the teaching of affective domain effectiveness as the content must be taught before assessment.

1.6.2 Best practices: according Merriam Webster dictionary (2014) best practices are defined as procedures that have been shown by research and experience to produce optimal results and are established or proposed as standards suitable for widespread adoption.

1.6.3 Nursing education: a way in which students are recruited and guided to obtain the science and art of nursing in an accredited nursing institution (Nxumalo 2011).

1.6.4 Nurse educator: is a nurse who is registered with the Nursing Council after obtaining a post registration nursing education qualification, employed by the nursing education institution and clinically competent in their field of teaching (Chabeli & Muller 2004)

1.6.5 Clinical assessment/evaluation: the process of gathering evidence and making judgements on the student's formative or summative performance against already determined standards, criteria and indicators (Armstrong et al. 2013).

1.7 LAYOUT OF THE STUDY

Table 1.1: Layout of the Study

Chapter	Plan
One: Overview of the Research study	Introduction and background, problem statement, purpose of the study, research question, objectives of the study, terminologies associated with the study, and overview of research methodology.
Two: Research Methodology	Introduction, integrative review as a method, stages of integrative literature review, search strategy and methods and search with computerized search.
Three: Data collection and literature search	Introduction, data evaluation and data analysis
Four: Data analysis and Presentation of Findings	Presentation of findings and report of findings
Five: Discussion of Findings	Discussion and interpretation, conclusion and recommendations

1.9 SUMMARY

In this chapter an introduction and background relating to the affective domain was given, and the problem statement, purpose of the study, research question, objectives of the study and operational definitions stated. In the next chapter the research methodology of the study will be described.

CHAPTER TWO

RESEARCH METHODOLOGY

2.1 INTRODUCTION

This chapter explains the integrative review method and the stages. It also describes the data collection and discusses the literature search process. The chapter focuses on how the literature search was done, how the articles were retrieved, the inclusion and exclusion process, the evidence grading and the quality assessment process and the findings extracted from the articles that were used.

2.2 INTEGRATIVE REVIEW AND OTHER REVIEW METHODS

Literature reviews are important in academic projects because they show what other academic work has been done in the research field of interest and the strengths and limitations of existing research (Aveyard et al., 2016). As the nursing specialties and nursing research community enlarge it becomes important for reviews to provide evidence for practice that offers accurate and current information in that field of interest. Reviews are able to bring together and determine the quality and usability of all research carried out in the field of practice (Cartwright 2012).

Aveyard et al (2016) discussed six (6) different types of literature reviews and what they incorporate; meta-analysis, meta-synthesis, integrative reviews, meta-aggregation, narrative synthesis and scoping studies as illustrated in table 2.1.

Table 2.1 Types of literature reviews

Type	Description
Meta-analysis	Meta-analysis is a type of review that incorporates quantitative research and is regularly amplified by a quantitative narrative
Meta-synthesis	Meta-synthesis incorporates qualitative studies where results are re-interpreted.
Meta-aggregation	Meta-aggregation developed by the Joanna Briggs Institute and incorporates qualitative studies where the findings are grouped together.

Narrative synthesis	The narrative synthesis incorporates mixed methods to come about theory.
Scoping review	The scoping review which incorporates all studies but centers on searching rather than analysis.
Integrated literature review	Review which incorporates the mixed methods studies where the findings are re-interpreted to maintain thorough and unbiased results

2.3 INTEGRATIVE LITERATURE REVIEW AS A METHOD.

An integrative literature review is a form of research that reviews, evaluates and integrates representative literature on a topic, resulting in a new framework and standpoint on the topic (Toracco 2005). As a result, integrative reviews have the potential to build nursing science, informing research, practice and policy initiatives (Whittemore & Knafl 2005). Integrative reviews play an important role in evidence-based practice. This form of review allows for broad appraisal and simultaneous inclusion of experimental and nonexperimental studies in order to enhance the depth of analysis. It is therefore a design in which a researcher can objectively appraise, summarise and make conclusions about a subject under study (Torraco 2005).

An integrative literature review is achieved to uncover gaps in what is already known – build a connection between related areas of work; appraise the quality of a scientific research; suggest the necessity for future research; formulate research questions; recognise a theoretical and conceptual framework used in the research area, and evaluate which research methodology has been used successfully in the research area under study (Russel 2005; Whittemore & Knafl 2005).

There are five stages commonly used in integrative literature review methodology. The stages include: 1. Formulation of a problem or formulation of research question 2. Data collection or literature review 3. Data evaluation 4. Data analysis and 5. Interpretation of analysed data and presentation of report (Torraco 2005; Russel 2005; Whittemore & Knafl 2005). This approach was used to guide this study. The stages are described in detail in the next chapter.

2.4. STAGES OF THE INTEGRATIVE LITERATURE REVIEW

2.4.1 Problem identification and formulation of review question

This is the initial stage in an integrative review. A clear identification of the problem that the review is addressing and the review purpose (Whittemore and Knafl 2005) is important. A clearly defined purpose and research question paves the way for variables to be identified and defined and allows for smooth flow of the subsequent stages (Whittemore and Knafl 2005).

A well specified research purpose in an integrative review will facilitate correct operationalisation of the variables by the researcher. The review question in this study was obtained through the researcher and her supervisor's discussions on gaps that exist related to the teaching and assessment of domains in nursing education. The review question in this study is: What are the most effective ways of teaching and assessing the affective domain in nursing ?

2.4.2 Literature review (search)

A clearly defined literature search is vital in an integrative review for improving the rigor of the of the review, as incomplete and biased searches can result in inadequate databases and will, therefore, lead to inaccurate results (Whittemore & Knafl 2005). Whittemore and Knafl (2005) describe how a computerised search is the easiest and most convenient form of literature search but if the search terminologies are inconsistent and poorly combined, not much of the relevant literature may be retrieved. A far-reaching search of databases using all combinations of the search terms in addition to a purposive search based on the review topic is very helpful (Whittemore & Knafl 2005). Other ways of searching the literature include an ancestry search, journal hand searches, networking and research registry searches which are very helpful but complex to carry out.

In this review qualitative and quantitative articles published between January 2008 and December 2019 were sampled from PubMed, Scopus, ProQuest and EBSCO host – CINAHL, ERIC and MEDLINE – by means of a computerized search and an ancestry search.

A combination of the six (6) broad key terms (Teaching and Assessment/ Affective Domain /Nursing /Teaching and Evaluation /Approaches/Education) were used to conduct a search using the Boolean operators ‘AND’ and the following search strings were used to make the search exhaustive:

- a. *Affective domain AND nursing AND assessment AND best practices*
- b. *Affective learning AND nursing education AND teaching AND best practices*
- c. *Affective domain AND nursing education AND teaching AND best practices*
- d. *Affective domain learning AND nursing education AND teaching methods AND best practices*
- e. *Affect AND nursing AND assessment methods AND best practices*

The above combination of terms was used to search the databases in this review. According to Cooper (1988) there are several ways of enhancing validity in data collection and review. These include conducting an exhaustive literature search and explicitly defining the data to be collected from studies.

2.4.3 Data evaluation

Data evaluation is the third stage in the integrative review process. During this phase is the reviewer carefully decides if the data element or the result is sufficiently reliable to remain in the study set (Russel, 2005). Data extraction is an important technique for the reviewer to record results from the individual articles included in the study, to make conclusive inferences and conclusions. De Souza et al (2010) suggest the use of a valid data extraction tool to enhance precision and minimize errors in data transcription. In this study the data extraction tool developed by Sparbel and Anderson (2000) was used as illustrated in table 2.2.

Table 2.2: Data collection tool (Sparbel & Anderson, 2000)

Author (s)	
Setting	
Year of publication	

Aim and objective	
Research design	
Population and sampling	
Data collection	
Data analysis	
Key findings	
Recommendation	

2.4.4 Critical appraisal and evidence grading

Once an extensive literature search has been completed and articles for inclusion decided upon, it is important to determine the worthiness of the selected articles for inclusion or exclusion. In this study, the quality and evidence were not used as a basis to exclude articles. In order to choose the best available evidence, the evidence classification system proposed by De Souza et al (2010) was used. This organizes the evidence into levels 1 – 6.

- Level 1: evidence resulting from meta-analysis of multiple randomized controlled clinical trials
- Level 2: evidence from individual studies with experimental design
- Level 3: evidence from quasi-experimental studies
- Level 4: evidence from descriptive (non-experimental) studies or studies with a qualitative approach
- Level 5: evidence from case reports or from experience
- Level 6: evidence based on opinions of specialists

This approach is used to choose the best available evidence for inclusion. In the case of the study, the level of evidence was not used to as part of the exclusion criteria but used to report on the evidence level of the included studies. The majority of the included studies (11) were categorized level 6, followed by level 4 (8 studies) and one level 3.

2.4.5 DATA ANALYSIS

Data analysis was carried out using Whittemore and Knafel's (2005) thematic analysis process. This process has been divided to five phases: data reduction, data display, data comparison, drawing of

conclusions and verification. These five stages of thematic analysis form the basis of rules of inference used in this review. Each of the five stages is described below.

2.4.5.1 Data reduction

According to Whittemore and Knafl (2005) data can be reduced into various subgroups in a logical manner based on identified characteristics such as type of design (experimental, descriptive, correlational etc.), chronology, setting (urban, rural, developed, developing, underdeveloped or third world countries), sample characteristics (race, gender, age, sex etc.), or on a predetermined conceptual classification of participants (experience, attitude and behaviour). The classified data is then extracted and coded into a manageable framework. This makes it easy to compare articles with each other based on characteristics such as concepts, methodology, conceptual, definitions etc. In this study, data was reduced into a data matrix consisting of the main characteristics extracted from each study (refer to table 3.2).

2.4.5.2 Data display

Data display enhances the visualisation of patterns and relationships within primary data sources and serves as a starting point for interpretation (Whittemore and Knafl 2005). In this review, data was displayed on a matrix for easy visualisation of patterns, similarities and themes (refer to table 3.2).

2.4.5.3 Data comparison

This is concerned with examining the displayed data in order to determine themes, patterns and relationships. Concept mapping is used to include identified variables, patterns or themes in the data comparison stage. Vital to data comparison and determination of patterns and themes is data display, creativity and critical analysis of data (Whittemore & Knafl 2005).

2.4.5.4 Conclusion and verification

Data analysis is finalised by drawing conclusions and verification of findings. This includes drawing of abstract unification of small sets of information that encompasses subgroups or categories (Whittemore & Knafl 2005). Any conclusions made from the data set are steadily compared with the primary source of information to ensure inclusiveness and accuracy of interpretations. In instances where evidence is contradictory and reviewers are not definite on which direction to take, a vote is cast, considering the frequency of the conflicting findings. (Cooper 1998 cited in Whittemore & Knafl 2005). In this study, reviewers were in agreement on the findings, hence no vote was cast.

2.4.5.5 Discussion and interpretation of the data

This stage includes the drawing of conclusions from the data analysed. It involves the synthesis of analysed data into a new model or view about the phenomenon under study. It is a critical stage of the review process as it enables the reviewer to answer the research question and fulfils the study purpose. In this review best practices in the teaching and assessment of the affective domain in nursing have been described.

2.4.5.6 Report the findings

In this section findings are reported as they appeared in the synthesis and made available. Reporting the findings makes it easily accessible for the researcher, clinical and academic community to use.

2.5 ETHICAL CONSIDERATIONS

The following ethical considerations were made regarding this research study:

- The research proposal was peer reviewed for input by the Department of Nursing Education, School of Therapeutic Sciences, Faculty of Health Science and University of Witwatersrand.

- Approval was obtained from the Faculty of Health Sciences Postgraduate Research Committee, University of Witwatersrand
- An ethics waiver was obtained from the HREC (Medical). (Refer to Appendix C)
- Permission has been granted for the use of all the tools in this study (see annexures).

2.6 SUMMARY

The chapter focused on an overview of the integrated literature review methodology. The next chapter discusses the literature search and data collection of the integrative review stages by Whitemore & Knafel (2005).The search methods and strategies which included the inclusion and exclusion criteria, search strings and terms used, selection process and documentation of results will also be discussed.

CHAPTER THREE

LITERATURE SEARCH

3.1 INTRODUCTION

This chapter describes the data collection and literature stage of the review and discusses the literature search process. The chapter focuses on how the literature search was done, how the articles were retrieved, inclusion and exclusion process, the evidence grading and the quality assessment process and the findings extracted from the articles which were used.

3.2 SEARCH STRATEGY AND METHODS

The literature search and data collection stage employed a number of strategies and methods. These, among others are discussed below.

3.2.1 Inclusion and exclusion criteria

Well-stated inclusion and exclusion criteria guide the research on the kind of studies that will form part of the final review. De Souza et al., (2010) suggest that the formulated criteria must be in line with the identified research problem and research question, bearing in mind the participants for inclusion and the interventions. In order to improve the veracity and reliability of the review results, the criteria were not limited to assure equal representativeness of the samples of interest. Inclusion and exclusion sets boundaries for the review.

The inclusion criteria for this review included:

- Articles published between January 2008 to June 2019
- Articles that met the search terms including the methods, approaches and strategies for assessment or evaluation of the affective domain in nursing, other multidisciplinary courses and education.
- Articles published in English
- Papers selected from peer-reviewed journal articles
- Experts' opinions that answered the research question

- Studies that focused on methods of affective learning assessment for other health care professionals

The exclusion Criteria

- Articles published before 2008
- Articles published in other languages other than English

3.2.2 Search terms and search strings

In order to ensure a complete and exhaustive literature search, carefully selected searchable keywords from the research question are very important. Most of these words are generated from the key concepts which are in turn generated from the research question. In this study, the key concepts generated included affective domain, nursing, assessment. Similar keywords such as affective learning, nursing education, assessment methods, evaluation approaches were also used. It is always advisable to undertake a prior preliminary search before the detailed search to identify, refine and define the search words and search strings reliable for a detailed literature search. Each of the databases responds to its own well-known vocabularies. The MeSH Database in PubMed, for example, was used to define the keywords. This was done in consultation with an experienced librarian. The search string used in the study, are displayed in the figure 3.1.

(“Affective domain” OR “Affective learning” OR “Affective domain learning” OR “*Affect” OR “caring”) AND (“Nursing” OR “Nursing education”) AND (“Teaching &Assessment” OR “Assessment methods” OR “teaching approaches”)

Figure 3.1: Search Strings

3.2.3 Databases

The key rule to obtaining enough research literature is to set priorities on the kind of sources to be used. This can be tedious but using as many literature sources as possible makes it easier (Conn et al., 2003; Jadad et al., 1998). This includes the use of a wider number of bibliographical databases to broaden the literature search (Jadad et al., 1998). Expert advice from a trained librarian always helps in determining the electronic databases to be used. In this study, a librarian was consulted for expert advice.

After consultation, the databases: PubMed, SCOPUS, CINAHL, ProQuest, and SCIENCE DIRECT were used. These were deemed to host most of the relevant studies that were needed to answer the research question.

3.2.4 Search process

The search was completed with the assistance of a librarian. The search was carried out between March to June 2019. The developed search terms and search strings were initially tested using databases: PubMed and CINAHL before used in each of the selected databases to retrieve the articles. The search filters, which included the inclusion and exclusion criteria were rigorously followed.

3.2.5 Supplementary search methods

Research evidence indicates that a well-done literature search includes not only electronic databases but also other sources to complement the literature obtained. Google search engine was useful in retrieving relevant literature that answered the research question. Hand search journal (Nursing education journals) – (n= 282) were used to retrieve relevant articles. Google search produced (n= 32) and a few articles were obtained from the reference list (n=11). Refer to the PRISMA flow for the breakdown.

3.2.6 Search outcome

Each search from any database used was separately documented. Using the search strategy which included the use of electronic databases, hand-searched journals and other supplementary research methods, a total of 14106 articles were obtained; as indicated in **Figure 2.2** and **table 3.1**. In total 13781 articles were retrieved from the database search and 325 from supplementary methods (nursing education journal, google search and reference list). Of these, 250 abstracts were read and 67 fully assessed for inclusion.

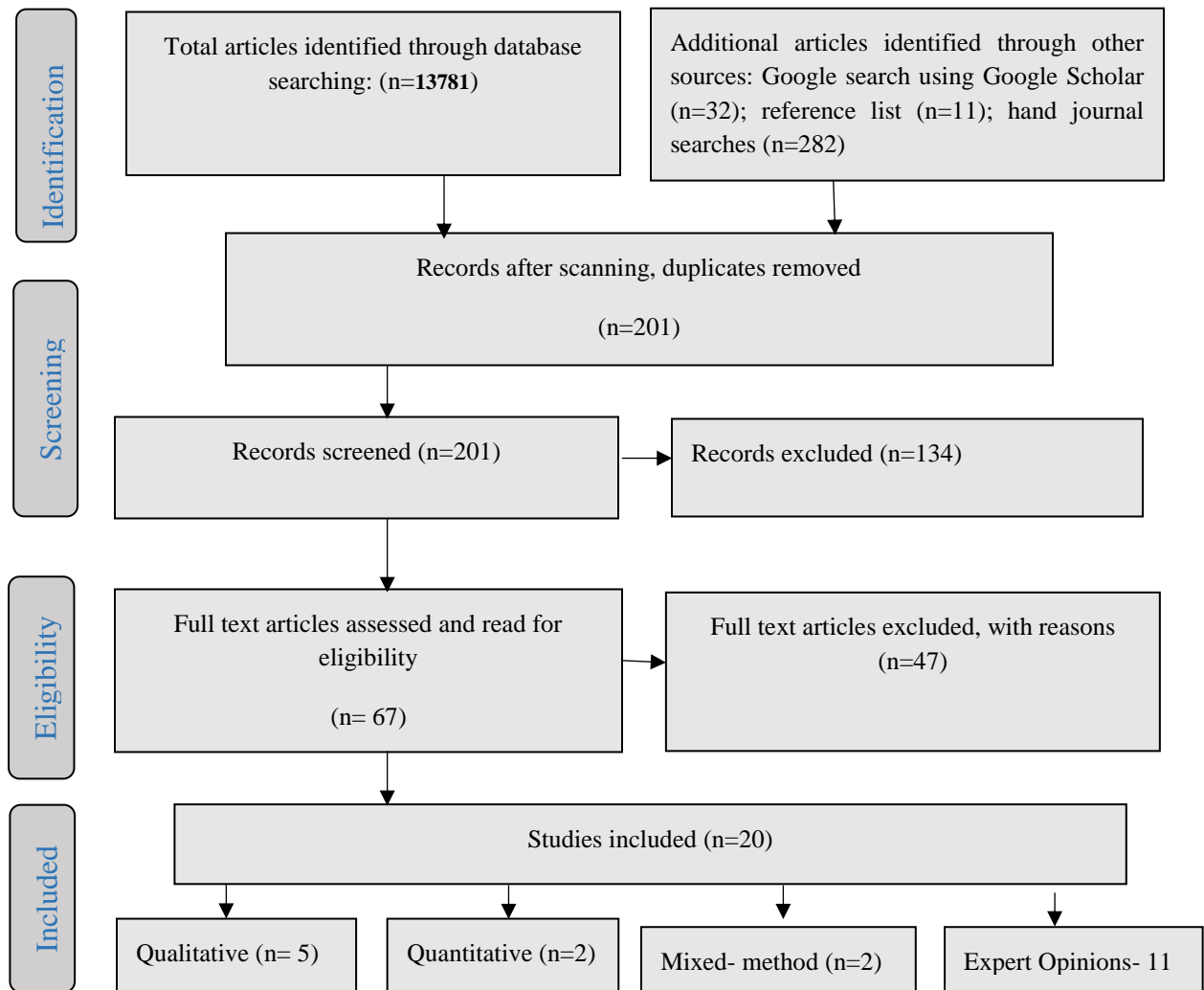
Table 3.1: The computerised database search

Database	Search string	Number of articles	Number of abstracts read	Number of full text read
SCOPUS	Affective domain, Nursing and Assessment	1232	26	14
	Affective learning , Nursing education and Teaching	985	0	0
	Affective domain learning, Nursing education and Teaching methods	603	0	0
	Affective domain, Nursing education and Assessment methods	1308	0	0
TOTAL		4128	26	14
PubMed	Affective domain, Nursing and Assessment	908	36	12
	Affective learning, Nursing education and Teaching	2095	5	4
	Affective domain learning, Nursing education and Teaching methods	702	10	6
	Affective domain, Nursing education and Assessment methods	304	15	5
	*Affect, Nursing education and assessment	102	18	8
TOTAL		4111	84	35
ProQuest	Affective domain, Nursing and Assessment	509	24	1
	Affective learning, Nursing education and Teaching	1204	0	0
	Affective domain learning, Nursing education and Teaching methods	906	0	0
	Affective domain, Nursing education and Assessment methods	302	0	0
	*Affect, Nursing education and assessment	124	5	2
TOTAL		3035	29	3
EBSCOhost Database consisting MEDLINE, CINAHL, ERIC	Affective domain, Nursing and Assessment	708	16	4
	Affective learning, Nursing education and Teaching	406	0	0
	Affective domain learning, Nursing education and Teaching methods	201	20	6
	Affective domain, Nursing education and Assessment methods	422	0	0
	*Affect, Nursing education and assessment	62	0	0
TOTAL		1799	36	10
SCIENCE DIRECT	Affective domain, Nursing and Assessment	84	12	2
	Affective learning, Nursing education and Teaching	102	4	1
	Affective domain learning, Nursing education and Teaching methods	330	0	0
	Affective domain, Nursing education and Assessment methods	124	8	2
	*Affect, Nursing education and assessment	62	2	0
TOTAL		708	26	5
SUM TOTAL		13781	201	67
Finally added to the review				20

3.2.7 Study selection and approach

The selection of studies was done by the researcher and the supervisor. The title of the study was first screened for inclusion. At this stage, the inclusion and exclusion criteria were keenly followed by the reviewer. Subsequently, the abstract was read for further possible inclusion of the study.

Duplicates were removed at each point of the selection process. After an initial selection, articles that met the inclusion criteria were read fully by two independent reviewers (N.T and E.K). In instances where there were conflicts, a third reviewer (S.A) was consulted and agreement was reached in all cases. The PRISMA was used to map the search approach (see figure 3.2).



3.2.8 DESCRIPTION AND EVALUATION OF ARTICLES INCLUDED

The data matrix consisted of five (5) qualitative articles, two (2) quantitative articles, two (2) mixed method studies, expert opinions – eight (8), commentary – two (2) and journal review – one (1).

3.3 REASONS FOR EXCLUSION OF ARTICLES

Studies that fell outside the inclusion criteria and exclusion criteria were excluded. Studies were excluded on the basis of language, date limit, concept or area of research, setting for the research and research participants.

3.4 RIGOR

A well-conducted literature search meets the same standards in terms of rigor as data collection in a primary research. Several strategies were undertaken to enhance the rigor of the research review. An incomplete and biased search strategy limits the accuracy of the results (Whittemore & Knafl, 2005). A well-defined and broad search strategy was described before the actual literature search was undertaken. This included the search terms, databases to be used, selection process and inclusion and exclusion criteria. The university librarian, who is an expert in literature searches was consulted during the literature search stage.

3.5 DATA MATRIX

The individual characteristics of each included articles displayed in a tabular form using a data matrix. **Refer to table 3.2**

Table 3.2: Data matrix

No	Author, year & setting	Aim of the study	Research methodology and design	Population and sampling	Data collection & data analysis	Findings	Level of evidence
1	Ormandy & Stephens (2019) International journal of professional nursing	To examine the reliability of a qualitative framework to assess the long-term impact of learning activities known to stimulate affective domain development	A grounded theory approach Qualitative study	12 Nurses from seven countries	interviews Thematic analysis (Thomas & Harden, 2008) based on the Epstein's (1977) three stages compliance, identification and internalisation	Epstein's framework offers a reliable tool that accurately measures the impact a learning activity has on the development of the affective domain. <u>Internalisation stage</u> - embracing new values and attitudes: increased empathy and an open point of view, enhanced knowledge, professional abilities and competence, increased understanding of inter-professional working, matured character and broader perspective on nursing	L4
2	Kangas-Niemi, Manninen & Mattsson (2018) Sweden Nurse education in practice	Explore ways clinical supervisors facilitate the learning of the affective elements of professional competence	Qualitative explorative study using the socio and cultural theory perspective	A purposeful convenience sampling technique was used to recruit six experienced clinical supervisors within a palliative clinic	Individual semi-structured interviews Inductive content analysis (Elo and Kyngäs, 2008)	Clinical supervisors can facilitate affective elements of learning by: <u>Building a relationship</u> : create a good rapport with the student in order build trust and allow student to engage with each other. <u>Create enough space for learning</u> : give students Adequate time to reflect and make sure to ask prompting questions for them to think out of the box. <u>Creating a pedagogical environment</u> : the use of the environment as a pedagogical tool to promote the affective elements as they shed lights over the patient contact in the home of the patient and what that means and what to expect <u>Mirroring</u> : Supervisors share their own experiences and challenges to assist students in their learning.	L4

3	Chong et al (2016) Singapore Nurse Education in Practice	To examine nursing students' learning domains through the introduction of the authentic assessment pedagogy during their clinical practice	A quantitative approach using quasi-experimental study	Purposive sampling A total 54 (14 male and 40 female) first-year nursing students	The authentic assessment (AA) rubric instrument was used to permit different ways of responding. Descriptive statistics	<u>The use of the authentic assessment pedagogy</u> in clinical practice has helped to improve the learning domains and critical thinking abilities of student nurses. <u>With aid of assessment rubric</u> it allowed students to understand their strengths and weakness enabling them to provide safe and efficient care for the patient <u>Reflection</u> is a pedagogical strategy which enables students to gain new perspectives on their strengths and weakness and improve on the caring and communication towards their patient care	L 3
4	De Swart et al (2014) South Africa South African journal of higher education	To realise the strategy developed from the theme pertaining to the nursing education institution environment that would support professional socialisation of students.	Mixed methods	Educators and student nurses	Questionnaire and focus group interviews	Various strategies and approaches of teaching and learning that enhance professional socialisation: <u>Reflection in teaching and learning environment</u> : to reach a level of critical consciousness the students go through various levels of reflectivity. <u>Problem based learning approach</u> : develops competencies in students that enable them to adapt to changing environments, manage problems, make informed decisions, critical and creative thinking and practice empathy and appreciation of others. Problem based learning strategies use properly formed scenarios that require a series of steps to uncover the right solution. Should ideally be used in conjunction with reflection. <u>Peer group learning</u> : aims at improving student support by allowing students to work and learn from each other. Peer group learning also helps in shaping of professional roles and their identity within the profession. <u>Clinical role modelling</u> : it is teaching by example and learning by imitation. Role modelling is an appropriate method that supports student nurses in the development of their professional identity. The importance of positive role modelling is in shaping of student nurses' attitudes and behaviour.	L4
5	Cazzell & Rodriguez (2011) Texas Journal of nursing education	To explore the feelings, beliefs and attitudes of senior-level undergraduate paediatric nursing students on completion of medication administration OSCE	An exploratory qualitative study	Purposive sampling 20 undergraduate nursing students	Focus group sessions	Students confirmed the OSCE exercise had both positive and negative effects on the affective domain Students integrated the attitude of safety first into future practice Students believed that immediate feedback was necessary to reinforce learning and improve their weaknesses. Negative impact of OSCE evaluation on the affective learning included videotaping, grading, unfamiliarity and lack of authenticity.	L4

6	Rogers et al (2018) Australia	To develop and test the reliability of an instrument Assess for evidence of affective learning in the reflective journals of health professional students who have participated in emotionally-impactive learning experiences.	Quantitative study	A convenience sample of 26 medical students	A seven-point GUALS scale Descriptive statistics	The use of the GUALS on medical student reflective journals by trained assessors demonstrated a level of inter-rater reliability (ICC = 0.86 [95%CI: 0.80 – 0.90]) The GUALS tool can detect a form of learning that improves when done along with reflection. One of the limitations in this study is that it evaluated the journals of a small number of learners from one health profession.	L4
7	Van Der Berg & Walker (2014) South Africa African journal of physical, health education and recreation	To assess the level of affective learning based on the students' reflective journaling	A qualitative exploratory descriptive and contextual design	Convenience sampling 90 third-year Undergraduate nursing students	Content analysis	Students were able to reflect at all the levels of the affective domain The use of reflective journaling is an appropriate teaching and assessment tool to enhance this learning domain.	L4
8	Brien, Legally & Tremblay (2008) Canada International Journal of Palliative Nursing	To implement teaching and learning strategies to develop affective nursing competence for end of life	Qualitative	197 second-year nursing undergraduates engaged an intensive 4-week course on end-of-life care, developed with a competency-based approach-	Questionnaire and focus group discussions	<u>Reflective and experiential approaches</u> were shown to be useful strategies but also proved to be a challenge for the students. <u>The competency approach</u> allowed students to develop new understanding of real situations, which is important to affective learning. <u>Emotionally charged learning activities</u> have a good an impact on developing compassion for end of life care. The activities most appreciated by students and richest in learning were those that involved an emotional, introspective and reflective dimension. Used the FATCOD scale to assess.	L4
9	Sawyer et al (2012) Australia Australian & international journal of	To investigate the specific technique of mindfulness meditation as a strategy to develop awareness of the importance of the affective domain in teaching and learning.	Mixed methods	14 participants	Workshop	Academic staff reported that the project altered their approach to teaching in a positive way with focus on the affective domain and mindfulness meditation. Rubrics used for assessment.	L4

	rural education					
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Expert committee reports, commentary, journal Reviews						
	Author, year & setting	Aim of study	Type of article	Population and sampling	Findings	
10	Donlan (2018) Boston Journal of allied health	To investigate the efficacy of some of the contemporary strategies used to present and assess affective domain learning in health	Commentary	Clinical mentors	<p><u>The think-pair-share technique</u>: a 3-pronged cooperative learning strategy that asks students to first individually contemplate a particular question for a brief, specified period of time, then discuss thoughts and responses with one other student to identify similarities or opposing points of view and finally, share collaborative responses with a larger class.</p> <p>TPS enhances the interpersonal skills and encourages students to be open to opposing views, clarify differences and develop new understanding.</p> <p><u>Reflective journaling</u>: reflective journals assist students in exploring values, feelings and diverse attitudes, encourages personal growth and awareness, and promotes self-assessment and changes initial patterns of thinking.</p> <p><u>Simulation and role play</u>: the use of simulation and role play is important for the teaching of the affective learning because it ties emotions and as such increases understanding and retaining of information.</p> <p>When looking to build affective domain skills the type of debriefing used may be central to development of professional communication</p> <p><u>Motivational interviewing</u>: training in motivational interviewing techniques has been shown to increase self-efficacy with respect to effective communication.</p> <p><u>Structured controversy</u>: students are asked to work in groups for the purpose of understanding multiple points of views that may relate to an issue.</p> <p>Assists students to take criticism well and manage stress better when interacting with others.</p>	L6
11	Andrusyszyn (1989) Canada Nurse Education Today	To discuss issues contingent to clinical evaluation of the affective domain in nursing education	Expert opinion	Clinical mentors	<p><u>Psychometric orientation</u> approach uses standardised tests to measure psychological constructs e.g. Likert scales.</p> <p>Instrument lacks important predictive validity</p> <p><u>Behavioural orientation</u>: observation of behavioural patterns may be assessed in the form of anecdotes</p> <ul style="list-style-type: none"> •unobtrusive methods such as diaries, logs and journals can assess student feelings and attitudes •rating scales/checklists, behaviour that was not observed can be included through oversight. •Medtronics, the use of mediatronics such as videotaping, audio taping, computer and clinical laboratories and simulation can offer reliable and creative methods which can assess the affective domain. •Self-evaluation self-introspection can offer objective insight into to one's values and beliefs. Educator contributes in helping students to develop self-awareness skills. 	L6

					<p><u>Counselling orientation</u>: this assists the students to develop insight into their value structure in a safe, non-threatening environment Faculty may not be ready to take the counselling role.</p> <p><u>Traditional orientation</u>: this type of assessment refers to objective and essay tests</p>	
12	<p>Krause (2016)</p> <p>Massachusetts</p> <p>Journal of midwifery & women health</p>	To help preceptors understand the affective domain, recognise the development of values and beliefs, and help guide interventions when a student exhibits deficits in affective attributes	Journal Review	Students & preceptors	<p><u>Reflective dialogue</u> in the classroom or clinical setting allows for discussion about dilemmas, differing perspectives and value clarification. The preceptor can ask the student to reflect upon her or his own practice or upon the practice of the preceptor.</p> <p><u>Simulation</u> of emergency situations assists with development of affective skills and assuming leadership roles.</p> <p><u>Roleplay</u> that utilises debriefing and evaluation of experience is the most effective strategy in changing attitudes and values</p>	L6
13	<p>Linz (2011)</p> <p>New jersey</p> <p>Journal of continuing education in nursing</p>	The use of photo elicitation to enhance affective learning	Teaching tips	Preceptors	<p>Use of photo elicitation as an educational strategy enhances observational abilities and allows for deep reflection, stimulating the affective domain in learning.</p> <p>It facilitates feelings of empathy, self-reflection and sensitivity among learners</p> <p>It is most suitable for visual learners.</p>	L6
14	<p>Neumann & Forsyth (2008)</p> <p>Minnesota</p> <p>Journal of continuing education in nursing</p>	To describe strategies for teaching in the affective domain	Expert opinion	Preceptors	<p><u>Reflective Dialogue</u>: The process of open, critical, and reflective dialogue about nursing practices allows participants to learn by asking and answering questions, rather than listening to the instructor's lecture.</p> <p><u>Class-in-a-BOX</u>. Role play and reflective dialogue were chosen as methods to accomplish the class objectives.</p>	L6
15	<p>Batt (2015)</p> <p>Canada</p> <p>Canadian paramedicine</p>	Teaching and assessing the affective domain of learning	Expert opinion	Paramedic education	<p><u>Simulation</u>: the use of immersive simulation can help in the teaching of the affective domain due to the unique ability to allow students a chance to repeat, learn from their mistakes and get constructive feedback.</p> <p><u>Debriefing</u>: allows the learner or group to reflect on their performance, to discuss aspects of the events they were comfortable or uncomfortable with, and allows individuals to analyse and assimilate the learning experience</p> <p><u>Reflection</u>: self-reflection addresses key characteristics of the affective skills such as self-concept, attitudes, motivation and internalisation.</p>	L6

16	Listopad (2019) California Journal of nurses in professional development	To teach preceptors using the affective domain	Preceptorship	Preceptors	<u>The video</u> is an effective teaching strategy as it provides an emotional connection and gives “insight to the psychology of humans”. After the video, preceptors reflect on how they respond in similar situations. <u>Use of dance off</u> by preceptors to integrate learning styles, communication feedback and coaching. Finally the preceptors will <u>role play</u> how to resolve any conflict noted from the video and as they do this they become emotionally attached and learn to empathise.	L6
17	Glennon,Hart & foley (2015) New York Journal of physical education recreation and dance	To explore affective assessment practices	Expert opinion	Physical education	Tools for assessing affective behaviours: <u>Rating scale</u> : it is used for self-assessments by students where they rate how they feel or how they believe they performed. <u>Journaling</u> : gives students a chance to express their ideas while describing examples of assessed behaviour. It gives students an open platform to consider reflective questions. <u>Checklists</u> : used to identify the presence of a certain behaviour and how well the student demonstrated a desired concept. <u>Rubrics</u> : quantitative rubrics are commonly used. They provide a list of performance criteria along with defined numerical levels of performance often aligned with phrases that give meaning to numerical levels	L6
18	Rakta (2018) Virginia American journal of pharmaceutical education	To educate and develop competent value-centred health care professionals with a high level of empathy and strong affective abilities	Commentary	Pharmacy students and educators	Activities that help students enhance empathy and achieve required affective skills: Use of video recording of patients’ stories, service to underserved communities, reflective writing, playing role of the patient, exposure to literary and performing arts, improving communication, narrative and stress management skills, and exposure to 3D simulation of culturally and linguistically diverse patients in a hospital setting. Exposure to role models – role modelling by clinical instructors during experiential training was reported as the most important influence on empathy education.	L6
19	Samalot-Rivera (2014) New York Journal of physical education, recreation & dance	The use of affective domain	Expert opinion	Physical education	<u>Use of role playing</u> by educators can teach students better ways to behave during difficult situations and can assess student understanding of target skill. Five steps are suggested to use the role play strategy: 1. Define and explain target skills – provide students with a definite explanation of the target skill you will be working on in the role play 2. Model the skills for learners – provide possible solutions based on the defined target skills and the examples given. 3. Role play – provide students with scenarios in which they experience winning and losing to see how they react. 4. Assess – ask questions to measure student understanding 5. Follow up – ask students to use the learned behaviours in physical education	L6

20	Olatunji (2014) Botswana Institute for educational leadership	To discuss the importance and need for consistent affective assessment and modality of using the data obtained through affective assessment to provide holistic educational experience to students.	International journal of progressive education.	Students and Educators	These activities done and integrated by educators will assist in teaching and assessing affective characteristics: Discussion, perspective sharing and reflection, open debates, peer involvement, role playing, problem based learning, engaging with role models, simulations, games, group analysis of case studies, appropriate use of multimedia to trigger responses and expert engagement	L6
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CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 INTRODUCTION

This chapter focuses on the fourth stage of the review process, namely, data analysis and follows the stages proposed by Whitemore and Knafl (2005): data reduction, data comparison, data display and drawing of conclusions and verification. The chapter ends with the presentation of findings and a summary.

4.2 DATA ANALYSIS STAGE

At this stage of the review, data points gathered from the individual primary studies are ordered, coded, categorised and reduced to reach an informed conclusion about the problem of interest. The goal is to have an unbiased approach capable of accurately representing the evidence gathered (Cooper, 1985; Russel, 2005).

4.2.1 Data reduction and display

Data were first categorised into quantitative, qualitative, mixed methods and expert opinions. The individual data from each of the articles were then reduced using a pre-determined data extraction tool. Important characteristics capable of explaining the study were retrieved and reduced for easy analysis and synthesis. Refer to **table 3.2** for the data matrix.

4.2.2 Data comparison

The codes generated from each individual primary study, as indicated in the data matrix, were examined and compared by the reviewers for similarities and differences. This was done through a systematic, attentive and careful examination of the codes in order to understand patterns and relationships between the codes (Whitemore & Knafl, 2005). Items that were similar were captured under one theme, with explanations under each sub-category. These were then presented in a table format for easy comparison (**Refer to table 4.1**).

Table 4.1: Themes

THEME	CATEGORY	SUB-CATEGORY
Teaching	Active participation	Simulation
		Role-play
		Dance-off
		Role-modelling
		Peer-involvement
	Reflection	Journaling
		Problem-based learning
		Photo-elicitation
		Videos
		Meditation
		Peer-group learning
		Reflective-dialogue
		Role-modelling
Assessment	Demonstrating affective skills	OSCE
		Simulation
		Journaling
	Measuring affective skills	Rating scale
		Rubric
		Checklist
		Framework
Impact	On teacher	Facilitating feelings of empathy, self-reflection and sensitivity among learners.
	On the student (1)	Embracing new values, increased empathy and open point of view, enhanced knowledge, professional abilities and competencies Negative impact: Unfamiliarity, lack of authenticity A challenge for students

4.2.3 Data conclusion and verification

The themes, categories and sub-categories generated were re-examined to ensure true reflection of the findings from the individual studies. The reviewers undertook frequent discussions and verification procedures to ensure that conclusions made were exactly the same as those made in the primary findings (**Refer to table 3.1 and 4.1**).

4.3 INTERPRETATION AND PRESENTATION OF FINDINGS

This is the final stage of the review following the Whitemore and Knafl (2005) framework. In order to follow and agree with the final conclusion drawn, Whitemore and Knafl (2005) suggest the results from the individual articles included in the review ought to capture the breadth and depth of the study.

The next section provides a detailed discussion of the review findings

4.4 FINDINGS

The review focused on gathering research evidence on the most effective ways of teaching and assessing the affective domain. Literature search was done using six databases (PubMed, SCOPUS, CINAHL, Science Direct, ProQuest and Google Scholar).

4.4.1 Study Characteristics

The review included five (5) qualitative studies, two (2) quantitative studies, two (2) mixed-method studies and eleven (11) experts, commentaries and reports. The qualitative studies used study designs such as qualitative exploratory and descriptive approaches four (4), with one (1) using grounded theory. The quantitative studies comprised a quasi-experimental design and a cross-sectional survey. Most of the expert opinion papers were individual to group commentaries, preceptors' comments and recommendations.

4.4.2 Study locations

The studies included presented data from several countries, namely South Africa, Australia, Sweden, United States of America, Canada, and Singapore.

4.4.3 Participants' characteristics

Participants included in the various studies ranged from practising nurses, student nurses, clinical supervisors, educators, preceptors, and clinical mentors.

4.4.5 Study journals

A variety of journals included nursing journals; the published studies were in different nursing education journals and other relevant journals. Journal of Professional Nursing (1), Nurses Education in Practice (2), South African Journal of Higher Education (1), Journal of Nursing Education (1), African Journal of Physical Health Education and Recreation (1), International Journal of Palliative Nursing (1), Australian & International Journal of Rural Education (1). The others were commentaries (2), expert opinions (8) and review journal (1).

4.5 THEMES

The synthesis of review findings on the best approach for teaching and assessing the affective domain of learning among nurses resulted in three (3) themes; six (6) categories and twenty-five (25) sub-categories. These among others are discussed in detail in the sections below.

4.5.1 Theme 1: Teaching

From the reviewed findings, teaching the affective domain can be achieved and categorised into two approaches or methods, namely, active participation and reflection.

4.5.1.1 Sub-theme: Active participation

Active participation as a means of teaching the affective domain of learning provides a medium to get students and preceptors involved in an activity. According to the synthesised findings, this can be achieved through simulation and debriefing (Batt, 2015; Donlan, 2018; Krause, 2016; Samalot-Rivera, 2018), role-modelling (De Swart et al., 2014), peer-group learning (De Swart et al., 2014),

discussions (Olatunji, 2014), exposure to performing arts (Samalot-Rivera, 2018), role-play (Donlan, 2018; Krause, 2016; Olatunji, 2014; Rakta, 2018; Samalot-Rivera, 2014), dance-off and games (Olatunji, 2014).

Simulation sessions, followed by debriefing exercises were also identified as teaching methods to assist students and preceptors with the development of affective skills (Batt, 2015; Donlan, 2018; Krause, 2016; Samalot-Rivera, 2018). For instance, simulation of emergency situations assists students and preceptors to assume leadership roles while simultaneously developing their affective skills. Debriefing sessions allow learners to reflect on their performances, make adjustments and discuss familiar and unfamiliar aspects of a simulation activity (Batt, 2015).

De Swart and colleagues' (2014), findings indicated that clinical role-modelling is an effective approach for developing the affective skills of students. Positive role-modelling activity shapes the attitudes and behaviours of students.

Peer-group learning, allowing students to work and learn from each other, was also seen as an effective approach for teaching the affective domain. While students are actively involved, they are able to shape their professional roles and identify themselves with the profession (De Swart et al., 2014).

Findings from five studies (Donlan, 2018; Krause, 2016; Olatunji, 2014; Samalot-Rivera, 2018; Samalot-Rivera, 2014) indicated that role play was an effective way of teaching the affective domain. Through active participation using these approaches to teaching, students are encouraged to adopt appropriate ways of behaving during challenging situations. The effectiveness of role-play as a teaching method includes well-formed and well-executed role plays that use debriefing and evaluation of their experiences. Educators also use role-play to teach students better ways to behave during difficult situations (Samalot-Rivera, 2014). However, this is dependent on how the role-play strategy is used. Findings from Samalot-Rivera (2014), suggested effective ways of using role-play to achieve better results. These included: defining and explaining the target skills, modelling the skills for learners, role-playing the activity, assessing by asking questions and finally, follow-up.

At certain times, exposing students to the performing arts is also seen as an effective way of teaching the affective domain while they become actively involved in the activity (Samalot-Rivera, 2018). Facilitators can also use a dance-off activity together with other concepts of learning to teach and assess students' affective skills (Listopad, 2019). The activity allows students to be active and share their individual experiences.

4.5.1.2 Sub-theme: Reflection

Reflection as a method of teaching the affective domain offers the learners the opportunity to think and internalise their experiences, responses, actions and feelings in order to learn from them. In this review, it was established that reflection can be done through reflective journaling (Donlan, 2018; Van Der Berg & Walker, 2014), problem-based learning (De Swart et al., 2014), photo elicitation (Linz, 2011), meditation (Sawyer et al., 2012), reflective dialogue (Chong et al., 2016; Krause, 2016; Newman & Forsyth, 2008), and role modelling (De Swart et al., 2014).

Two articles included in the study highlighted reflective journaling as one of the teaching methods that can be used by learners to reflect while developing their affective skills (Donlan, 2018; Van Der Berg & Walker, 2014). Reflective journaling assists students to reflect at all levels of the affective domain. Donlan (2018) indicated that reflective journals assist in examining values, feelings and attitudes.

Review findings from three studies also added that the use of reflective dialogue provides a good means for preceptors and students to both teach and learn affective skills (Chong et al., 2016; Krause, 2016; Newman & Forsyth, 2008). Reflective dialogue in clinical training, for instance, allows participants to learn by asking and answering questions, rather than only listening to an instructor's lecture. By so doing, students are able to participate, reflect upon their own practice and internalise their experiences while they learn alongside the activity (Krause, 2016). Reflective dialogue, a means to facilitate affective learning, offers preceptors and students the opportunity to discuss certain dilemmas and differing perspectives as well as to clarify certain values.

Engaging in problem-based learning was also identified as a means to reflect on an activity and develop the affective skills. De Swardt and colleagues (2014), identified the problem-based learning approach as a means to develop competencies in students. The use of properly formed scenarios that require a series of steps to uncover the right solution, help students to adapt to changing environments, manage problems and make informed decisions. The creative thinking abilities allow learners to appreciate one another's viewpoint and practice empathy.

Review findings from De Swardt and colleagues (2014) added that peer group learning also offers the student the ability to create and represent knowledge in different ways. As a result, students are able to evaluate how others have done something while at the same time come up with new knowledge that is beneficial to the nursing profession.

Teaching tips from Linz (2011) indicated that photo elicitation can also be used as a strategy to teach the affective domain. In such situations, a photo is displayed via power-presentation and then a response is elicited from the learners as they write down their feelings before a discussion session. This permits deep reflection, enhances observational ability and sharpens the ability to focus on visual details. This strategy also facilitates feelings of empathy, self-reflection and sensitivity among learners.

The use of videos is another effective method to teach the affective domain according to the findings by Listopad (2019). Watching a video facilitates emotional connection and understanding about how humans perceive things. In some situations, role-play can be used along with videos. Mindful meditation, according to findings from Sawyer and colleagues (2012) also acts as a useful teaching approach to assist students to temporarily disengage from distractions and focus inwardly resulting in increased awareness of thoughts, feelings and emotions.

Role modelling was identified by three (3) articles in this study as a method of teaching the affective domain in nursing. Students identify the approach as an important aspect that creates a positive learning environment. With role modelling, the supervisors and educators are able to share their experiences and day to day challenges to assist students in their learning. Role modelling

done during clinical training was reported to have an influence on empathy education amongst learners (Kangas et al 2018; De Swart et al., 2014; Samalot-Rivera, 2018).

4.5.2 Theme 2: Assessment

Methods for assessing the affective domain of learning were synthesised. These methods for assessment were further categorised into two (2) namely: **demonstrating the affective skills** and **measuring the affective skills**.

4.5.2.1 Sub-theme: Demonstrating the affective skills

Demonstrating the affective skills as a means of assessing the affective domain of learning according to the synthesised findings can be done through Objective Structured Clinical Evaluation, OSCE (Cazzell & Rodriguez, 2011) and journaling (Glennon, Hart & Foley, 2015).

Objective Structured Clinical Evaluation (OSCE) has been traditionally used in the health sciences field to assess the clinical competencies in health professions education. Through the OSCE exercise, students confirmed a positive effect on the affective domain (Carzzel & Rodriguez, 2011).

Reflective journaling was also seen as a means of assessment of the affective domain (Glennon, Hart & Foley, 2015; Van Der Berg & Walker, 2014). Journaling writing allows students to fully demonstrate their skills by expressing how they feel and their ideas about an activity.

4.5.2.2 Sub-theme: Measuring affective skills

From the synthesised findings, measuring affective skills was also a means of assessing the affective domain among students and practising nurses. This can be achieved through the use of rating scales (Andrusyszyn, 1989; Glennon, Hart & Foley, 2015; Rogers et al., 2018), an assessment rubric (Chong et al., 2016; Glennon, Hart & Foley, 2015), check lists (Andrusyszyn, 1989; Glennon, Hart & Foley, 2015) and frameworks (Ormandy & Stephens, 2019).

The rating scale was commonly used and seen in most of the review findings as a tool to measure the affective skills (Andrusyszyn, 1989; Glennon, Hart & Foley, 2015; Rogers et al., 2018). The Likert scale was the most commonly used rating scale to rate feelings and performance during an activity.

Findings from two studies (Chong et al., 2016; Glennon, Hart & Foley, 2015) indicated the use of assessment rubrics as an important method of measuring the affective domain of learning. The strategy allows students to understand their strengths and weaknesses and improve their critical thinking abilities.

The use of a reliable framework, according to the review findings, also offers an accurate and reliable approach for measuring the affective domain. Ormandy & Stephens (2018) found that a reliable tool in the form of a framework accurately measures the impact a learning activity has on the development of the affective domain. Students are able to embrace new values and attitudes and gain a broader perspective of nursing.

4.5.3 Theme 3: Impact

According to the review findings, the various means of teaching and assessment of the affective domain of learning have a profound impact on the user and the beneficiary. Assessing the affective domain by demonstrating and measuring the skills, equally impacted learners and teachers. They were categorised into: the impact on the teacher and the impact on the student.

4.5.3.1 Sub-theme 1: On the teacher

Academic staff in one review finding (Sawyer et al., 2012), indicated that the use of mindfulness meditation, a means of teaching affective domain through reflection, altered their approach to teaching in a positive way. The use of photo elicitation, a means of teaching through reflection, facilitated preceptors' feelings of empathy, self-reflection and sensitivity among learners (Linz, 2011).

Video sessions also enabled preceptors to resolve conflicts as they become emotionally attached and learn to empathise (Listopad, 2019).

4.5.3.2 Sub-theme 2: On the student

The use of frameworks as a means of assessing the affective domain enhances students' ability to embrace new values and attitudes (Ormandy & Stephens, 2019). They are able to understand working together as a team and have a broader perspective on nursing. The use of reflective journaling as an approach for teaching and assessment enables students to reflect at all levels of the affective domain (Van Der Berg & Walker, 2014). Reflective dialogue enables students to learn much about nursing practices by asking and answering questions rather than simply being spectators during the instructor's lecture (Neuman & Forsyth, 2008).

Simulation and debriefing allow the learner to reflect on their performance, discuss aspects of educative events that they were comfortable or uncomfortable with, and allows the individuals to analyse and assimilate the learning experience (Batt, 2015). The use of video recording of patients' stories, role modelling and exposure to literary and performing arts, help students to enhance empathy and achieve required affective skills (Rakta, 2018).

Glennon and colleagues' (2015), findings indicated that the use of journaling in assessing the affective domain learning gives students the chance and open platform to express their ideas and consider reflective questions.

4.6 SUMMARY

This chapter discussed data analysis and the presentation of findings of the review. The themes generated from this study were also discussed.

The next chapter will focus on the discussion of the findings, the limitations and conclusions of the study.

CHAPTER FIVE

DISCUSSIONS

5.0 INTRODUCTION

In this chapter findings obtained from the integrated literature review are discussed in relation to the research literature. Limitations of the study are discussed and a conclusion presented.

5.1 DISCUSSION OF FINDINGS

The aim of this integrated literature review was to retrieve and evaluate available literature on how best the affective domain in nursing can be taught and assessed. Three (3) themes were generated from the twenty (20) articles that met the inclusion criteria and answered the research question. The three themes were: teaching, assessment and impact as shown in table 4.1.in the previous chapter.

5.1.1 Teaching

The teaching theme had two categories: active participation and reflection.

- **Active participation**

This review found that physical activities such simulation, role-playing and dance-off are effective ways of teaching the affective domain. Simulation has been found to be an effective way of both teaching and evaluating the assessment domain. Simulation allows for student to experience close-to-real situations, learn from own mistakes and connect with their emotions and as such the students are better prepared to deal with real life situations because of the use of simulation. (Brown & Rode 2018) emphasise the view that simulation allows all students from first year of study to the final year to safely collaborate, give support and show empathy; and to closely identify with the clinical learning environment. As much as this is a good learning strategy the faculty must be on board to train staff and purchase equipment. Dubula (2018) agrees that the introduction of

simulation as a teaching and methodology of learning in South Africa has been relatively recent and that nursing education institutions (NEIs) have to invest in training courses and workshops in order for this strategy to be effective. The seminal work by Lasater (2006) makes it clear that learning in the affective domain occurs primarily during debriefing after the simulation, which, in turn means that nurse educators need to be skilled in this practice in order for affective learning to occur.

Role-playing in nursing allows students to place themselves in the position of the patient and as such they start thinking about the appropriate care that should be given and to empathise with the patient. For a roleplay teaching strategy to actually work, students need to be in the right frame of mind and be willing and able to actively participate. Classes of nursing students are often multi-generational and some students may not have been previously involved in role-playing and may find it difficult. It is therefore important for the nurse educator to create an environment that will support the students. While the study of McArthur et al (2016) found that role play offers the student a safe learning environment to practice various ways of reacting to certain situations and dealing with them, the nurse educator needs to be sensitive to the students' needs.

The last sub-category for the active participation category is the 'dance off'. This could be interesting as an activity but educators may have difficulty executing this method because dancing is not commonly used in the nursing field as a teaching strategy. It may be uncomfortable for some students to dance in front of the others, keeping in mind their ages and interests. What could make this method interesting is if students chose the kind of dance they would want to do and be given time to prepare. This could ensure that they will be ready and in turn, have fun; and as a result, emotions of happiness will be shared and the affective domain will be enhanced. Evidence from the study by Heiland (2018) supports the view that this strategy can be possible if the activities are interesting, age-appropriate, and are challenging and doable. The outcome or objective of the activity should be clear; whether it aims to achieve or whether it is purely an opportunity to release energy and de-stress, which may well be valuable.

- **Reflection**

Reflection has come top of the list from the articles reviewed as an effective method to assess the affective domain. Reflective journaling and reflective dialogue are the most commonly used by students. Through reflective dialogue students are able to learn and engage through open

discussion. The use of journal reflection allows students to document their learning experiences and reflect on their input and responses to the situation. Green & Batool (2017) emphasise that reflective journaling is convenient for teaching the affective domain because of its positive effect on the learner's motivation and learning approaches. For reflective dialogue to be effective, students have to understand one another. In South Africa, English is not the first language for the majority of students so there may be difficulties with the dialogue. Reflective journaling is a good method that works but privacy issues with student diaries may be a concern. Depending on the system used, the educators may have access to the diaries and students may be inhibited and therefore their writings may not be a true reflection.

The use of photo elicitation by educators is aimed at encouraging student nurses to get in touch with their emotions. Andrews et al (2018) agree that if a positive emotion is experienced with photo elicitation, the person will associate that positive emotion with what they experienced. Photo elicitation does not necessarily mean that the educator has to have photography skills or expensive equipment. Photos that already exist or are available on the internet can be used. The photo that illustrates the specific affective domain can then be uploaded on PowerPoint and students will be asked to write down their feelings and their perceptions of the photograph. This is then followed by a class discussion.

The use of videos has been found to be effective in teaching the affective domain. This finding is consistent with findings by Coon (2018) whose study revealed that the use of film will tap into the affective domain and student nurses will develop more emotional connection to the course. This method is doable because the students or the educator can actually use their own cell phones to take the video – state of the art equipment is not needed. Students can take a video while performing a skill like monitoring a high blood pressure while role-playing the nurse and the patient. They can view the video to assess whether they performed the skill correctly and to see if they demonstrated acceptable affective skills such as the attitude shown towards the patient during the procedure. They also get a chance to re-record the video until they get things right. This process is known as deliberate practice which has commonly been used with psychomotor skills training (Welch & Carter, 2018) but Li et al (2019) used it successfully to teach affective skills by combining simulation with the use of the Jefferson Scale of Empathy. McKendrick et al (2019) included mindfulness as a pre-briefing exercise to deliberate practice and found that this reduced

stress and improved performance. It was of interest to the researcher that one of the techniques found in the literature to improve the acquisition of affective skills, also improved performance in other areas of practice.

Another method that was found to be effective for teaching the affective domain is peer group learning. The study by Won & Choi (2017) supports the findings that peer facilitated learning enhances one's confidence, self-reflection and role modelling. Peer group learning is a good method as students get to learn from one another and improve without feeling intimidated. For students whose first language is not English this can be useful as they are less likely to be intimidated when speaking in class. This phenomenon was shown in a study by Yildiz & Piniel (2020) when they investigated what was termed a 'willingness to communicate'.

The findings from this review support the notion that role modelling by educators and supervisors during clinical training is another method of teaching that can be used to teach affective skills. DeFazio (2018) is in agreement with this finding as he concluded that nurse educators are in a better position to role model real life affective skills such as compassionate behaviours when dealing with patients. Some supervisors and educators, however, are not good role models and this problem needs to be addressed as one cannot make an assumption that they will always be positive role models. Exposure to negative role models can even lead to moral distress among student nurses (Hunter & Cook, 2019).

Evidence suggested by van der Riet et al (2018) is consistent with the findings of the study that mindfulness meditation not only lessened stress, negative thoughts and feelings but improved students' self-consciousness and their sleep patterns. The researcher does, however, have some concerns about using it in South Africa due to the many different belief systems as it may be seen as a spiritually evocative practice rather than a teaching strategy. The relationship between mindfulness, spirituality and subjective wellbeing has been demonstrated in Chinese society (Liu et al, 2019) and may well be a useful method to explore in the multi-cultural society of South Africa.

5.1.2 Assessment

The methods of assessment were categorised into two, namely, demonstrating affective skills and measuring affective skills.

5.1.2.1 Demonstrating the affective domain

From the study findings, simulation has been found to be one of the ways that assessment of the affective domain can be done through demonstration. Mano et al's (2019) study emphasises that assessing students through simulation enhances not only their cognitive skills but also improves their confidence and motivation. Simulation allows students to practice, not because they are forced to, but because they want to and care about what they are practicing. Simulation offers room for students to identify areas of improvement and opportunity to set attainable goals. With simulation they have the opportunity to do the same thing differently until they get it right; they are motivated to be persistent and are able to reflect on strengths and weaknesses allowing identification of the difficult areas in which improvement is needed.

Johnson, (2019) makes the point that although affective skills are said to be important in nursing, student nurses are often told what to feel, how to react and what to believe, rather than exploring their value systems. He found that simulation was useful in reversing this trend and that it was particularly useful in building self-efficacy.

Another method of assessment by demonstration that was synthesised from this study is the use of OSCE (objective structured clinical examination). Evidence that supports the use of OSCE to assess the affective domain is fairly weak. The researcher, however, recently came across a study by (Banni-issa et al. 2019) that suggested that OSCE is an important and meaningful assessment tool that covers not only the cognitive and psychomotor but also includes the affective domain. It would be useful to review existing OSCE tools that do not include assessment of the affective domain and remedy this deficiency without having to develop an entirely new tool. Gardner & Johns, (2019) did this by using videos within an OSCE to assess affective skills.

5.1.2.2 Measuring affective skills

The use of rubrics has been found to be an important method of measuring the affective domain. Evidence from the Kopp (2018) study supports the use of a grading rubric as it gives clear direction on the learning needs of students that leads to the ability to deliver safe, effective, and professional patient centered nursing care. As rubrics evaluate a large number of parameters they may challenge the validity and reliability of the assessment.

Check lists in this study were found to be useful for identifying the presence of certain behaviours. The use of a checklist was found in the study done by Dunbar (2018) to be challenging especially with aspects such as incorrect point deductions and a lack of deductions when indicated as well as human error.

Rating scales such as the Likert scale may encourage the “failure to fail phenomenon” as assessors become reluctant to assign a negative score and tend to choose a middle range score rather than have to explain why they gave a negative score. (Willemse, 2016)

5.1.3 The impact

Teaching and assessing the affective domain impacts on both the student and the teacher.

By teaching the affective domain the teacher connects emotionally with the students. One cannot teach something that one does not understand. It is difficult to explain emotions if you have not experienced them. Through the use of methods such as photo elicitation, reflection and mindful meditation, the preceptors feeling of empathy and self-evaluation are facilitated which has a positive impact on the teacher.

Green & Batool (2017) described the positive effect of using what they termed as “emotionalized learning” on students, which enhanced knowledge and assisted in changing attitudes and which led to them living a happy, healthy and meaningful life. Only if it were possible to conduct a longitudinal study, would it be possible to test this assumption but it is certainly a goal which would assist nurses and nursing.

From the findings gathered, students are impacted in both positive and negative ways. The use of simulation allows students to use deliberate practice which affects them positively as they get to improve on the goals they set for themselves. Through peer group learning they get to learn from each other and appreciate the value of team work. Students are negatively affected by OSCE assessment as they experience anxiety and there is lack of feedback. Another negative impact of OSCE was because of unfamiliarity with the tool and lack of authenticity.

5.2 LIMITATIONS OF THE STUDY

The limitations identified throughout the research review process are described below:

In this review the literature search was limited to a 10 year period with studies that were published from 2008 to 2019. A larger study may have elicited a broader range of articles but the limitation was due to the researcher's status as a part-time student.

Literature search was limited to studies published in databases: PubMed, SCOPUS, CINAHL, ProQuest, SCIENCE DIRECT. Google Scholar was used to source additional articles as part of the hand search. Articles published in other databases that may have had an influence on the review findings will have been missed.

As this study was a literature review, the researcher had to rely on what was stated in the articles which clearly represented the interpretation of the individual authors. A wider search may have found competing opinions on various issues.

The review included studies published only in the English language. There may have been relevant studies published in other languages which would have been missed.

5.3. RECOMMENDATIONS

5.3.1 Nursing education

As this review suggests useful methods that are not currently practised, or known by nurse educators, it is recommended that in-service training be held on the lesser used methods that have been shown to be useful. Their implementation would also require support from the management of nursing education institutions to use these methods and to assemble the required resources to do so appropriately. Training of staff on the methods to which they have not been exposed would be essential.

5.3.2 Clinical practice

The review indicated the importance of positive role models. As the clinical learning environment is often not conducive to teaching and learning, a concerted attempt should be made to support the professional nurses in the clinical learning environment and to encourage them to act as positive role models. One way of doing this may be to offer workshops and to include the very methods

identified in this study to improve affective skills of the clinical staff. If the NEIs were to take the initiative of offering these workshops it would also provide an opportunity to encourage team work between the NEIs and the clinical facilities.

5.3.3 Research

It is recommended that an intervention be designed to implement the teaching and assessment strategies identified in this study and that a pre- and post-test design be used to assess its effectiveness.

Further research in this field based in the sub-Saharan African countries should be done as the acceptability and impact of these methods may differ in culturally diverse environments.

5.4. CONCLUSION

The research question for this study was: “What are the most effective ways of teaching and assessing the affective domain in nursing ?”

This study has shown that, in order to be able to assess students on the affective domain, it has to first be taught. It is also evident that a variety of methods of teaching, learning and assessing the affective domain exist and that they should be used in combination. There is no “one-size-fits-all” answer to the question, but it is clear that effort put into the teaching and assessment of the affective domain will improve the quality of nursing.

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PERMISSION TO USE DATA COLLECTION TOOL (SPARBEL & ANDERSON, 2000)

FW: Permission to use tool

Sent: Wednesday, April 25, 2018 6:52 AM
To: Sparbel, Kathleen J <ksparbel@uic.edu>
Subject: RE: Permission to use tool
[Thank you very much](#)

From: Sparbel, Kathleen J [<mailto:ksparbel@uic.edu>]
Sent: Tuesday, 24 April 2018 7:32 PM
To: Nakedi Tshikanda <Nakedi.Tshikanda@netcare.co.za>
Subject: RE: Permission to use tool
This message originated from outside your organization

[Dear Nakedi,](#)

You definitely have my permission to use this tool. I have not done any psychometrics on the tool- it only has face and content validity as the categories I wanted to gather from the data. However, it met my purposes well, and hope it will be of value to you.

Best wishes with your research.

Sincerely,
Kathleen J.H. Sparbel, PhD, FNP-BC
Clinical Associate Professor
Director, Quad Cities Campus
UIC College of Nursing
Department of Health Systems Science
phone: (309) 757-9467, ex. 25 fax: (309) 757-9473

APPENDIX B

DATA COLLECTION TOOL (Sparbel & Anderson, 2000)

Author (s)	
Setting	
Year of publication	
Aim and objective	
Research design	
Population and sampling	
Data collection	
Data analysis	
Key findings	
Recommendation	

ETHICAL CLEARANCE



Ref: W-CP-200320-3

20 March 2020

TO WHOM IT MAY CONCERN:

Waiver: This certifies that the following research does not require clearance from the Human Research Ethics Committee (Medical).

Investigator: **Nakedi Tshikanda (student no 1592867)**

Supervisor: **Dr Sue Armstrong**

Faculty: Health Sciences

School: Therapeutic Sciences

Department: Nursing

Project title: **Best practices of teaching and assessment of the affective domain in nursing: an integrated literature review**

Reason: Literature review. A review of information in the public domain.

Dr Clement Penny

Chair: Human Research Ethics Committee (Medical)

Copy – HREC (Medical) Secretariat: Zanele Ndlovu, Rhulani Mkansi, Iain Burns & Mapula Ramaila