

Improving Assessment Inter-rater Reliability of a Nursing ePortfolio: An Integrative Review

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Abstract

Nursing Council of New Zealand (NCNZ) are responsible in ensuring all nurses are registered, competent, safe and fit to practice, to protect the health and safety of the New Zealand public. The approval of Professional Development and Recognition Programmes (PDRP) by NCNZ enable organisations to provide a programme whereby nurses demonstrate continuing competence and/or progression to a higher level of practice by successfully having a portfolio of evidence assessed. Assessments of portfolios are completed by trained assessors internally or externally to the PDRP approved organisation. This practice project aims to seek clarity and provide recommendations to improve assessment inter-rater reliability of nursing ePortfolio's.

An integrative review methodology framework developed by Whitemore and Knafl (2005) was used along with Braun and Clarke (2006) thematic analysis to support the data analysis process. The dataset comprised of 13 articles which were selected through a rigorous literature search process and then data analysis occurred. There are two main themes that emerged out of the data. Firstly, 'The Assessor' and what they bring within themselves which has the potential to influence the assessment process and outcome. The second is 'External Factors' which are independent of the assessor and occur due to the nature of the nursing portfolio requirements, process and outcome. The assessment of nursing portfolios is a very complex process. It is clear that the very subjective nature of a nursing portfolio and what the assessor brings with them impacts the assessment process throughout.

Assessment variability is inevitable due to the subjective nature of the evidence provided in a nursing portfolio. However, consideration of how to minimise this variability is important. By addressing, during training, what each assessor brings with them, acknowledging their own potential influences, biases and professional judgements, assessment reliability can be enhanced. Furthermore, inter-assessor discussion enables individual assessor's assumptions and diverse views to be explored leading to a consensus of judgement. Finally, it must be accepted that variability between assessors will never be removed completely and we can only try to implement recommendations that may narrow the gap.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Chapter 1: Introduction

1.1 Introduction

Nurses are required to demonstrate first and foremost they are competent and safe to practice when caring for the New Zealand public (Nursing Council of New Zealand, 2011). This is the responsibility of the New Zealand nursing regulatory body – Nursing Council of New Zealand (NCNZ). The approval of Professional Development and Recognition Programmes (PDRP) by NCNZ enable organisations to provide a programme whereby nurses demonstrate continuing competence and/or progression to a higher level of practice, by successfully having a portfolio of evidence assessed. Assessments of portfolios are completed by trained assessors internally or externally to the organisation administering and monitoring the PDRP.

My role at Waitematā District Health Board (WDHB) is Nurse Consultant for the PDRP. The purpose of my role is to lead this programme for WDHB nurse employees and nurses whom we have external partnership agreements with, whether they are individual contracts or memorandum of understandings with other small organisations within our region. This includes leading the processes around policies, procedures, reporting, updates and guidance using proactive and dynamic professional leadership. My involvement is provided at a local, regional and national level. I focus largely on the maintenance of professional standards, the development of professional practice and the development of the professional workforce for all nurses and other parties involved in this process. My own professional registered nurse experience over the years has taken me on a journey where I have been involved and engaged in the PDRP for myself personally or where I have had to support others with portfolio development, professional growth and development.

The research question for this practice project is:

How can inter-rater reliability be improved in nursing ePortfolio assessments?

This practice project explores and critically examines how inter-rater reliability between assessors can be improved in the assessment of nursing ePortfolio's. The way to explore this was influenced by an interpretive paradigm and worldview whereby I have attempted to understand the topic and phenomena through the eyes of others. An integrative review methodology framework developed by Whitemore and Knafl (2005) was used along with Braun and Clarke (2006) thematic analysis to support the data analysis process. The

dataset comprised of 13 articles which were selected through a rigorous literature search process and then data analysis occurred to form and establish research findings, and additionally, a discussion regarding the findings and recommendations are presented.

Portfolios have been traditionally paper-based however in the last five years there has been a focus on the use of technology to development and implement 'electronic' portfolios leading to a large number of ePortfolio platforms being used and marketed (Nurse Executives of New Zealand Inc., 2017). For the purpose of this practice project 'portfolio' refers to the collection of evidence provided by the nurse regardless of its format – paper or electronic. The use of 'ePortfolio' in this practice project highlights when I am specifically referring only to an electronic system. It is important to note that whether the portfolio is paper based or electronic the same process occurs whereby the nurse provides evidence to demonstrate their nursing competence and /or their nursing practice at a higher level and an assessor assesses this evidence to provide a final outcome.

The assessment process of a nursing portfolio is a fundamental element of the whole process. By completing this practice project and identifying key recommendations I plan to incorporate these into the WDHB PDRP to endeavour to improve assessor consistency and inter-rater reliability of nursing ePortfolio assessments.

1.2 Outline of Practice Project

This practice project consists of five chapters. Each chapter provides a different phase of the research process. These are outlined below:

Chapter one has introduced the practice project topic and its aim, outlines research methodology and its relevance to current nursing practice.

Chapter two provides background information to support this practice project and research topic. It focusses on understanding the New Zealand nursing regulatory authority, PDRPs in general and specifics regarding WDHB including their transition to an ePortfolio system.

Chapter three explains how this research has been conducted; presenting an overview of the methodology and methods used and justifies using Whittemore and Knafl (2005) integrative review framework including the inclusion of Braun and Clarke (2006) thematic analysis process.

Chapter four presents the findings from the integrative review and thematic analysis. Two main themes emerged through the data analysis; 'The Assessor' and 'External Factors' as well as subthemes.

Chapter five provides discussion following the findings in relation to the research question. Recommendations are made to improve inter-rater reliability for nursing ePortfolio assessments as well as research limitations and future research ideas.

Chapter 2: Background

2.1 Introduction

The purpose of this chapter is to set the scene and provide background information to support this practice project and research topic. This chapter will focus on giving the reader an understanding of the current legislation, nursing's regulatory authority and PDRP in New Zealand. The following topics will be discussed and presented: professional oversight, PDRPs in general, WDHB PDRP specifics, and WDHB transition to an ePortfolio system.

2.2 Professional Oversight

The nursing profession is overseen by the regulatory authority, NCNZ, as specified under the Health Practitioners Competency Assurance Act (2003). Nursing Council (NZ) are responsible in ensuring all nurses are registered, competent, safe and fit for practice so the health and safety of the New Zealand public is protected (Nursing Council of New Zealand, 2011; Sinclair, Bowen, & Donkin, 2013). Nursing Council (NZ) does this by defining scopes of practice for all nurses on their register whether they are Enrolled Nurses, Registered Nurses or Nurse Practitioners (Sinclair et.al., 2013).

Nursing Council (NZ) has two processes to ensure nurses are demonstrating continuing competence. Firstly, administered directly through NCNZ five percent of nurses yearly are randomly selected to complete a recertification audit under section 41 of the Health Practitioners Competence Assurance Act (2003) to ensure nurses meet the continuing competence requirements. Secondly, also under section 41 of the Health Practitioners Competency Assurance Act (2003), NCNZ approves PDRPs as recertification programmes to certify nurses are safe and competent to practice (Nursing Council of New Zealand, 2013). Nurses who demonstrate continuing competence by successfully having a portfolio assessed via a PDRP are exempt from the recertification audit process that NCNZ oversee and manage directly.

Literature provides many different definitions of competence; from one end of the spectrum considering it is seen as a measurable and objective concept (McCready, 2007) to the other end where an intuitive understanding of any situation is enhanced by depth in awareness of professional knowledge and experience (Bacon, Holmes, & Palermo, 2017; Green, Wyllie, & Jackson, 2014; Karsten, 2012; Sinclair et al., 2013). Milligan (1998)

states that when assessing competence “it should be defined in the context within which it is to be used” (p.278). Therefore, for the purpose of this practice project I will use the definitions stated by NCNZ. Nursing Council of New Zealand (2011) defines competence as “the combination of skills, knowledge, attitudes, values and abilities that underpin effective performance as a nurse” and competent as “the person has competence across all domains of competencies applicable to the nurse at a standard that is judged to be appropriate for the level of nurse being assessed” (p.12).

2.3 Professional Development and Recognition Programmes

Professional development and recognition programmes are defined by Sinclair et al., (2013) as a “competence-based programme that assesses nursing practice against competencies, recognises level of practice and supports on-going professional development” (p.36). Due to the two processes NCNZ administer and approve, all employing organisations are not required to provide a PDRP, however, it is important to note that all District Health Board’s and some larger organisations do deliver such programmes within New Zealand.

Each individual organisation requests approval from NCNZ to develop, implement and deliver a PDRP ensuring they meet the standards and requirements and have the systems in place to enable an effectively run programme. Waitematā DHB has an approved PDRP. Nursing Council (NZ) approval means that the programme has met NCNZ standards for PDRPs and nurses are assessed to meet the continuing competence requirements. PDRP requirements are different from NCNZ administered recertification audit requirements in that they look at more than just a competent level of practice. PDRPs support individual nurses to develop their practice and also to recognise additional contributions made by nurses to the workplace. Carryer, Russell and Budge (2007) support this notion by stating the following “the PDRP process not only ensure that nurses are achieving competency standards deemed necessary for safe practice, they are also used as a mechanism for acknowledging and rewarding achievement and progress to higher levels of practice” (p.6). The framework used to explain a nurse’s progression of performance is that of Benner (1984) and her novice to expert continuum. Benner (1984) identifies that nurse’s move through five stages regarding their development and achievement of knowledge and skills. These stages are defined by Benner (1984) as: novice, advanced beginner, competent, proficient, and expert. PDRPs expects nurses to compile and submit a professional portfolio of written evidence to demonstrate how they met NCNZ competencies relative to their applying for level of practice (Butler, 2006; Carryer et al., 2007; Ryan, 2011). Levels

of practice within PDRPs are known for Registered Nurses as Competent (Level 2), Proficient (Level 3), Expert (Level 4) and Designated Senior Nurse and for Enrolled Nurses as Competent (Level 2), Proficient (Level 3) and Accomplished.

The use of portfolios as a means of assessing competent practice is being used among many professions within New Zealand and worldwide. This process has been in place since 2004 for nursing in New Zealand with minimal changes to content required over time, so one can only assume that portfolios do enable the nurse to demonstrate competent practice. Some literature however disputes this, suggesting evidence is lacking to support whether the use of a portfolio is an effective method to determine and measure competence in practice (Evans, 2008; Green et al., 2014; Scholes, Webb, Gray, Endacott, Miller, Jasper & McMullan, 2004). Literature indicates a portfolio is an individual's collection of evidence to demonstrate their on-going professional competence, learning, growth and on-going development (Evans, 2008; Ryan, 2011). Specific to nursing within New Zealand, Nurse Executives of New Zealand Inc. (2017) defines a portfolio as “a collection of selected evidence that articulates how in day to day practice the nurse consistently demonstrates achievement of the competencies at the level of practice submitted” (p.13). The assessment of a portfolio occurs within the organisation administering the PDRP. The assessment of a nurse's portfolio must conform to both the NCNZ continuing competence conditions and the National Framework and Evidential Requirement: New Zealand Nursing Professional Development & Recognition Programmes for Registered and Enrolled Nurses (2017).

2.4 Waitematā District Health Board

The PDRP within WDHB supports approximately 3000 employed nurses and additional nurses working with external partners that we have memorandum of understanding agreements. Approximately 700-800 portfolios are submitted per year. Each nurse is expected to submit a portfolio on a three-yearly cycle or earlier if they choose to apply and be recognised for the next level of practice. To support the assessment process WDHB has approximately 100 assessors. To ensure nurses present the correct evidence for assessment WDHB provide the portfolio evidential requirements for each level of practice (Appendix A). Guidance and support are available in the form of written resources, video guides and face to face contact with many people such as Nurse Educators, Clinical Coaches, Charge Nurse Managers, Team Leaders, other senior nursing staff and in my role as the PDRP Nurse Consultant. There is a criterion which must be met to become a

WDHB portfolio assessor. The assessor is required to be an Expert or Designated Senior Nurse and be supported by their direct line manager and their Associate Director of Nursing, Clinical Nurse Director or Head of Division for their service. They must hold a current portfolio, agree to complete 6-8 portfolio assessments per annum and ensure portfolio assessments are completed within a 6-week turnaround (Waitematā District Health Board, 2019).

In-house training takes place for all new assessors and addresses the following topics of legislation, NCNZ requirements, portfolio evidential requirements, assessment principles, process and workflow, assessor expectations and documentation requirements. To understand what is required at each level of practice and to support their assessment, assessors use the nationally agreed level of practice definitions (Appendix B and C). The principles for portfolio assessment as stated by NCNZ are incorporated into the training day and these are accountability, ethical assessment, validity and reliability of assessment and evidence-based assessment (Nursing Council of New Zealand, 2011). The terms validity (the assessment method measures what it is supposed to measure) and reliability (it measures this consistently over repeated measurements under identical conditions) are highlighted as important principles for assessing the practice of other nurses by NCNZ (Nursing Council of New Zealand, 2011). Post training each new assessor is allocated a portfolio to assess. I am available to support them throughout the process and on completion of their first assessment a meeting occurs to discuss their assessment, review their documentation, explore any difficulties and answer any concerns or queries. Subsequently the next three portfolio assessments are reviewed by me. I am also available and provide on-going support and guidance for all trained assessors as and when required.

The process is somewhat different for nurses applying for recognition of Accomplished Enrolled Nurse or Expert Registered Nurse level of practice. These portfolios can only be submitted twice a year (April and October) and a designated, specifically chosen panel of experienced assessors assess these portfolios. We have approximately 20 assessors that are members of this panel. Each portfolio is assessed by an individual panel member. If the portfolio is lacking evidence the assessor can request a further second assessment to justify and confirm their findings. The panel meets post assessment whereby each portfolio is discussed confirming whether evidence meets the requirements or not. Following this meeting the nurses are invited to a 'post assessment discussion' to support further exploration of evidence if required and confirmation of a successful outcome. For those

nurses that have not met the required standards, a meeting occurs. They are informed of the outcome; the assessors provide feedback and discuss possible resubmission at a later date where appropriate.

2.4 ePortfolio Shift

Preparing a paper-based nursing portfolio along with the assessment process it was felt that the system was inefficient, unsustainable and time consuming for all involved participants. It is recognised that nurses presenting their evidence want a user- friendly streamlined system which is accessible and easy to use. For managers the system needs to support them to carry out meaningful appraisals to support and encourage their nursing team's on-going individual development and growth. Alongside this, the system needs to be simplified especially by reducing the time it takes for the assessor to complete the assessment process. Therefore, due to the many factors that affects the paper-based nursing portfolio process a recent project within WDHB commenced to shift to an ePortfolio system.

The aim of this shift from the current paper system to an electronic portfolio system is to ensure nurses are supported through the stages of portfolio preparation to submission, improve processes for managers and assessors, decrease the administrative load and provide easier access for all. This is supported by Green et al., (2014) who state "ePortfolio's also have a major advantage over traditional portfolios due to their portability and adaptability as the text and artefacts are able to be held in a central repository where they can be assembled electronically and manipulated and re-versioned to suit differing audiences" (p.5). Further benefits of introducing an ePortfolio system is to ensure protection of nurses personal and professional information and provide a system that is easily accessible and available from anywhere there is internet access (Thompson, 2011).

Waitematā DHB has been in a transition of change with the implementation of an ePortfolio system, which was launched in March 2019. Prior to the launch a pilot project took place to enable the project team to trial the system and then evaluate and adapt where necessary before a full roll out to all WDHB nurse employees. Overall, feedback to date has been positive and supports the transition to an ePortfolio system. There have been improvements to the process, time taken, workflow, privacy and confidentiality for all parties involved.

2.5 Summary

This chapter has established and provided clear understandings of the multifaceted environment which makes up the whole process to ensure a nurse is competent and fit to practice whilst caring for our public, alongside, how to recognise and acknowledge their continuing development of professional knowledge and skills. WDHB recognises the significance of ensuring each nurse provides competent and safe nursing care and acknowledges nurse's time bound constraints. Therefore, by developing and implementing an ePortfolio system nurses would be able to meet their continuing competence requirements without difficulty.

Chapter 3: Research Methodology and Method

3.1 Introduction

This practice project aims to seek clarity and recommendations of how to improve inter-rater reliability between assessors when completing nursing ePortfolio assessments. The methodology consists of a group of ideas and principles that set out to inform the research design whereas the method refers to the practical aspects of data collection, analysis and interpretation carried out to answer the research question (Creswell, 2009).

This chapter presents an overview of the methodology and methods used; and validates the choice to use an integrative review developed by Whittemore and Knafl (2005) for this practice project. I know and understand the importance of ensuring nurses are competent and fit to practice due to stated legislated requirements. This is confirmed by the nurse compiling an ePortfolio of evidence that a trained assessor then assesses. Further exploration is required to understand the assessor's process and decision-making that occurs; along with how to improve inter-rater reliability between assessors. This needs a methodology that supports me to look for and understand the actions and interactions that take place subjectively, recognising the impact on human behaviour.

3.2 Philosophy

Interpretivist paradigm is based on the belief that within our social world multiple realities exist (Houghton, Hunter & Meskell, 2012). As Lever (2013) suggests "the interpretive paradigm focuses mainly on recognising and narrating the meaning of human experiences and actions" (p.3). An interpretive researcher attempts to understand phenomena through accessing the meanings participants assign to them providing deeper understanding of human experience instead of trying to generalise the findings to other people and other contexts (Creswell, 2009; Rahman, 2017). Therefore, one can assume that reality differs for everyone and interpretivism attempts to understand the social world through the eyes of the people experiencing a phenomenon.

"Ontology is the study of being" (Crotty, 1998, p.10) and is concerned with concepts of reality and existence (Hammond & Wellington, 2013). The question a researcher needs to ask themselves as suggested by Lever (2013) is "do things exist independently of our mind, or is our work something constructed from our thoughts?" (p.2). A realist ontology view adopts the thinking that reality should exist independently of the human mind (Lever,

2013) and a relativist ontology view suggests reality is subjective and “nothing exists outside of our thoughts” (Lever, 2013, p.2). Furthermore; ontology supports the epistemology, which is the study of knowledge, what can be known and in other words “how we know what we know” (Davidson & Tolich, 2003, p.25). I hold a relativist ontological viewpoint which reinforces the epistemological approach and interpretivist paradigm suggesting that individual experiences can have many interpretations instead of a finite truth which is defined by a process of measurement.

3.3 Integrative Review Methodology

Research methodology describes the broad philosophical view of the researcher to inform the research design by providing principles and procedures to guide the researcher (Creswell, 2009; Grant & Giddings, 2002). Choosing an interpretive paradigm enables me to seek to understand and interpret the meanings others have about the world and specifically in regard to the research question posed for this practice project.

An integrative review was selected as it enables the inclusion of both empirical and theoretical literature to be analysed with the goal of providing broad understanding and recommendations on the particular topic and phenomenon (Whittemore & Knafl, 2005). The integrative review enables many perspectives to be considered within the phenomenon being explored and has the potential to enhance nursing practice and science (Whittemore & Knafl, 2005).

In this practice project, the integrative review methodology framework developed by Whittemore and Knafl, (2005) will be applied. There are five stages in this approach that include problem identification, literature search, data evaluation, data analysis (incorporating the thematic analysis method at this point) and presentation. Thematic analysis developed by Braun and Clarke (2006) was incorporated in the data analysis stage to provide a clear and rigorous process. The integrative review process is explained in further detail below including how I undertook each step.

Problem identification

At the outset it is important to be able to identify the problem at hand. Whittemore and Knafl (2005) state “a well specified research purpose in an integrative review will facilitate the ability to accurately operationalise variable and thus extract appropriate data from primary sources” (p.548). This initial stage was necessary to formulate the research question, the project aim, purpose and research methods, and useful for developing the

scope and review purpose of this project. Nurses are required to compile a portfolio of evidence every three years so they can be deemed at least competent or acknowledged for achievement of a higher level of practice. This is guided by legislation and overseen by NCNZ who are responsible to ensure all nurses are safe, competent and fit to practice (Nursing Council of New Zealand, 2011). Internally trained assessors who are nurses themselves support the assessment process and provide the portfolio submitting nurse with a final outcome of the level of practice that they meet. The emphasis of this integrative review was to review data focused on assessors completing assessments to gain clarity and recommendations of how to improve inter-rater reliability in nursing ePortfolio assessments.

Literature search

The purpose of this stage was to gather data for this integrative review. Whittemore and Knafl (2005) state “well-defined literature search strategies are critical for enhancing the rigour of any type of review” (p.548) and “the literature search process of an integrative review should be clearly documented in the method section including the search terms, the databases used, additional search strategies, and the inclusion and exclusion criteria for determining relevant primary sources” (p.549). By following a clear literature search process, I am able to justify the sampling decisions made. I included a search strategy, inclusion & exclusion criteria, data reduction process and implementation of a quality appraisal tool. The literature search process is further discussed in detail to show exactly what was undertaken. This can be found in the research method section of this chapter.

Data evaluation

To ensure a successful integrative review, the literature needs to be of a high quality following an organised and thorough process (de Souza, de Silva & de Carvalho, 2010; Whittemore & Knafl, 2005). To seek answers and recommendations of how to improve inter-rater reliability of assessors it is important that the quality of literature both from a theoretical and empirical knowledge stance is observed. This subsequently then determines their relevance to practice and future directions (Whittemore & Knafl, 2005). Data evaluation is an essential process in any integrative review to ensure the reviewer is organised, accurate data collection occurs whereby reducing the potential for bias and error (Whittemore & Knafl, 2005). A quality appraisal process is required to ensure a detailed and systematic integrative review is undertaken. Whittemore and Knafl (2005) define this as one of the stages in their process, however there is no specified quality

appraisal tool recommended as gold standard. In consultation with my supervisor, we decided to use the Critical Appraisal Skills Programme (CASP) tools to assess the quality, relevance and trustworthiness of each article. The CASP has developed a group of critical appraisal tools covering a broad range of research and study designs (Hopia, Latvala & Liimatainen, 2016). Hopia et al., (2016) stated the CASP tool has the “ability to provide a comprehensive checklist that enables the reviewer to assess the methodological quality of the paper and make a judgement about its suitability for inclusion in the review” (p.666). I used the CASP tools to evaluate the quality of the final 13 articles instead of using it to eliminate any further articles from the final number. The guidelines provided when completing a CASP checklist are the following: there are 10 questions, the first two questions are screening questions and can be answered quickly. If the answer to both is “yes”, it is worth proceeding with the remaining questions. Appendix D is an example of one CASP tool that I completed for the following article – Scholes, Gray, Endacott, Miller, Jasper and McMullan (2004), *Making portfolios work in practice*. The quality assessment rating for each article can be viewed in Table 3: Summary of articles in the research methods section of this chapter.

Data analysis

The goal of the data analysis stage as stated by Whitemore and Knafl (2005) is to produce “a thorough and unbiased interpretation of primary sources, along with an innovative synthesis of the evidence” (p.550). This is achieved by ensuring the primary data is interpreted objectively following arranging data into common themes and summarising the findings in relationship to the research question (Whitemore & Knafl, 2005). In consultation with my supervisor it was decided that I use a thematic analysis approach as developed by Braun and Clarke (2006) to facilitate my data analysis. A thematic analysis is a systematic and flexible research approach, identifying themes from the data and enabling new insights and answers regarding the research question (Braun & Clarke, 2006). The thematic analysis process is further discussed in detail in the research method section of this chapter.

Presentation

The purpose of the final stage ‘presentation’ is to examine, discuss, and provide a final overview of the findings whereby the final outcomes and recommendations can be subsequently applied into practice (Whitemore & Knafl, 2005). An effective presentation can assist and enhance the process and final outcomes of the integrative review

(Whittemore & Knafl, 2005). The sharing of such findings and outcomes is vital to on-going knowledge and contribution to the improvement of practice and research (Russell, 2005). In this integrative review, Chapter 4 consists of the findings through the thematic analysis process undertaken, and Chapter 5 provides discussion and recommendations to be considered that are pertinent to current practices and future direction in improving inter-rater reliability of assessors when assessing nurses ePortfolio's.

3.4 Research Method

This section goes into greater detail regarding the two stages of Whittemore and Knafl (2005) integrative review process – the literature search and data analysis. The literature search section refers to the process I undertook regarding the actual data collection and includes the literature search strategy, inclusion and exclusion criteria, data reduction process, and the quality assessment method to determine relevant primary sources. The data analysis section describes the procedure I undertook using thematic analysis developed by Braun and Clarke (2006).

Literature search

Search strategy:

Whittemore and Knafl (2005) state “well-defined literature search strategies are critical for enhancing the rigour of any type of review because incomplete and biased searches result in an inadequate database and the potential for inaccurate results” (p.548). For the purpose of this literature search, Scopus and CINAHL databases were used to search for relevant articles because of their relevance to the subject under review. Both databases are extensive, well known and recognised as reliable/trustworthy within healthcare and specifically nursing. Alongside the electronic database searches some additional records were identified through other sources which included previous searches, manual searches within journals and references lists. Portfolios were first introduced to assess continuing competence in nursing in the early 2000's, therefore; articles dated 2000-2019 were included. The search was also limited to English only and access to the complete article was required.

Search terms included: Portfolio, Nurs*, Assess*, Assessor, ePortfolio and e-portfolio. The search terms individually were determined to be very broad and therefore a combination of these terms was chosen as displayed in Table 1:

Table 1: Search terms

Search terms
Portfolio + nurs* + assess*
Portfolio + nurs* + assess* + assessor
Portfolio + nurs* + assess* + ePortfolio
Portfolio + nurs* + assess* + e-portfolio

Subsequently, what became evident within both database searches was that the first combination (Portfolio + nurs* + assess*) identified the largest set of records and when using a different combination those articles were already in the first combination. It was important to ensure a broad and diverse database search took place to ensure the articles chosen were a true representation of the sample and relevant to the practice project topic.

Inclusion and exclusion criteria:

The inclusion and exclusion criteria, which are essential for obtaining the relevant articles, are shown in Table 2 below:

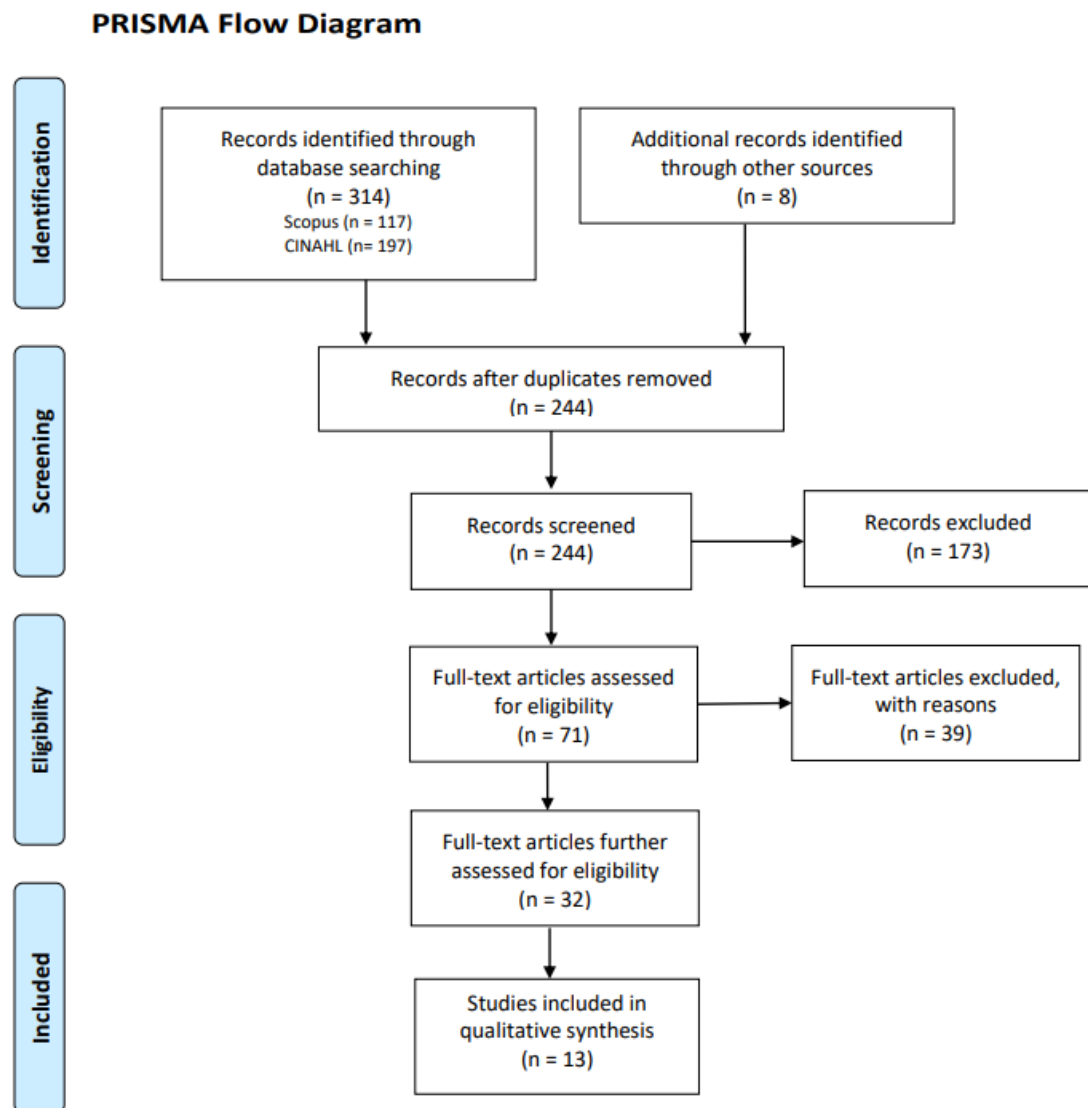
Table 2: Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Published between 2000 - 2019	Implementation of ePortfolio process only
Pre & post nursing registration	Portfolio used for learning and development purposes only
Portfolio used for assessment process	Full content of articles not available
Assessors required to provide assessment outcome	No discussion regarding assessor's assessment process or recommendations for this process
Other professions where portfolios are used for assessment process	Development of portfolio evidence from learner/nurse/submitter

Data reduction process:

The PRISMA flow diagram below shows the data collection process.

Figure 1: PRISMA Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

A total of 314 articles were identified through the database search and eight additional records were identified through other sources which included previous searches and the viewing of reference lists of the selected articles. The records identified were then manually viewed and duplicates were removed. Following the removal of 78 duplications a total of 244 articles were all screened by reviewing their abstracts to ascertain if it was

relevant or not to the research question. Those excluded (n=173) left me with a total of 71 articles. These 71 articles were then read and decided if relevant using the inclusion criteria and referring to the research question. Each article was given an explanation and rational behind its inclusion or exclusion leaving a total of 32 articles for deeper review. I then re-read the 32 articles referring to the inclusion criteria and the research question once again and came to a final 13 articles.

Quality assessment process:

A quality assessment process took place using CASP tools to ensure their quality as explained in the data evaluation section above. The final articles were identified and confirmed through careful application of the inclusion and exclusion criteria, and the quality evaluated through the use of the CASP quality assessment tool. Table 3: Summary of articles below provides detail regarding each one of the 13 articles and provides the quality assessment rating.

Table 3: Summary of articles

	Authors (Year), Country	Methodology / method	Key findings	Where inclusion criteria were met	Quality assessment rating
1	Bacon, Holmes, & Palermo. (2017). Australia	Mixed method. Participants received pre and post process a mixed method questionnaire which included a validated 7-point visual analogue scale rating. Scales were analysed descriptively, and qualitative responses coded for key themes using a thematic analysis method.	No agreement was found in assessors' rating in either the pre-test or post-test; however, the discussion led 78% of participants (20/26) to change their VAS Ratings and/or confidence levels. Three themes emerged of the participants' global descriptions of performance: 1) Discourse supports assessors to justify their judgements, identify assumptions and learn from the observations of others. 2) Discourse leads assessor to more holistic judgements. 3) Multiple sources of evidence and student reflections are necessary for credible judgement.	Selected time frame. Dieticians. Assessor required to provide assessment outcome.	9/10
2	Webb, Endacott, Gray, Jasper, McMullan, & Scholes. (2003). UK	Qualitative. Drawing on multi-method case study data from a previous study evaluating the use of portfolios in the assessment of learning and competence in nursing education in England.	Nature of data collected in portfolios means not possible to apply concepts of validity and reliability without close specification of detailed and objective criteria for grading the evidence. Subjectivity will not be eliminated – inevitable that professional judgements are involved in assessing student competence. Use of a qualitative research evaluation criterion offers a potentially productive way forward in evaluating portfolio assessment processes but some aspects of current practice need to be tightened, particularly double marking, internal moderation and external examining.	Selected time frame. Nursing – both pre & post registration programs. Portfolio used for assessment process. Assessor required to provide assessment outcome.	7/10
3	Bloxham, den-Outer, Hudson, & Price. (2016). UK	Qualitative. Kelly's repertory grid method used to identify the way a person interprets their experience.	The results imply that, whilst more effective and social marking processes that encourage sharing of standards in institutions and disciplinary communities may help align standards, assessment decisions at this level are so complex, intuitive and tacit that variability is inevitable. They conclude that Universities should be more honest with themselves and with students, and actively help students to understand that application of assessment criteria is a complex judgement.	Selected time frame. Nursing profession is part of overall research group – focus on undergraduate programmes. Portfolio used for assessment process. Assessor required to provide assessment outcome.	8/10
4	McCready. (2007). UK	Literature Review.	Results: Results highlight the importance of clear guidelines for portfolio construction and assessment, the importance of tripartite support during portfolio development and guidelines for qualitative assessment. Where the portfolio process is well developed there are clear links to competence in practice. Conclusions: The evidence on portfolios as a means of assessment continues to expand. If educators take on board the lessons learned from previous research and apply it to their assessment process, the difficulties found at present, in defining and measuring competence may be reduced.	Selected timeframe. Nursing – pre & post registration. Portfolio used for assessment process. Assessor required to provide assessment outcome.	7/10

5	Johnson. (2008). UK	Qualitative – uses Cultural Historical Activity Theory (1978).	<p>By using a Cultural Historical Activity Theory to explore a theoretical position suggesting that assessors' judgments are influenced or framed within the context of their experience and differing perspectives.</p> <p>The four key values that were identified in the data and which appeared to inform assessor practice were:</p> <ol style="list-style-type: none"> 1) a sympathetic and contextualised view of the whole learner. 2) respect for supportive and positive relationships. 3) valuing professional trust. 4) a commitment to care. 	Selected timeframe. Related to the Health and Social Care sector which nursing is part of. Undergraduate focus. Portfolio used for assessment process. Assessor required to provide assessment outcome.	8/10
6	McMullan, Endacott, Gray, Jasper, Miller, Scholes, & Webb. (2003). UK	Literature review.	<p>A holistic approach to competence seems to be compatible with the use of portfolios to assess competence in nursing students, but the concept and its implementation is still evolving.</p> <p>Essential components of portfolio development are clear guidelines, reflection on clinical practice and the student-teacher relationship.</p> <p>Assessor's professional judgement will enter into the assessment inevitably.</p>	Selected timeframe. Nursing – pre registration Portfolio used for assessment process. Assessor required to provide assessment outcome.	7/10
7	Scholes, Webb, Gray, Endacott, Miller, Jasper, & McMullan. (2004). UK	Qualitative. Part of a two-year study Involved interviewing and observing a range of stakeholders. Thematic Analysis was used.	<p>Three themes emerged:</p> <ol style="list-style-type: none"> 1) Closing the loop: preparation, experience and feedback. 2) Round pegs in square holes. 3) Evolving practice and portfolio use. <p>There needs to be a clear fit between the model of portfolio and the professional practice that is to be addressed.</p>	Selected time frame Nursing – both pre & post registration Portfolio used for assessment process. Assessor required to provide assessment outcome.	8/10
8	Pitts, Coles, Thomas, & Smith. (2002). UK	Qualitative. Used kappa statistics to measure inter-rater reliability of assessor's initial independent judgements and then examine how open discussion between random pairs of assessors would influence reliability.	Results showed that discussion between assessor increase reliability above the levels often achieved in assessments of professional competence, and is an improvement on individual assessments.	Selected time frame. General Practice trainers. Portfolio used for assessment process. Assessor required to provide assessment outcome.	8/10
9	Baume, Yorke, & Coffey. (2004). UK	Qualitative. Use of previously marked portfolios (as wanted to avoid the risk of interfering with live assessment processes) – assessors made written comments item by item about their assessment judgements during assessment process.	<p>Uncertainties in judgement – technical judgements were much less problematic than judgements on values. Evident that an internal debate can occur for the assessor at times.</p> <p>Assessors have to make justifications of their assessment outcome – these reflected the criteria however some gave the participant the benefit of the doubt.</p> <p>Findings highlight areas of agreements and disagreements among assessors throughout the assessment process.</p>	Selected time frame. Open University 30-point Master's level course. Portfolio used for assessment process. Assessor required to provide assessment outcome.	9/10

10	Pitts, Coles, & Thomas. (2001). UK.	Qualitative. Used kappa statistics. Assessors examined a group of portfolios on two occasions, on month apart. Each portfolio was judged by the assessors against six criteria, a global rating, and the usage of the guidance framework.	Reliability of individual assessors' judgements (i.e. their consistency was moderate, but inter-rater reliability did not reach a level that could support making a safe summative judgement. The conclusion still remains that while portfolios might be valuable resources for learning, as assessments tools they should be treated as problematic.	Selected time frame. General Practice trainers. Portfolio used for assessment process. Assessor required to provide assessment outcome.	9/10
11	Joosten-ten Brinke, Sluijismans, & Jochems. (2010). Netherlands	Qualitative. Retrospective, open-ended interviews and questionnaire administered. Data coded and analysed.	Assessor decision-making is influenced if evidence is labelled in a proper way and the portfolio is in a logical order. Enabling an assessor to request further evidence is not only fair but useful. Criteria is important by can often be interpreted differently amongst assessors. Interviews highlighted a holistic portfolio judgement overruled any judgement regarding separate criteria. Criteria rating are used by the assessor to support decision-making. Assessors found the portfolio assessment to be relevant, fair and useful.	Selected time frame. Open University of the Netherlands. Portfolio used for assessment process. Assessor required to provide assessment outcome.	8/10
12	Spence & El-Ansari. (2004). UK	Qualitative. Action research method – two postal questionnaires. Content analysis – items coded and analysis produced several major categories.	Portfolios have promoted reflective practice. Portfolios promote and prompt students to complete their own self-evaluation of learning. Practice teachers found their experience of portfolio assessment was positive. Some level of anxiety relating to the reliability of their portfolio assessment experienced. Practice teachers who were able to check their standards with other practice teachers reported less need for further guidance.	Selected timeframe. Nursing –post registration. Portfolio used for assessment process. Assessor required to provide assessment outcome.	9/10
13	Jasper & Fulton. (2005). UK	Qualitative. 6 stage methodology took place. Focused on improving assessment processes by review and consideration of existing practices.	Design of the portfolio – guidelines need to be clear and concise to support students in compiling their portfolios including the evidence requirements. Assessment criteria – development of each criterion and definitions behind each one including an example to support students. Assessment of the portfolio – marking criteria and structure formed. Development of a marking criteria tool that can be used by both assessors and students, in formative and summative assessment, to identify student attainments, strengths and weaknesses.	Selected timeframe. Nursing –post registration. Portfolio used for assessment process. Assessor required to provide assessment outcome.	10/10

Data analysis

In consultation with my supervisor it was suggested that the thematic analysis method developed by Braun and Clarke (2006) would support the data analysis process. Thematic analysis is a popular method for analysing qualitative data in many different fields and disciplines including nursing research (Braun & Clarke, 2014). Thematic analysis is a systematic and flexible research approach to identify, analyse and report patterns (themes) from within the data (Braun & Clarke, 2006). The purpose of thematic analysis is to identify patterns of meaning across a dataset that provide an answer to the research question being addressed. Patterns are identified through a rigorous process of data familiarisation, data coding, and theme development and revision. This enables the researcher to gain insight and make various inferences which can lead to increased understanding of particular phenomenon or informs practical actions (Vaismoradi, Turunen & Bondas, 2013). Gaining a deeper understanding of how inter-rater reliability between assessors through thematic analysis process could potentially enhance assessor consistency when assessing nursing ePortfolio's.

Braun and Clarke (2006) use a six-phase approach to perform a thematic analysis. These are explained below including how I undertook each phase:

Phase 1 - Familiarisation: This phase involves reading and re-reading the data to become immersed and familiar with its contents (Braun & Clarke, 2006; Braun, Clarke, Hayfield, & Terry, 2019). In essence, it can be looked at as your first dip into the data from a degree of distance. It is considered to be a relaxed process whereby, the researcher makes casual observational notes but “being thoughtful and curious about what you are reading” (Braun et al., 2019, p.852). I took time to read and re-read the 13 articles and throughout the process made many notes by writing these on the article themselves. Appendix E is an example of the many written notes that I made during this phase. This is one page from McCready, (2007).

Phase 2 - Generating initial codes: Coding is a thorough and systematic process whereby further engagement with the dataset enables the researcher to make sense of the data, attaching labels (codes) that are relevant and meaningful to the research question (Braun et al., 2019; Terry, Hayfield, Clarke, & Braun, 2017). This process can create inspirational moments of clarity for the researcher. Terry et al., (2017) state “there are no right or wrong code; codes generated need to be meaningful to the researcher, capturing their interpretations of the data in relation to the research question” (p.26). I re-read and

continuously developed codes within the dataset. This was achieved firstly by writing on the articles and then I used a computer application (Miro) to store all the codes. Each article where possible was a different coloured note within the Miro computer application. As the thematic analysis moved through the process new versions were developed. Appendix F shows the many codes that were developed during this phase.

Phase 3 - Constructing themes: In this phase the researcher, builds on the familiarisation and coding phase whereby they begin to sort out codes into potential themes (Braun et al., 2019). “A theme is an abstract entity that brings meaning and identity to a recurrent experience and its variant manifestations. As such, a theme captures and unifies the nature or basis of the experienced into a meaningful whole” (Nowell, Norris, White & Moules, 2017, p.8). This is considered to be an active phase as pattern formation and identification is developed across the whole dataset (Terry et al., 2017). It is important that constructing themes enables the author to begin to tell their story of the dataset remembering the research question at this point. Themes are part of a larger whole. (Braun & Clarke, 2006; Braun et al., 2019; Terry et al., 2017). In phase 3 I began to move the codes around whereby initial codes began to form themes and others formed subthemes.

Phase 4 - Reviewing themes: In this phase, a checking process to ensure the themes work across the dataset takes place and refinement occurs (Braun & Clarke, 2006). This subsequently enables further clarification and potentially even rejection of the early developed themes. Terry et al., (2017) state “the reviewing phase is like a quality control exercise, to ensure that the themes work well in relation to the coded data, the dataset and the research question” (p.29). I undertook time to further review and clarify the themes and subthemes that were generated in phase 3. I reviewed the raw data to ensure the themes and subthemes reflected the dataset being used and the research question.

Phase 5 - Defining and naming themes: In this phase further analysis occurs to refine the specifics of each theme. It is here where the researcher is able to provide clear names and definitions for each theme which are essentially core to the story that is being told (Braun & Clarke, 2006; Terry et al., 2017). Also, during this phase potential sub themes which are themes-within-a-theme are identified (Braun & Clarke, 2006). Prior to moving onto the final phase “it is important that, by the end of this phase, researchers can clearly define what the themes are and what they are not” (Nowell et al., 2017, p.10). I took time to organise

the reorganise the themes, so they reflected the data. Appendix G shows the organisation progress of themes and subthemes identified.

Phase 6 - Producing the report: The final phase is not just considered as the writing up process. This is where final review takes place to ensure refinement of themes occurs and too check they work individually and overall, in relation to the original dataset (Braun et al., 2019: Terry et al., 2017). Nowell et al., (2017) suggests “the write-up of a thematic analysis should provide a concise, coherent, logical, non-repetitive, and interesting account of the data within and across themes” (p.10). At this point I linked back into Whittemore and Knafl (2005) final stage which is presentation. Whittemore and Knafl (2005) define this stage as “the results capture the depth and breadth of the topic and contribute to a new understanding of the phenomenon of concern; and implications for practice are emphasised in addition to implications for research and policy initiatives” (p.552). This process enabled the write up of Chapter 4 and Chapter 5 of this practice project.

3.5 Summary

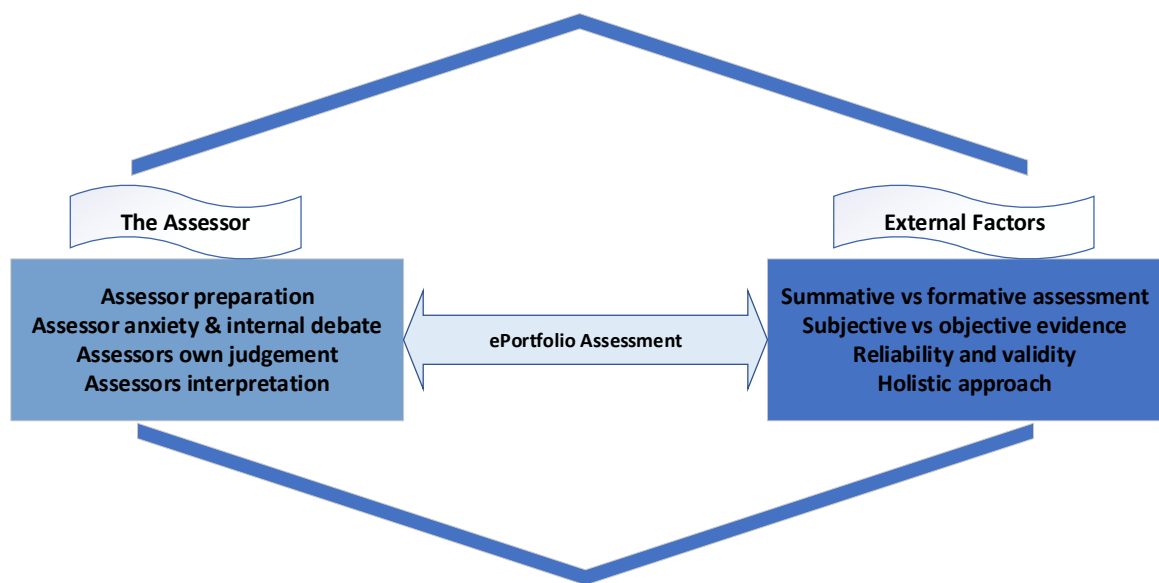
Chapter 3 has explained the chosen methodology and described how I conducted this integrative review including using a thematic analysis approach to analyse the findings. An interpretative paradigm worldview was adopted seeking new understandings and insights. The next chapter presents the findings of this practice project.

Chapter 4: Findings

This chapter presents the findings that were established through the integrative review and thematic analysis from the 13 articles reviewed. The key focus and what remained at the forefront of my mind while reviewing the articles was the research question of how inter-rater reliability between assessors can be improved in nursing ePortfolio assessments.

Using a thematic analysis method to code and recognise sub themes, two main themes emerge from the data analysis. These are 'The Assessor' and 'External Factors'. Each theme has sub themes as shown in the thematic analysis map (figure 2) below. These will be presented within this chapter.

Figure 2: Thematic Analysis Map



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Furthermore, the data provided recommendations to improve inter-rater reliability between assessors. Each recommendation has the ability to address both the overarching theme and subthemes simultaneously. The recommendations will influence many areas of the assessment process potentially improving assessment consistency. These will be discussed in detail in chapter 5.

4.1 The Assessor

In the context of this practice project, this theme emerged as the assessor themselves plays a considerable role in the assessment process. The assessment of a nursing portfolio is complex and multifaceted whereby the final outcome is decided by the individual assessor based on specific criteria. However, the assessor's preparation, professional knowledge, past experiences, societal influences and views and their awareness of these consciously or unconsciously leads to an internal dialogue and set of emotions within oneself. The subthemes contributing to this category have potential to influence the assessment process and assessment outcome and likely impacts on assessor inter-rater reliability.

Assessor preparation

It should not be underestimated the level of preparation that is required to ensure assessors' confidence when commencing the role of a nursing portfolio assessor. Considering the portfolio applicant's outcome relies on the assessors understanding of portfolio expectations and requirements, it is key to ensure assessors are well prepared. How preparation takes place and in what type of delivery and format is dependent on the individual institution / organisation:

Assessor preparation was also a key issue, some institutions favouring distance learning packages for their assessors but in the main course leaders preferred to work one to one with their assessors in order to build good relationships between theory and practice (McCready, 2007).

Ensuring clear guidelines and criteria for assessment are provided is also part of assessor preparation to support a successful assessment:

Assessors need clear criteria against which they can judge students' performance (Brown 1999), but also facilitation to help them make explicit their practice values and what they consider to be important learning (Scholes et al., 2004).

Alongside this, making sure the portfolio submitter receives clear guidelines is paramount. It is important that the portfolio submitter meets the portfolio requirements and provides

evidence to the correct level of practice to enable the assessor to easily decide on a final outcome without asking for further information:

The requirements of the portfolio and its constituent elements must be transparent, and both students and assessors need training in its use. Grading criteria should be explicit by not cumbersome (McMullan, Endacott, Gray, Jasper, Miller, Scholes & Webb, 2003)

Assessor preparation is an important process that requires time and energy from all parties involved. This process cannot be overlooked or ignored as it sets the scene for the portfolio submitter and assessor, setting them in good stead to proceed further. It is during this process whereby the assessor begins to understand the responsibility and accountability they have and the impact this can have on them within themselves.

Assessors anxiety and internal debate

Even before an assessor commences an assessment there is heightened awareness of their own anxiety related to the process ahead. One's own integrity as a practitioner, being accountable, and the fact they will be moderated, and the portfolio submitters can also appeal the assessment outcome all adds to the assessor's own anxiety levels:

Some assessors felt quite anxious about the process related to their own credibility as practitioners as well as their equity and consistency as assessors (McCready, 2007):

and the impact of the subjective nature of the evidence provided:

The findings highlight anxieties relating to the reliability of portfolio assessment, perhaps reflecting the enormous scope for subjectivity in this process (Spence and El-Ansari, 2004).

An internal debate takes place at each point of the grading criteria as the assessor makes decisions based on their judgements and awareness of being accountable to the final outcome, that they settle on:

As well as asking the experimental assessors why they gave the marks they gave, we also asked them to indicate if, during the process of making each judgement, they had considered giving any alternative judgements and, if so, what these were. The consideration of an alternative judgement suggests an internal debate regarding the making of a judgement (Baume, Yorke & Coffey, 2004).

It is inevitable that assessors will internalise some of the pressures when assessing a nursing portfolio. Assessors determine the final outcome for the portfolio submitter. They are responsible to provide, as part of their final outcome, confirmation that the nurse is safe to practice, competent or can advance up the level of practice continuum, using their

judgement based on the written portfolio evidence. Assessors need to be prepared to use their judgment and common sense throughout the assessment process.

Assessors own judgement

It is important to recognise that the portfolio assessment process is complex, takes time and requires a level of assessor experience, knowledge and skill. Each assessor brings with them their own professional knowledge and past experiences which can play a part in the assessment process. This subsequently influences the individual assessor's judgement and overall outcome decision (Bloxham, den-Outer, Hudson & Price, 2016; McCready, 2007). Many articles acknowledged this as shown below:

A key source of variation is attributed to assessor's different professional knowledge, experience, values and institutions. Bloxham, et al., (2016):

and their subjectivity:

The subjective nature of assessment of portfolios with assessors bringing something of themselves into the assessment process akin. McCready (2007):

and includes making a judgement call:

Everybody makes judgements in the light of their past experience and in instances where judgements are uncertain "past experience enters like air rushing into a vacuum" cited in Johnson (2008).

Furthermore, Johnson (2008) uses a Cultural Historical Activity Theory (1987) to explore the theoretical position whereby suggesting that assessors' judgements are influenced by experiences and individual differing viewpoints:

Assessor judgements are influence or framed within the context of their experience and differing perspectives (Johnson, 2008):

and interpretive judgements:

Sociocultural theory suggests that all assessors have 'positions' within the assessment and education system and that their interpretive judgements are inevitably affected by factors such as their 'habitus' (tacit dispositions to different aspects of life), their relationships with their assesses and other assessors, and considerations about the consequences of their assessment decisions beyond any singular assessment event (Johnson, 2008):

and following on an assessor uses criteria guidelines and their own professional judgement simultaneously:

Assessors are often involved in an iterative 'double reading' process where they simultaneously 'read from the outside', utilising the 'official' classificatory schemes for assessment, whilst 'reading from the inside', involving their professional judgement which involves embodied aspects of their practice such as their wider social relationships and value systems (Johnson, 2008).

Assessors bring with them their own framework and viewpoint of the assessment which is framed within the context of their own experiences; although with often little recognition of the impact of individual influences and preconceived notions:

In a sense, all inquirers are trapped within their own paradigms; they will judge certain things as being true (for them) what others will judge as being false (for them)'. This highlights the issue that assessors are their subjects carry, perhaps unwittingly, personal agendas into the assessment process that can lead to undue weighting and bias" (Pitts, Coles, Thomas & Smith, 2002).

It is suggested the assessor's internal judgement is easier when the criteria are tick box however, when professional judgement is required their internal debate and judgement is heightened:

Technical judgements were much less problematic than judgements on values or other non-technical elements (Baume et al., 2004).

Considering assessors past experiences and professional knowledge clearly influences their decision-making processes it is expected that different judgements between assessors will occur:

Whilst the assessors tended to agree regarding the fulfilment of technical requirements (as one would expect), the level of agreement was weaker where the assessor's judgement was called into play (Baume et al., 2004).

The assessor's own thoughts, beliefs, feelings and views which evolve throughout this process suggests that "variability is inevitable" (Bloxham et al., 2016, p.479) due to the challenging nature of decision making when assessing a portfolio:

Short of turning our assessment methods into standardised tests, we have to live with a large element of unreliability and recognition that grading is judgement and not measurement (Bloxham et al., 2016).

It is important to understand and recognise the complex judgement process an assessor goes through to decide on a final assessment outcome. I acknowledge they bring with them elements of their own experiences, professional knowledge and skills and viewpoints and the significant influence these can play throughout the process. Furthermore, this leads into the next subtheme, 'Assessors Interpretation' as judgement and interpretation go hand in hand.

Assessors interpretation

Assessor interpretation is required due to the narrative nature of the content of a nursing portfolio when completing an assessment. This is a complex task and the assessor has to interpret personal and professional narratives:

Portfolio assessment is a complex task given the content is often descriptive, context-bound, personal and requires much interpretation (Joosten-ten Brinke, Sluijismans & Jochems, 2010).

It must be explored as to how competencies are actually presented. Are they clear, succinct and can they be applied to a variety of clinical settings? If these are written in an intangible way, whereby the portfolio writer and subsequently the assessor have to deconstruct them to understand what is being asked of them in each situation, this increases the chance of individual interpretation taking place throughout the process:

If learning outcomes were written in an abstract way to accommodate a variety of clinical situations, students and assessor then had to deconstruct them to make them fit specific practice (McCready, 2007).

Not only does each party need to understand the requirements but also the assessor must understand what it means to be competent. However, each assessor may have their own understanding and interpretation of competence:

They found the literature relating to competence to be ambiguous raising questions about methods of assessment, the role of the assessor and the validity and reliability of assessment, each assessor having their own interpretation of competence (McCready (2007).

Assessment criteria are complex tools which cannot capture every possible nuance and meaning during the assessor's process, therefore, leaving room for each assessor's own interpretation and variability between assessors' outcomes:

A key difficulty with this apparent practice is the potential for assessors to vary in the additional criteria they use, and the likelihood that they may not be conscious of all the criteria they use in making judgements (Bloxham et al., 2016)

and interpretation of the provided criteria:

Nevertheless, even if this was a shortcoming of our method, it also signals the limitations of simply worded assessment criteria in capturing all the nuances of assessor meaning (Bloxham et al., 2016).

The language also chosen to be used for the criteria standards can be interpreted differently:

Use of assessment criteria is also considered a potential cause of variability. In particular, assessors may not understand the outcomes they are supposed to be judging, may not agree with, ignore or choose not to adopt the criteria or interpret them differently (Bloxham et al., 2016)

This leads to potential unconscious judgements and interpretations being made during the assessment process. Johnson (2008) discusses the concept of 'plasticity' within the assessment criteria whereby depending on the current state of the assessor at the time of

the assessment their own interpretation has an influential bearing on the assessment outcome:

These include varying affective reactions to work presentation, assessor fatigue (leading to a loss of grip on the assessment criteria and a greater inclination to bring personal assessment to bear on the response), and speed or lack of time (Johnson, 2008).

Whilst assessors refer to the same criteria, their own interpretation can lead to altered understanding of expectations and standards at the different levels of practice. In relation to the evidence provided this infers assessors potentially can have a different viewpoint of what represents as excellent, satisfactory or weak information:

Assessors have different expectations of standards at the different grade levels. Therefore, whilst markers may be working with shared criteria, they may not agree on 'how well the various criteria have been achieved'. Overall, the body of research suggests that, even where assessors agree marks (which, in the authors' experience, lecturers often claim to), this may not necessarily be for the same reason (Bloxham et al., 2016):

and in conclusion:

If we accept the assumption that the constructs represent assessors' implicit criteria, it that, although they appear to use similar criteria, in practice, they interpret such criteria differently and this has the potential to contribute to differences in standards (Bloxham et al., 2016).

Individual assessors' own influences, judgements and interpretations impact on the differences in assessment outcomes:

Considerable variation was evident in the assessments made by the dieticians of the student's performance. Differences in the assessors' frames of reference, assumptions and consideration of contextual factors were evident in their qualitative descriptions (Bacon et al., 2017).

Such variation in the assessor's interpretation can lead to a disagreement over the final outcome and also highlights that one cannot assume that a final outcome is agreed on for the same reasons due to the variability of criteria interpretation, differences in understanding of standards and expectations:

Assessors have different expectations of the standards required at various levels. This variation can lead to disagreement over grades (Bloxham et al., 2016).

It is clear that an assessor's own interpretation in all aspects of the assessment process impacts significantly on the final outcome. They encounter their own judgements, interpretations and internal debate to make sense of the assessment process that they are undertaking. Through the process of assessor preparation such factors can be addressed

to support their experiences. Alongside the individual assessor there are factors external to themselves which also effect and impact on the portfolio assessment process.

4.2 External Factors

In the context of this research, specific external factors beyond the assessor appeared within the data to form this theme. The external factors are entities that are independent of the assessor's internal dialogue and occur due to the nature of the portfolio requirements, format, process and assessment of competency outcome. The subthemes relate specifically to the portfolio process; how the evidence is compiled and presented, its reliability and validity and the all-important final assessment outcome.

Summative vs. formative assessment

Portfolios are a useful tool for formative assessments but there is a lack of evidence to confirm their use as a summative assessment:

There is general agreement on the value of portfolios for formative assessment, but little information on their use for summative assessment (McMullen et al., 2003).

As a result of portfolios being used as summative assessments, portfolios have received criticism because of the questions they raise and the challenges they pose throughout the assessment process for all parties involved:

Criticisms of the use of portfolios as an assessment strategy have often related to the problems inter-rater consistency and reliability; moderation; subjectivity versus objectivity and validity (Jasper & Fulton, 2005).

and it's likely impact on inter-rater reliability between assessors:

Found low inter-rater reliability between assessors of portfolios and concluded that accurate summative judgements could not be made (McMullen et al., 2003).

The notion that the portfolio evidence supports a summative assessment outcome can have an overwhelming effect on how the portfolio writer contributes as they may struggle to articulate their daily nursing practice to the required level dependant on the stated requirements and also in some instances maybe reluctant to include some details:

Problems may arise when portfolios are used for both purposes of learning and assessment. Summative assessment included as a purpose of portfolio use may have a profound effect on the way students contribute to their use. It may also affect their experiences and perceptions of the benefits to themselves of portfolio use (McMullen et al., 2003).

Furthermore, through the reflective process when compiling portfolio evidence 'real learning' takes place and is most effective for the growth and development of the portfolio writer:

This conflict between summative assessment and the learning, developmental value of the portfolio is acknowledged. However, summative assessment tends to lead to alteration of the contents, as students become reluctant to include personal incidents, especially problem areas and difficulties. Yet, these are often the incidents that trigger real learning (McMullan et al., 2003).

There is conflict between the usage of a portfolio and whether it can and should be used to provide a summative assessment. There are certainly learning's that can be reached for the individual regarding their professional development and growth. Ensuring portfolio submitters understand the benefits of producing a portfolio to a standard can support this as a summative process. The evidence that is provided within a narrative context leads onto the next external factor of subjective and objective evidence.

Subjective vs. objective evidence

Portfolios contain largely subjective rather than objective evidence. This has an influence on how assessors interpret the evidence. A quantitative approach employs facts and provides objective evidence, whereas, the more likely evidence is to be from the portfolio submitter and third parties such as peers and managers and therefore, more qualitative:

Portfolios usually contain qualitative rather than quantitative evidence and assessors make qualitative judgements about this evidence (Webb, Endacott, Gray, Jasper, McMullan & Scholes, 2003).

The written content of a portfolio is made up of specific and personal accounts of the portfolio submitter's daily nursing practices, experiences and contributions to nursing care. As much as providing guidelines and instructions of what is required consistent approaches are difficult at times:

Portfolios are by their very nature very individualised and not amenable to standardisation and their assessment is often subjective (McMullen et al., 2003)

The portfolio submitter interprets the requirements and the assessor completes a subjective rather than objective assessment process:

Portfolios are subjective documents that include not just descriptive accounts but reflections thereon. This makes them essentially individual and unique documents (Pitts et al., 2002).

The use of grading criteria solely cannot be seen to be the solution to enhance objectivity:

Grading criteria developed so far are too vague to eliminate subjectivity (Webb et al., 2003)

The assessment process is strongly influenced by the subjective evidence and individualised content provided whereby assessors then decide upon a final outcome:

The data collected are usually descriptive (reflective accounts, statements of evidence to support claims for skill achievement) and judgements made on competence and learning are at best at the ordinal level, such as pass / refer/ fail (Webb et al., 2003).

It is important to recognise and accept the level of subjectivity that plays a role throughout this assessment process. To address the assessor's subjective judgements due to the subjective nature of evidence needs to be explored further and acknowledged:

An attempt can be made to make it as objective as possible, resulting in a long list of prespecified skills that have to be ticked off to show that competence has been achieved. However, no assessment schedule can ever be 'assessor proof', as each assessor has their own interpretation of competence. The alternative approach, advocated by Phillips et al. (1994; p. 8), is 'to take the subjectivity of assessor perceptions into account, so that the assessment of competence can be regarded as both valid (because it is context-sensitive and involves the judgement of experienced practitioners and teachers) and reliable' (McMullen et al., 2003).

Subjectivity cannot be eliminated due to the personal descriptive nursing practice accounts provided. Therefore, the content provided influences the assessment whereby it is neither objective nor a straightforward process. This leads to question the assessment principles and quality requirements of reliability and validity.

Reliability and validity

Quality requirements such as reliability and validity need to be addressed although in actual practice this is questionable due to the subjective nature of evidence provided within a portfolio. Due to this, reliability and validity are often difficult to address:

Although portfolio assessment should meet quality requirements such as reliability and validity, in practice it is often difficult to sufficiently address these criteria. Portfolio reliability (i.e. the extent to which its assessment remains consistent over repeated measurements under identical conditions) is a complex issue given its interpretative, context-bound and personal character (Joosten-ten Brinke et al., 2010)

Therefore, how important in this assessment method is reliability and validity:

It has been argued that an assessment method can be valid without high levels of reliability and that reliability is an aspect of construct validity (consonance among multiple lines of evidence supporting the intended interpretation over alternatives). In other words, as assessments become less standardised, distinctions between reliability and validity blur (Pitts, Coles & Thomas, 2001):

and referring to this as a measurement:

Our view, supported by some, is that as long as formal assessment is based on the philosophy of measurement, portfolios will be difficult to assess (Pitts et al., 2001).

Understanding the context at which the portfolio has been compiled and allowing for many contributing factors may in fact enhance reliability and validity:

Using reliability and validity within an interpretative approach, allows discussion of values and standards, and bridging between the local context and the curriculum. Negotiating with co-assessors over the outcomes will improve the reliability and validity. This interpretative approach is based on the idea that there is not one absolute, objective answer in assessing portfolios (Joosten-ten Brinke et al., 2010).

The principles of assessment and quality measures such as reliability and validity cannot be the only way to ensure consistency of the assessment process and inter-rater reliability. It is important to acknowledge the range and type of evidence provided within a portfolio whether or not the concepts of reliability and validity can in fact be applied to this assessment method.

Holistic approach

It is suggested that a holistic approach should be undertaken when assessing a portfolio of evidence and the focus be on an outcome to support and confirm that the nurse is safe and competent to practice:

For many participants the assessment discourse shifted the emphasis of their assessment towards the holistic approach. They focused more on the outcome of the consultation and whether the student was safe to practice (Bacon et al., (2017).

A holistic approach allows for reflective practice which supports the inclusion of values and norms as components of competent performance:

It indicates the importance of context and the notion that there is more than one way of practising competently (McMullan et al., 2003).

The evidence provided therefore must cover an extensive range of the individuals practice and scope ensuring it relates to a variety of situations and is taken from the perspective of more than one person:

A holistic approach to assessing competence is likely to be more valid than and equally reliable as current methods. However, observation of performance alone will not be enough to infer competent performance. What is needed is a 'breadth' of evidence relating to a variety of situations and to take into account more than one perspective (McMullan et al., 2003).

Viewing the portfolio as a whole and considering all components together enables the assessor to gain a full understanding of the nurses' everyday nursing practice and care across all situations and competencies.

4.3 Summary

This chapter presented the findings from the research data. Two themes have emerged: 'The Assessor' and 'External Factors' relating to the assessment of nursing portfolios. Each of these themes has been further defined by a set of subthemes. Defining the factors that contribute towards the assessment of a nursing portfolio and specifically the assessor process leads me into the next chapter where I will discuss and provide the recommendations that the data has presented on how to improve assessment inter-rater reliability of nursing ePortfolios at WDHB.

Chapter 5: Discussion and Recommendations

5.1 Introduction

There are two main themes that arose out of the data as described in the previous chapter. The first is 'The Assessor' and what they bring within themselves which have the potential to influence the assessment process and outcome. The second is 'External Factors' which are independent of the assessor and occur due to the nature of the nursing portfolio requirements, process and outcome. Greater understanding and insights have emerged, indicating the assessment of nursing portfolios is a very complex process. It is clear that the very subjective nature of a nursing portfolio and what the assessor brings with them impacts the assessment process throughout.

This chapter focuses on the research question and discusses and demonstrates the depth and understanding that has been formed about the assessments of nursing portfolios through the integrative review and thematic analysis process. I will provide recommendations throughout the discussion to support the research question and also outline limitations of this integrative review and priorities for future research.

5.2 Discussion

As a current assessor and someone who trains assessors as I embarked on this research journey, I already had ideas and knowledge about nursing portfolio assessments and the role that the assessor plays. It did not surprise me that assessor preparation is important and cannot be underestimated. Key within this process is the ability to establish trusting relationships whereby the assessor can seek guidance and support as and when required (McCready, 2007; Scholes et al., 2004). The teacher must also be prepared and be aware they cannot assume due to their own familiarisation with the process that understanding the assessment is self-explanatory to new assessors (Scholes, et al., 2004). Pitts, et al., (2001) argue though "despite engaging the assessors, defining the criteria and briefing the participants, we have failed to develop a trustworthy and meaningful method of summative assessment" (p.354). This could be due to the lack of evidence to support portfolios as a summative assessment and the challenges they present for all parties involved (Jasper & Fulton, 2005; McMullan et al., 2003).

Anecdotally, as I am an assessor, I can confirm that the internal debate is real. It is a process that an assessor consciously or unconsciously goes through whilst making

decisions regarding each criterion in relationship to the evidence provided. This internal debate occurs because of the portfolio assessment process and Joosten-ten Brinke et al., (2010) suggests there are three essential components of the assessment process “evaluating individual texts in the portfolio one at a time, evaluating across texts in the portfolio and articulating a rating, weighing relative amounts or importance of evidence as needed” (p.61). It was interesting that this emerged within the dataset, although not a surprise, it is great that it is acknowledged and recognised and should be addressed during training.

As a nursing portfolio is largely focused on written descriptive accounts of the individuals nursing care, which is unique to them, it is more feasibly considered and supports the idea that this is subjective and not objective evidence (Jasper & Fulton, 2005; McMullan et al., 2003). This further extends to the assessment of the evidence and the acknowledgment that assessor subjectivity also needs to be taken into consideration (McCready, 2007; McMullan et al., 2003). The assessment process involves “the perception of evidence about performance by an assessor, and the arrival at a decision concerning the level of performance of the person being assessed” (McMullan et al., 2003, p.287). What did surprise me was due to the level of subjectivity and the assessor’s interpretation and judgement that take places “no assessment schedule can ever be ‘assessor proof” (McMullan, 2003, p.287). Bloxham et al., (2016) states “short of turning our assessment methods into standardised tests, we have to live with a large element of unreliability and recognition that grading is judgement and not measurement” (p.479). Furthermore, it is important to recognise if the grading outcome is based on judgement and not measurement are, we “attempting to measure the unmeasurable” (Pitt et al., 2001, p.354).

Due to the multiple contributing factors that influence and affect the assessment process it is important not to pass judgement on the assessors who are doing the best job they can bearing in mind the complexity of this activity. Bloxham et al., (2016) support this by stating “assessment is a complex and intuitive nature of judgement and should not be interpreted as a criticism of the assessor (p.477). This is further supported by Johnson (2008) who states, “in this conceptualisation differences between markers are not ‘error’, but rather the inescapable outcome of the multiplicity of perspectives that assessors bring with them” (p.174).

A key conclusion has emerged from this research highlighting the fact that variability in assessments between assessors is inevitable (Bloxham et al., 2016). Furthermore Baume

et al., (2004) sums up the issue of assessor interpretation and inter-rater reliability nicely by stating “it should be to no one’s surprise that where there is greater interpretation required inter-rater reliability will be at its greatest” (p.453).

This leads me to consider what recommendations can be implemented to reduce the gap between assessors even if only slightly to improve consistency across all nursing portfolio assessments.

5.3 Recommendations

The dataset provided recommendations to answer the research question – ‘How can inter-rater reliability be improved in nursing ePortfolio assessments?’ These recommendations have potential to impact and influence the assessment process and improve assessor consistency. There are three significant recommendations - discussion between assessors, tripartite meetings, ensuring standards are clear and training occurs to ensure development of all assessors.

Discussion between assessors

The first recommendation is that discussions between assessors need to occur to increase the inter-rater reliability of assessment (Evans, 2008; McCready, 2007; Webb et al., 2003). Due to the narrative nature of a nursing portfolio whereby interpretation and judgements take place by the assessor, through discussion between assessors, greater agreement may occur (Pitt et al., 2002). This enables exploration of the diverse views and unstated assumptions each individual assessor has, potentially leading to a consensus of judgement and reducing assessment variability (Webb et al., 2003). Evans (2008) states “communication between assessors has also been suggested as a means of encouraging inter-rater reliability” (p.6). This is supported by a study completed by Pitt et al., (2002) whereby introducing a process of using discussant pairs of assessors, during the assessment process reliability was improved.

Discussions between assessors could be provided formally and implemented (Johnson, 2008) however, it is important to note that already informal networks and discussions exist and occur on a regular basis between assessors. Assessors report learning through observing other assessors and having the ability to check their own standards against others can influence their own assessment processes and outcome (Bacon, et al., 2017; Spence & El-Ansari, 2004).

Tripartite meetings

The second recommendation is that the implementation of a tripartite meeting approach which involves the nurse (portfolio submitter), a mentor (senior nurse) and the assessor. Such an approach is advocated within the nursing pre-registration and educational areas of literature whereby portfolios are used in a more formative assessment process (Evans, 2008; McCready, 2007; Webb et al., 2003). This enables a discussion between the three parties to occur about the portfolio evidence provided. The nurse is able to articulate verbally their nursing performance and practice, and the mentor and assessor can provide feedback to support growth and development (McCready, 2007; Webb et al., 2003). Considering this approach for a summative nursing ePortfolio assessment, it would be somewhat difficult to coordinate such meetings due to many factors such as assessment timeframes, individual's availability, workloads and the nature of nursing shift work. Moreover, it must be noted that such meetings do occur on an individual case by case basis often when the assessor requires further evidence during the assessment process. A modified tripartite meeting approach does take place for nurses applying for Registered Nurse Expert (Level 4) or Enrolled Nurse Accomplished level of practice.

Standards and training

The third recommendation is that initial training for new assessors must provide essential information to ensure the assessor understands their role, responsibilities and expectations (Evans, 2008; McCready, 2007; McMullan et al., 2003). Training must include assessor expectations, NCNZ requirements, clear criteria and process, understanding of competence and exploration of one's own values, beliefs and professional judgements (Evans, 2008; McCready, 2007; Scholes et al., 2004). Subsequently, it is essential for all assessors to receive individual feedback and guidance in a moderation process and regular refresher training (McMullan et al., 2003). With all training the goal is to enhance the assessor's confidence by encouraging self-awareness of assessment reliability, consistency and integrity.

The recommendations above provide some guidance on how to improve inter-rater reliability. However, due to the subjective nature and many other contributing factors as discovered during this research process, we must accept that there will always be some variability within the portfolio assessment process and the assessor's outcome. I plan to improve the inter-rater reliability by formalising a process whereby assessors can discuss assessments between each other, further developing the initial assessor training and

providing on-going training for all assessors and ensuring the ePortfolio platform provides support for all parties involved in the process:

- Develop and implement a formal process whereby assessors have a relationship with another assessor to enable assessment discussions to occur.
- Enhance assessment inter-rater reliability by reviewing the current initial assessors training programme to ensure further development of assessors' own self-awareness and self-development takes place.
- Ensure assessment consistency by providing refresher training for all assessors and continuation of feedback and moderation.
- Ensure the ePortfolio platform continues to provide up to date information, guidance and clarity to all parties involved.

5.4 Future Research

Firstly, it would be beneficial to continue to explore the use of portfolios as summative assessments and how the assessment method can be further developed to provide reliability and credibility within the current process. This could be developed further to evaluate if assessments of nursing portfolios and the evidence provided can truly assess the competence of a nurse.

Secondly, further research exploring assessor's perceptions and the approaches that they take when completing summative portfolio assessments could provide further insight into the contributing factors which influence assessor outcomes. This could support further recommendations to improve inter-rater reliability.

5.5 Limitations

A limitation to this practice project is that the findings are unable to be broadly generalised across the topic of all portfolios due to the qualitative methodology and small sample size used. There is also the potential for bias from the researcher due to the nature of integrative review and thematic analysis process whereby analysis and interpretation of data has taken place (Braun & Clarke, 2006; Whittemore & Knafl, 2005). As far as I know, to the best of my knowledge and due to the methods undertaken, this practice project truthfully represents the analysis of the dataset and the resulting themes.

5.6 Conclusion

In conclusion, assessment variability is inevitable by reason of the subjective nature of the evidence provided in a nursing portfolio. However, consideration of how to minimise this

variability is important. By addressing, during training, what each assessor brings with them, acknowledging their own potential influences, biases and professional judgements, assessment reliability can be enhanced (Scholes et al., 2004). Furthermore, inter-assessor discussion enables individual assessor's assumptions and diverse views to be explored leading to a consensus of judgement (Webb, et al., 2003). However, it must be accepted that variability between assessors will never be removed completely and we can only try to implement recommendations that may narrow the gap.

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Appendices

Appendix A: Level of Practice Evidential Requirements – RN and EN

Appendix B: Registered Nurse Level of Practice Definitions

Appendix C: Enrolled Nurse Level of Practice Definitions

Appendix D: Example of completed CASP tool

Appendix E: Example of written notes in an article during Phase 1 – Familiarisation

Appendix F: Phase 2: Generating initial codes

Appendix G: Phase 5: Defining and naming themes

Appendix A: Level of Practice Evidential Requirements – RN and EN

PDRP Evidential Requirements – Registered Nurse

These evidential requirements are to be used when developing and submitting an ePortfolio.

RN Competent (Level 2)	RN Proficient (Level 3)	RN Expert (Level 4)	Designated Senior Nurse
<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Study Declaration 	<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Study Declaration 	<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Review Project Declaration 	<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Review Project Post Graduate Education Declaration

PDRP Evidential Requirements – Enrolled Nurse

These evidential requirements are to be used when developing and submitting an ePortfolio.

EN Competent (Level 2)	EN Proficient (Level 3)	EN Accomplished
<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Study Declaration 	<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Study Declaration 	<ul style="list-style-type: none"> Letter of introduction Curriculum Vitae Continuing Professional Development Record & 3 reflections Self-assessment against Nursing Domains Peer assessment against Nursing Domains Appraisal Case Study Project Declaration

Appendix B: Registered Nurse Level of Practice Definitions

Competent (Level 2) RN	Proficient (Level 3) RN	Expert (Level 4) RN
Effectively applies knowledge and skills to practice	Acts as a role model and a resource person for other nurses and health practitioners	Is recognised as an expert and role model in her/his area of practice
Develops partnerships with clients that implement Te Tiriti o Waitangi in a manner which the client determines is culturally safe	Participates in changes in the practice setting that recognise and integrate the principles of Te Tiriti o Waitangi and cultural safety	Guides others to apply the principles of Te Tiriti o Waitangi and to provide culturally safe care to clients
Has consolidated nursing knowledge in their practice setting	Has an holistic overview of the client and the practice context	Engages in clinical learning for self and provides clinical learning opportunities for colleagues
Has developed an holistic overview of the client	Demonstrates autonomous and collaborative evidence-based practice	Contributes to specialty knowledge and demonstrates innovative practice
Is confident in familiar situations	Actively contributes to clinical learning for colleagues	Initiates and guides quality improvement activities and changes in the practice setting
Is able to manage and prioritise assigned client care/workload	Supports and guides the health care team in day to day health care delivery	Delivers quality client care in unpredictable challenging and/or complex situations
Demonstrates increasing efficiency and effectiveness in practice	Participates in quality improvements and changes in the practice setting	Demonstrates successful leadership within a nursing team unit/facility
Is able to anticipate a likely outcome for the client with predictable health needs	Demonstrates in-depth understanding of the complex factors that contribute to client health outcomes	Advocates for the promotion and integrity of nursing within the health care team
Is able to identify unpredictable situations, act appropriately and make appropriate referrals		Is involved in resource decision making/strategic planning
		Influences at a service, professional or organisational level

Reference: National Framework and Evidential Requirements. New Zealand Nursing Professional Development & Recognition Programmes for Registered and Enrolled Nurses (2017). PDRP document review project team.

Appendix C: Enrolled Nurse Level of Practice Definitions

Competent (Level 2) EN	Proficient (Level 3) EN	Accomplished EN
Under the direction of the RN, contributes to assessment, planning, delivery and evaluation of nursing care	Utilises broad experiential and evidence-based knowledge to provide care	Demonstrates advancing knowledge and skills in a specific clinical area within the enrolled nurse scope
Develops partnerships with clients that implement Te Tiriti o Waitangi in a manner which the client determines is culturally safe	Develops partnerships with clients that implement Te Tiriti o Waitangi in a manner which the client determines is culturally safe	Develops partnerships with clients that implement Te Tiriti o Waitangi in a manner which the clients determine is culturally safe
Applies knowledge and skills to practice	Has an in-depth understanding of enrolled nurse practice	Contributes to the management of changing workloads
Has developed experiential knowledge and incorporates evidence-based nursing	Contributes to the education and / or preceptorship of enrolled nurse students, new graduate EN, care givers/healthcare assistants, competent and proficient EN	Gains support and respect of the health care team through sharing of knowledge and making a demonstrated positive contribution
Is confident in familiar situations	Acts as a role model to their peers	Undertakes an additional responsibility within a clinical/quality team, e.g. resource nurse, health and safety representative, etc
Is able to manage and prioritise assigned client care/workload appropriately	Demonstrates increased knowledge and skills in a specific clinical area	Actively promotes understanding of legal and ethical issues
Demonstrates increasing efficiency and effectiveness in practice	Is involved in service, professional or organisational activities	Contributes to quality improvements and change in practice initiatives
Responds appropriately in emergency situations	Participates in change	Acts as a role model and contributes to leadership activities

Reference: National Framework and Evidential Requirements. New Zealand Nursing Professional Development & Recognition Programmes for Registered and Enrolled Nurses (2017). PDRP document review project team.

Appendix D: Example of completed CASP tool



Paper for appraisal and reference: Making portfolios work in practice. (Scholes et al., 2004)

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- what was the goal of the research
 - why it was thought important
 - its relevance

Comments: Study Question: How do students and assessors work through all these complex elements to determine competence in practice?
This paper reports on how assessors and nursing students match competencies to their practice and then reconstruct those experiences into the format required by the portfolio documentation.

2. Is a qualitative methodology appropriate?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
 - Is qualitative research the right methodology for addressing the research goal

Comments: This research was wanting to gain the views of individuals involved in designing, implementing and using portfolios, and to take into account of the academic and clinical context in which portfolios are used. An illuminative evaluation (Parlett & Hamilton 1972) was used. This was a qualitative methodology as individual views of those involved were analysed.

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments: Two year study funded by English National Board for Nursing, Midwifery & Health Visiting. Three phase study. It involved observation and interviewing a range of stakeholders engaged in the delivery of pre and post registration courses in nursing, midwifery and health visiting. Thematic analysis was used.

4. Was the recruitment strategy appropriate to the aims of the research?

Yes	<input type="checkbox"/>
Can't Tell	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If the researcher has explained how the participants were selected
- If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study
 - If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments: Clearly states number of participants for each stage although no mention of how the researchers went about the recruitment of the participants. Briefly mentions getting permission to approach staff at Higher Education Institutes and NSH trusts.

5. Was the data collected in a way that addressed the research issue?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If the setting for the data collection was justified
- If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
- If the researcher has justified the methods chosen
 - If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)
 - If methods were modified during the study. If so, has the researcher explained how and why
 - If the form of data is clear (e.g. tape recordings, video material, notes etc.)
 - If the researcher has discussed saturation of data

Comments: Data collection is very detailed and clear.
Phase 1 - telephone survey and interviews.
Phase 2 - four case studies and students and educationalists were interviewed.
Phase 3 - students & assessors were observed/interviewed in practice either while they were being assessed or taking part in an assessment processes or were observed discussing the portfolio and its application to practice.

6. Has the relationship between researcher and participants been adequately considered?

Yes	<input type="checkbox"/>
Can't Tell	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments: Unable to tell from this article.

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

Comments: Detailed information regarding Ethical considerations.
Ethics approval obtained.
Individual informed consent was obtained from interviewees.

8. Was the data analysis sufficiently rigorous?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
 - To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments: Detailed description of data analysis provided. Data from three phases of the study were analysed at team workshops, concurrently with data collection. One researcher collected, coded, analysed the data they had collected at one study site, and decisions about what further data to collect were used by the team to develop theory. Comparisons were made across the data. Data was compared by the team across the sites.

9. Is there a clear statement of findings?

Yes	<input checked="" type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider whether

- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researcher's arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

Comments: Findings are provided in detail. 3 themes emerged - Closing the loop: preparation, experiences and feedback / Round pegs in square holes / Evolving practice and portfolio use.

Section C: Will the results help locally?

10. How valuable is the research?

HINT: Consider

- If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy, or relevant research-based literature
- If they identify new areas where research is necessary
- If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Comments: **Yes.**

What is already known about this topic and what this paper adds to the topic is discussed. Identifies areas for further research.

Appendix E: Example of written notes in an article during Phase 1 - Familiarisation

Ball et al. (2000), in relation to the measurement of competence suggest a thorough evaluation of whether or not portfolios can provide reliable and valid measurement in this area highlighting issues related to the possible ad hoc nature of portfolio content, objectivity and reliability of portfolio construction as well as the quality of self-directed learning and reflection. They suggest the portfolio can enable the student to construct clinical experience and understand the complexity of their work within different contexts but can also reflect the social and experiential reality of the individual and become more subjective rather than objective in nature, akin to Benner's (1984) competent nurse.

A literature review on portfolios and the assessment of competence conducted by McMullan et al. (2003) as part of an ENB commissioned study is just one of a series of publications related to their work. McMullan et al. (2003) briefly discuss their methodology, citing the use of CINAHL and MEDLINE and the search terms: competence, and portfolios for the years 1989–2001. They found the literature relating to competence to be ambiguous raising questions about methods of assessment, the role of the assessor and the validity and reliability of assessment, each assessor having their own interpretation of competence. The authors rely heavily on the work of Gonczi (1994) to demonstrate what they perceive to be the way forward in this area. Gonczi (1994) suggests that assessment methods should be used in an integrated manner to combine knowledge, understanding, problem solving, technical skills, attitudes and ethics. Gonczi (1994) goes on to suggest that a holistic approach to assessing competence is likely to be more valid or at least equally reliable as other methods. McMullan et al. (2003) recommend the importance of clear guidelines on the purpose, content and structure of the portfolio for the student as well as the assessor (Gallagher, 2001; Tiwari and Tang, 2003; Dolan et al., 2004). The question of how effective the portfolio is at assessing learning and competence remains theoretical rather than empirical with much emphasis on inter-rater reliability.

Scholes et al. (2004) reported further findings of their study based on qualitative results from in depth interviews with both students and assessors. The aim: to determine how students and assessors work through all of these complex elements in order to determine competence in practice. The authors do not make data collection transparent although they do highlight the case study approach within four higher education institutions and also that some interviewing took place in practice placements during the assessment process i.e. tripartite meetings or work based learning seminars. Findings from the study indicate that students do not feel confident in portfolio preparation even with dedicated teaching sessions around portfolio preparation. Assessor preparation was also a key issue, some

institutions favouring distance learning packages for their assessors but in the main course leaders preferred to work on a one to one with their assessors in order to build good relationships between theory and practice. Some assessors felt quite anxious about the process related to their own credibility as practitioners as well as their equity and consistency as assessors. A further key issue was related to the way in which learning outcomes or competencies were presented. If learning outcomes were written in an abstract way to accommodate a variety of clinical situations, students and assessors then had to deconstruct them to make them fit specific practice. If outcomes or competencies did not relate to the practice situation the student reconstructed practice to fit the outcome, raising the question of what is being assessed competence in practice or competence in portfolio construction? One of the key findings of Scholes et al. (2004), also highlighted in the work of Murrell et al. (1998), Gallagher (2001) and Tiwari and Tang (2003), was the ability of students with academic and professional maturity to develop through reflection and portfolio writing as opposed to those students with less academic and professional maturity needing clearer instruction (Murrell et al., 1998; Gallagher, 2001; Tiwari and Tang, 2003).

The key issues from the studies analysed include; the importance of holistic assessment utilising a wide range of evidence as well as clear guidelines for portfolio construction. The issue of clear guidelines was raised not just for students compiling a portfolio but for those mentors and lecturers assessing the portfolio. The studies raised issues around reliability and validity in portfolio assessment.

2.3. Reliability and validity in portfolio assessment.

Pitts et al. (1999), in their work looking at reliability and validity of portfolio assessment, conducted work around the training and development of general practice teachers utilising the portfolio for performance based assessment. They looked at the reliability of judgements made by a panel of assessors about individual components of the portfolio together with an overall judgement about performance. Eight experienced general practice trainers recruited from a large geographical region assessed portfolios from twelve participants. The assessors utilised an assessment guidance framework which had been previously developed by Pitts (1996) and Coles (1994) and included points relating to; the reflective learning process, identification of personal learning needs, consideration of past learning experiences, recognition of effective teaching behaviours, the ability to identify with being a learner, the awareness of educational resources and finally; drawing conclusions with overall reflections on the course and future career development. A global assessment of the whole portfolio

subjective/objective

Assessors own interpretation (interpret)

clear guidelines holistic

Assessor Preparation

Assessors own anxiety

Deconstruction of competencies to interpret within clinical setting

Assessor preparation

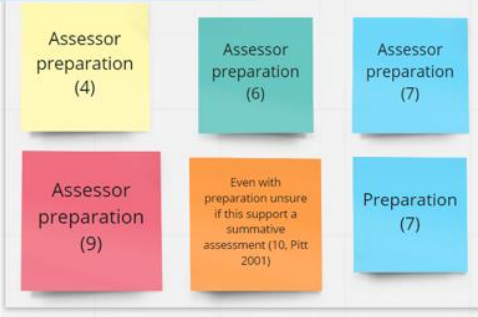
Appendix F: Phase 2 – Generating initial codes



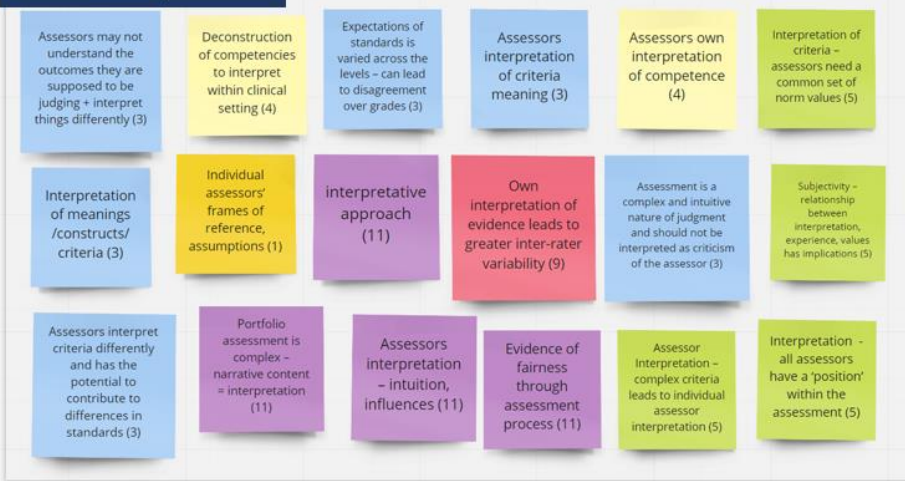
Appendix G: Phase 5: Defining and naming themes

The Assessor

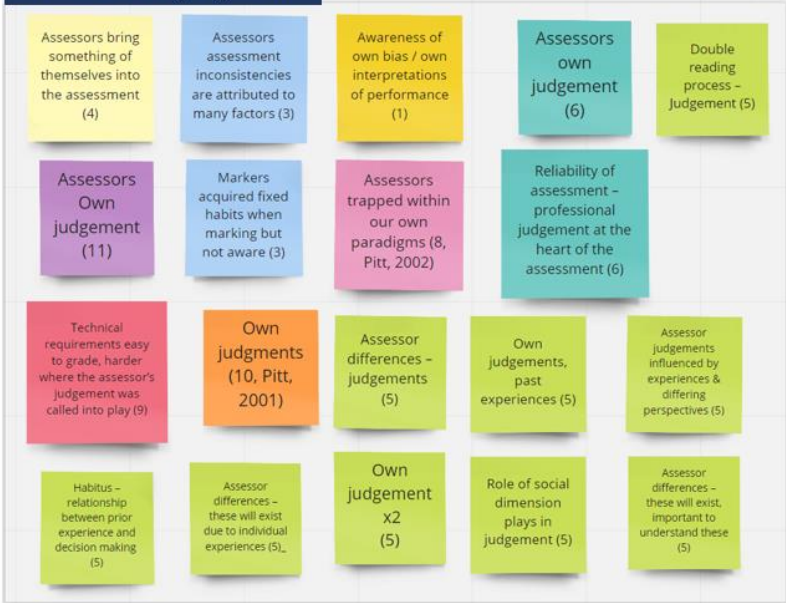
Assessor preparation



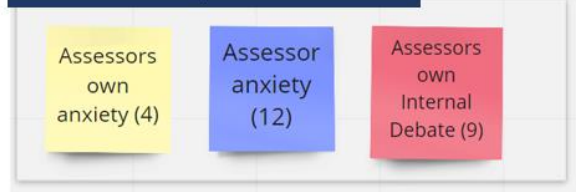
Assessor interpretation



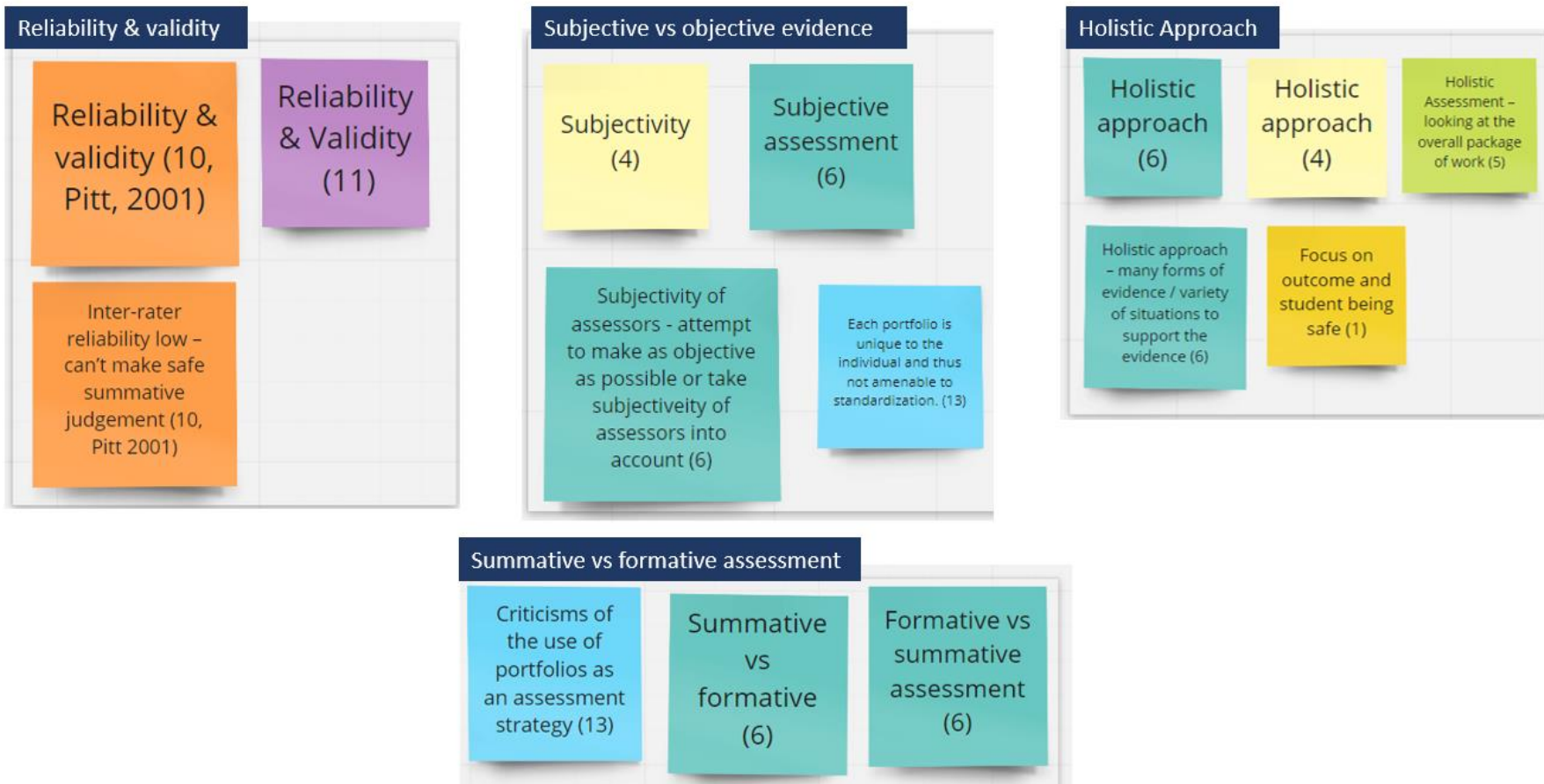
Assessors own judgement



Assessors anxiety & internal debate



External Factors



Recommendations

