

# The role of collaborative reflections in clinical practice: Using an asynchronous online learning environment to promote reflective learning in nursing education.

Michael Browne

Thesis submitted in fulfilment of the requirements for the degree of Master of Education by Research, College of Arts & Education, Victoria University

2018

## Abstract

Nurse education has widely adopted reflective practice during clinical practicum in the form of individual reflective journals in order to enhance learning in the clinical experience. Major problems with this style of reflection have become evident through a review of the research literature, including issues with trust, difficulty choosing the experiences that might be reflected upon, the honesty of reflection, lack of feedback and a propensity to reflect at descriptive levels. These deficits have led many to question the value of reflection during the clinical placement, while others argue that a distortion of the purpose of reflection itself occurs. A limited number of studies have challenged the method of reflection during nursing practicum, most producing minor, or resource inhibitive recommendations without meaningful follow-up studies to verify their merits.

A reflective asynchronous environment was incorporated into the practicum of first year nursing students in an Australian university. Peers were directed to post reflections and respond to reflections of peers. A case study approach incorporated analysis of data from the peer reflections to determine themes and quality of reflections. A questionnaire and a focus group session were undertaken to corroborate reflective data and provide insight into participant perspectives of the new environment.

Findings indicated that improvement in reflective levels related to engagement with the new environment. Participants were able to validate peer experience, leading to enhanced trust, honesty of reflection and quality of reflection, addressing many issues identified in individual reflective journals. This study provides an

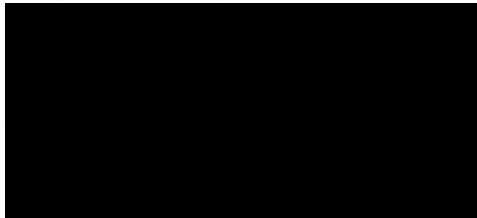
exploration of a new reflective approach, the merits of which directly challenge the entrenched method of individual reflection.

# Masters by Research Student Declaration

## Master by Research Declaration

"I, Michael Browne, declare that the Master by Research thesis entitled *The role of collaborative reflections in clinical practice: Using an asynchronous online learning environment to promote reflective learning in nursing education* is no more than 60,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work."

Signature



Date

19/03/2018

## Acknowledgements

I am extremely lucky and thankful for my research supervisors who have stayed the course throughout this thesis. Thank you Professor Nicola Yelland, your direction, encouragement and expertise in ICT research proved invaluable to this research, I truly appreciate the effort you have made to maintain close direction of this thesis despite your busy workload. Thank you also Professor Tarquam McKenna for the deep interest you maintained in the research. Your reading suggestions, review of chapters and unparalleled ability to phrase the incomprehensible provided not only guidance but inspiration and confidence in my writing.

I would like to thank all participants in the study, who were brave and forthcoming throughout their reflective journey, and also the clinical facilitators who assisted in the implementation of the research.

Special thanks are due to my wife, who has managed to not only birth, but care for our two children Kiara and William during the research. This has been a time of change for us both, though her support and belief in me never changed. I owe her a sincere debt of gratitude.

Finally, I would like to thank my brother Gavin, whose unwavering support and drive helped to maintain my focus and certainty of the study's merit.

## Table of Contents

<b>ABSTRACT</b>	<b>2</b>
<b>ACKNOWLEDGEMENTS</b>	<b>5</b>
<b>LIST OF FIGURES</b>	<b>10</b>
<b>LIST OF TABLES</b>	<b>10</b>
<b>CHAPTER 1 INTRODUCTION</b>	<b>11</b>
1.1 Thesis Structure	17
1.2 Terminology	18
1.3 Summary	18
<b>CHAPTER 2 LITERATURE REVIEW</b>	<b>20</b>
2.1 Introduction	20
2.2 Learning theory and models for reflective practice	21
2.3 Reflective practice in nursing education	40
2.4 Social reflection in nursing literature	56
2.5 Asynchronous environments	63
2.6 Summary	70
<b>CHAPTER 3 METHODOLOGY</b>	<b>73</b>
3.1 Introduction	73
3.2 Case study and units of analysis	76
3.2.1 Participants	77
3.2.2 Asynchronous environment	79
3.4 Linking data to purpose and collection	80
3.4.1 Asynchronous environment data	83
3.4.2 Focus group	85
3.4.3 Questionnaire	88

<b>3.5</b>	<b>The criteria for analysing findings</b>	<b>90</b>
<b>3.5.1</b>	<b>Asynchronous data</b>	<b>91</b>
<b>3.5.2</b>	<b>Focus group data</b>	<b>99</b>
<b>3.5.3</b>	<b>Questionnaire data</b>	<b>99</b>
<b>3.6</b>	<b>Summary and conclusion</b>	<b>100</b>
<b>3.7</b>	<b>Quality</b>	<b>101</b>
<b>3.8</b>	<b>Ethics and consent</b>	<b>103</b>
<b>CHAPTER 4</b>	<b>FINDINGS AND DISCUSSION</b>	<b>104</b>
<b>4.1</b>	<b>Introduction</b>	<b>104</b>
<b>4.2</b>	<b>Q.1 - In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?</b>	<b>104</b>
<b>4.2.1</b>	<b>Shared experience</b>	<b>105</b>
4.2.1.1	Self-reflection	105
4.2.1.2	Confirmation	109
4.2.1.3	Confirmation with some expansion	110
4.2.1.4	Discussion	111
<b>4.2.2</b>	<b>Collaborative consensus</b>	<b>114</b>
<b>4.2.3</b>	<b>Validation of experience</b>	<b>116</b>
4.2.3.1	Self-disclosure of conflict	118
4.2.3.2	Discussion	125
<b>4.2.4</b>	<b>Communication</b>	<b>125</b>
4.2.4.1	Therapeutic relationship	126
4.2.4.2	Language	130
<b>4.3</b>	<b>Q.2 - How do levels of reflection change in the asynchronous environment?</b>	<b>135</b>
<b>4.3.4</b>	<b>Weekly levels of reflection</b>	<b>135</b>
<b>4.4</b>	<b>Q.3 - What changes in reflections, if any, can be attributed to the new environment?</b>	<b>137</b>
<b>4.4.1</b>	<b>Reflecting at the level of peer</b>	<b>138</b>
<b>4.4.2</b>	<b>Participants responded to more reflective posts as deemed by levels of reflection</b>	<b>139</b>
<b>4.4.3</b>	<b>Number of posts read improved level of reflection</b>	<b>140</b>
<b>4.4.4</b>	<b>Number of responses to peers improved level of reflection</b>	<b>141</b>
<b>4.4.5</b>	<b>Reflection improved over time</b>	<b>142</b>
<b>4.4.6</b>	<b>Lack of engagement</b>	<b>143</b>

4.4.7	Discussion	145
4.5	Q.4 - What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?	152
4.5.1	Authority figures in reflection	152
4.5.1.2	Facilitator role in asynchronous reflection	154
4.5.1.3	Discussion	156
4.5.2	Trust and willingness to share	157
4.5.2.1	Emotionally significant experiences	161
4.5.3	Engagement with peers	168
4.5.4	Time constraints	170
4.6	Summary	171
<b>CHAPTER 5 SUMMARY AND CONCLUSION</b>		<b>172</b>
5.1	Summary of key findings	173
5.1.1	Q.1 - In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?	173
5.1.2	Q.2 - How do levels of reflection change in the asynchronous environment?	175
5.1.3	Q.3 - What changes in reflections, if any, can be attributed to the new environment?	176
5.1.4	Q.4 - What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?	177
5.2	Conclusions	178
<b>REFERENCES</b>		<b>190</b>
<b>APPENDICES</b>		<b>196</b>
Appendix 1:	Levels of reflectivity (Mezirow, 1981)	196
Appendix 2:	Levels of reflection	197
Appendix 3:	Reflective data	198
Appendix 4:	Questionnaire to examine the perceptions of student nurses in their clinical practice (Chong, 2009)	210
Appendix 5:	Questionnaire data	212
Appendix 6:	Focus group data	216
Appendix 7:	Student instructions	222



<b>Appendix 8:</b>	<b>Topic guide for focus group</b>	<b>228</b>
<b>Appendix 9:</b>	<b>Research information sheet</b>	<b>229</b>
<b>Appendix 10:</b>	<b>Consent form for participants</b>	<b>232</b>
<b>Appendix 11:</b>	<b>Consent form for staff</b>	<b>234</b>

## List of Figures

<i>Figure 1: The reflection process in context (Boud et al., 1985)</i> .....	23
<i>Figure 2: Six Sources of Evidence: Strengths and Weaknesses (Yin, 2009, Chapter 4, Section 2, para. 4)</i> .....	82
<i>Figure 3: Convergence of evidence in triangulation of data (Yin, 2009, chapter 4, section 2, para 10)</i> .....	91
<i>Figure 4: Case Study Tactics for Four Design Tests (Yin, 2009, Chapter 2, Section 5, Para.5)</i> .....	101
<i>Figure 5: All responses to peers fell into three categories, being self-reflection, confirmation and confirmation with some expansion.</i> .....	105
<i>Figure 6: Posts read by participants compared to number of posts at varying levels of reflection.</i> .....	140
<i>Figure 7: Percentage of posts at non-reflector or reflector level vs number of responses to peers.</i> .....	141
<i>Figure 8: Percentage of initial posts at non-reflector or reflector level over time.</i> .....	142
<i>Figure 9: Percentage of responses to peers at non-reflector or reflector level over time.</i> .....	143

## List of Tables

<i>Table 1: Distribution of respondents based on frequency and percentage (N=12)</i> .....	120
<i>Table 2: Distribution of respondents based on frequency and percentage (N=12)</i> .....	121
<i>Table 3: Distribution of reflections based on frequency and percentage</i> .....	135
<i>Table 4: Distribution of respondents based on frequency and percentage (N=12)</i> .....	139
<i>Table 5: Distribution of respondents based on frequency and percentage (N=12)</i> .....	143
<i>Table 6: Distribution of respondents based on frequency and percentage (N=12)</i> .....	148
<i>Table 7: Distribution of respondents based on frequency and percentage (N=12)</i> .....	149
<i>Table 8: Distribution of respondents based on frequency and percentage (N=12)</i> .....	149
<i>Table 9: Distribution of respondents based on frequency and percentage (N=12)</i> .....	154
<i>Table 10: Distribution of respondents based on frequency and percentage (N=12)</i> .....	155
<i>Table 11: Distribution of respondents based on frequency and percentage (N=12)</i> .....	155
<i>Table 12: Distribution of respondents based on frequency and percentage (N=12)</i> .....	156
<i>Table 13: Distribution of respondents based on frequency and percentage (N=12)</i> .....	159
<i>Table 14: Distribution of respondents based on frequency and percentage (N=12)</i> .....	160
<i>Table 15: Distribution of respondents based on frequency and percentage (N=12)</i> .....	168
<i>Table 16: Distribution of respondents based on frequency and percentage (N=12)</i> .....	169
<i>Table 17: Distribution of respondents based on frequency and percentage (N=12)</i> .....	170

Reflective learning has been described as “*examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective*” (Boyd & Fales, 1983, p. 100). Reflective practices aim to enhance this learning from authentic experiences and may be differentiated from traditional models of learning such as ‘technical rationality.’ Technical rationality is when students and practitioners are encouraged to learn and apply known theory or technical skills into practice. This style of learning is seen to lack the ability to generate learning from living the actual experience and is related to the variables of real world practice (Boud, Keogh, & Walker, 1985; Mezirow, 1981; Schön, 1983).

Schön (1983) explained that variables related to professional practice are innumerable and claimed that professionals required learning in the context of these challenges. It required a shift in intuitive knowledge learned from such experience from the tacit state being brought to the fore, through reflection. Encounters with such challenges are found throughout all areas of nursing clinical practicum, owing to the ever dynamic aspects of interactions with patients, the multidisciplinary team, family members and the complexities surrounding medical conditions. Reflective learning techniques have therefore been widely adopted in nursing to encourage examination and learning from the artistry of practice, related to experience, in order to develop meaning, perspective and plans for future practice (Thompson & Pascal, 2011).

Traditionally, students undertaking a Bachelor of Nursing program are required to complete a set number of clinical hours in a hospital based setting. The

goal of this practice is to provide an authentic nursing experience for students, enabling the connection of theory and practice. To address learning related to the dynamics of practice, the addition of a reflective journal to the clinical placement has become more commonplace (Schön, 1983). This typically requires that students maintain an individual journal containing their deliberations on their thoughts and experiences throughout the clinical practicum, with the intention of enhancing learning from such clinical experiences.

The desired outcomes of effective reflection described in the research literature are varied and include a consideration of; enhancing or developing critical thinking skills, problem solving, connecting theory to practice, developing self-awareness and deriving meaning from experience (Carroll et al., 2002; Chong, 2009; Duffy, 2009; Epp, 2008; Legare & Armstrong, 2017; O'Connor, 2008). Other more freely defined benefits include identifying clinical strengths, limitations, knowledge gaps, clarifying learning objectives, improving the quality of patient care, challenging personal values, and exploring alternative approaches to practice. (Burton, 2000; Levett-Jones, 2007; O'Connor, 2008; Stonehouse, 2015). Despite such claims being described in the nursing research literature, there exists a limited research base to support such claims, particularly when reflective learning is driven by the primary method of individual reflective journals, which tend to report more descriptive or qualitatively lower levels of reflection (Duke & Appleton, 2000; Jensen & Joy, 2005; Kok & Chabeli, 2002; G. Richardson & Maltby, 1995).

The imbedded notion of learning through reflection utilising individual reflective journals deserves some challenge. This style of reflective practice, while seeming to encourage students to explore their own experience, neglects to incorporate theories related to social interactions in learning. Thompson and Pascal

(2012) emphasise that reflective learning seeks to validate learning from clinical experiences. The method of individual journaling does not promote authentic validation of experience, relying on a well-developed reflective writing ability, or the chance of receiving feedback from a clinical facilitator. Nursing research literature has indicated that students require more feedback on their reflections and exemplars to provide clarity of both positive and negative reflective examples (Bowman & Addyman, 2014; Chirema, 2007; Chong, 2009). It becomes apparent that the primary method for feedback of individual reflection comes directly from the clinical facilitator. Feedback on reflection however, needs to be ongoing in order to ensure that learners reflect at appropriate levels (Jensen & Joy, 2005).

Contrary to the request for feedback by nursing students, the research literature describes poor reflective outcomes when of authority figures, such as a facilitator, review, assess or provide feedback for student reflections. It has been noted that the presence of authority creates a sense of being judged, encourages students to write reflections to what they believe is expected, and most significantly, reduces honesty of reflections, defeating the purpose of reflective learning by reducing the ability to create meaning in terms of self (Chong, 2009; Kok & Chabeli, 2002; G. Richardson & Maltby, 1995).

The literature seems to show that the current method of feedback and validation is seemingly inhibiting reflective learning. Detraction from reflective learning related to authority lends consideration to the exploration of different methods for feedback. Wadsworth (1971), describing the work of Jean Piaget, states that learners will actively seek validation of thoughts related to experience through social interaction with peers. The social aspect of reflective learning is strikingly absent in the paradigm of individual journaling, which is despite there being

encouragement for its adaption in reflection by prominent reflective authors (Boud et al., 1985; Mezirow, 1981). Mezirow (1981) discussed the role of social interaction in reflection when involved in common endeavours, making the point that this may enhance learning through shared construction of meaning, developing an understanding of how peers perceive, think or feel and provide the ability to challenge or form consensus through consideration of differing perspectives.

Thompson and Pascal (2012) make the point that engaging in reflection provides the opportunity for students to participate in the determination of reflective learning, enabling students to focus learning to what they deem to be necessary or important, rather than following prescriptive methods that are rarely challenged. There is a clear recognition that practitioners are active participants in learning (Thompson & Pascal, 2012). The individual journal, while supposedly enabling the determination of experience to reflect upon, often suffers from facilitator involvement, shaping which experiences are reflected upon and therefore, the authenticity of such reflections is called into question. This can lead to a sense that the individual journal being regarded as busy work that must painfully meet the needs of the facilitator rather than acting as an effective and relevant student driven learning strategy. Unsurprisingly, nursing research literature notes that nursing students assign a low priority for reflective learning, limiting engagement and diminishing reflective quality (Chirema, 2007; Chong, 2009; Kok & Chabeli, 2002).

Creating more engaging environments for students to participate in may challenge any negative perceptions related to reflective practice and provide clear mechanisms for feedback from authentic peers who are sharing the same endeavours. The rate of technological change has been rapid and major change has

occurred since reflective practice became significant in nursing curriculum. Yet it seems as if the nature of reflective practice has remained static.

Generating ideas and strategies to improve the quality of the nursing profession in the 21<sup>st</sup> century, is not only technologically possible, but socially relevant, and constitutes the inspiration for this research. The works of authors such as Boud et al. (1985) and Mezirow (1981, 1990, 1998) have made significant contributions to our understandings about reflection and promoted the idea that discursive practices are fertile spaces for reflection. This premise has not been thoroughly investigated in nursing research literature and warrants further exploration. This research aims to utilise contemporary approaches by creating an online asynchronous reflective environment aimed at enhancing student learning through reflective discourse, adding the missing element of social discourse suggested by reflective theorists. The negative elements related to authority in reflection such as feeling judged, lack of honesty and the inclination to write what the facilitator expects, may be diminished by authenticity of feedback through a peer driven discourse, in an environment in which students define the learning required related to their own shared experiences.

There is minimal research relating to group reflection in nursing research literature, particularly in asynchronous online environments. This provides a clear gap for exploration, and grounds for the unique and substantial contribution of this research to the current literature. This research has the potential to enhance and change a significant aspect of nursing education practice that is not currently meeting the expectations of students or teachers. This study will provide real implications for the future of curriculum design in nursing education, leading the way

to greater quality of outcomes for student learning during clinical placement and providing guidance for future research.

This research provides the context for group based asynchronous reflective journals in the Victoria University Collaborate program. This requires participants to reflect within their clinical group, providing reflective feedback, critical analysis and confirmation of experiences with authentic peers, rather than create individual paper based journals that may never be read or validated. The research explores the impact of the asynchronous environment on social reflective discourse by coding reflective levels, analysing student reflective discourse and perspectives while determining what changes may be attributable to the new environment.

A case study approach was chosen for its flexibility and ability to explore the complexities of this contemporary social phenomena, while accurately representing findings of real life behaviours that cannot be manipulated (Yin, 2009). Both qualitative and quantitative sources of evidence were collected to provide data for analysis and synthesis of findings including; asynchronous reflective data, focus group data and survey responses. The research design incorporated multiple data sources to explore a broader range of variables while allowing for converging lines of inquiry to corroborate findings through triangulation, synthesising more accurate and convincing findings (Yin, 2009).

Four research questions were established to address the exploratory nature of this study, providing guidance and scope for the data collection and analysis. The four questions also provided mechanism to frame the thesis presentation throughout the chapters. The four research questions that focussed the study were:



1. In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?
2. How do levels of reflection change in the asynchronous environment?
3. What changes in reflections, if any, can be attributed to the new environment?
4. What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?

## 1.1 Thesis Structure

*Chapter one* provides an introduction to reflective practice in nursing clinical practicum, the background, identification of the research gaps, the research questions and an overview of the research design.

*Chapter two*, the literature review, examines, critiques and summarises learning theory and models for reflective practice, reflective practice in nursing education, social reflection in nursing, and the application of asynchronous feedback environments.

*Chapter three* describes the research approach and methodology utilised in the study, detailing and rationalising the approach implemented in the study.

*Chapter four* combines the analysis and synthesis of both findings and discussion. These are presented in relation to the research questions.

*Chapter five* presents the summary of main findings and conclusions of the study. Implications for future research and limitations of the study are examined.

## 1.2 Terminology

*Reflective Practice* refers to learning techniques designed to enhance reflective learning from experience such as developing or challenging meaning or perspective ascribed to the experience.

*Facilitator or clinical facilitator* refers to the registered nurse supervising students during clinical practicum. Facilitators may be employed by either the university or the hospital hosting the clinical placement.

*Asynchronous online environment* refers to an environment in which learners can post initial reflections or feedback to peers separated by time, allowing for more considered or reflective responses.

## 1.3 Summary

This chapter has explored some of the background premises of reflective practice in nursing education. The key issues were described and a gap for research exploration was identified. The rationale for the research design and implementation was described along with the necessity for change in reflective practice in nursing. The research purpose here was to explore a contemporary method of reflective practice during nursing clinical practicum that has the potential to address the shortfalls of the current prevailing paradigm, individual reflective journals, through implementation of a social, engaging, modern environment.

Next, chapter two, the literature review, explores concepts related to reflective practice in nursing literature in greater depth, clarifying current practice, outcomes,

strengths and weaknesses. The gap for exploration is further defined and further rationale for implementation of a social reflective model established.

## Chapter 2

## Literature Review

### 2.1 Introduction

This chapter explores the research literature related to studies of reflective practice in nursing education. Reflective practice is described as ‘examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective’ (Boyd & Fales, 1983, p. 100). Reflective learning takes place in various settings, but none more widely than during student nurse clinical placements. Developing an understanding of environments or learning tasks that enhance reflection in the context of clinical experience is the focus of this research literature review.

The chapter is organised to provide context, inform the research designed for this study, and is detailed in the following sections:

- *Learning theory and models for reflective practice*

Definitions, theory and models of reflective practice are examined. Evaluation techniques of reflective practice are also critically explored.

- *Reflective practice in nursing education*

Critical analysis of the contemporary research literature related to reflective practice in nursing education.

- *Social reflection in nursing literature*

A review of various social interventions adapted in reflective practice research literature is explored and critiqued.

- *Asynchronous environments*

Consideration of the role of asynchronous environment and peer related discourse in nursing literature is examined.

- *Summary*

Summarises the key findings of the literature review, linking gaps in the research literature to the proposed study.

## 2.2 Learning theory and models for reflective practice

Yin (2009) made the point that case study research benefits from a thorough review of the literature in order to guide data collection and analysis techniques. A review of learning theory and reflective practice models was pertinent to this literature review in order to identify and aid in the selection of models for evaluation in the design of the research (Yin, 2009). Background and other relevant learning theory has also been reviewed to enable the ability to determine the merits of each model and the relevant research literature explored in further sections of this chapter.

Prior to the work of Schön (1983, 1987), there was little evidence of reflective practice found in nursing research literature. Schön (1983) is considered to have produced some of the seminal works on reflective practice, and nursing education has endeavoured to incorporate his theories into the field. This is evidenced by the multitude of citing's in nursing research and journal articles relating to reflective practices (Duffy, 2007; Dymont & O'Connell, 2011; Mantzoukas & Jasper, 2004; O'Connor, 2008; Ruth-Sahd, 2003; Thompson & Pascal, 2012; Thorpe, 2004; Van Horn & Freed, 2008; Youssef, 2011). Schön (1983) put forth that 'technical rationality' had overwhelmed the drive of many professions and described it as "high, hard ground" in which a practitioner can problem solve by drawing upon known research or theory to assist them in their decision making. Schön (1983) argued that technical rationality is not always suited to professions, especially those in the areas

of social or humanistic studies, but he makes a clear distinction between the high ground of technical rationality and the “swampy lowland” in which there are situations that the practitioner has no theoretical basis to draw upon. Schön (1983) explained that these unique areas require practitioners to rely on experience, trial and error and intuition without which one may reduce their scope of practice. Schön (1983) theorised that by utilizing reflection-in-action, during the experience, and reflection-on-action, after the event, practitioners could bring forth understandings that may have otherwise remained tacit. While the work of Schön was influential, it does not provide details of the concise methods for implementing effective reflective practices in a particular learning environment.

Boud et al. (1985) are also highly influential authors in nursing literature related to reflective practice, and importantly, comprise the basis of the current research participant's prior learning related to reflection. Boud et al. (1985) describe reflection as the response of the learner to experience, which are broken into two major components, being the experience, including the thoughts, feelings, actions or conclusions made related to this, followed by the reflective activity based upon learning from that experience. Boud et al. (1985, p. 34) make the point that the outcome of reflection may include “a new way of doing something, the clarification of an issue, the development of a skill or the resolution of a problem.” They continue to claim that reflecting on experience may lead to a new cognitive map, new perspectives, and that behaviour changes may result from reflection. They continue, stating that synthesis, validation and appropriation of knowledge are not only outcomes, but part of the reflective process. The work of Boud et al. (1985) has become significant in the development of reflective learning interventions related to

nursing, partly because it attempts to clarify the reflective process and provides guidance on implementing effective reflective learning methods.

Boud et al. (1985) assert that learning may be enhanced by strengthening the link between the learning experience and the reflective activity which follows. They provide a three stage model of the reflective process that may enhance reflection and corresponding learning. This is a non-linear model, whereby learners may move back and forth through stages in order to create a deeper understanding of the experience, outlined in Figure 1.

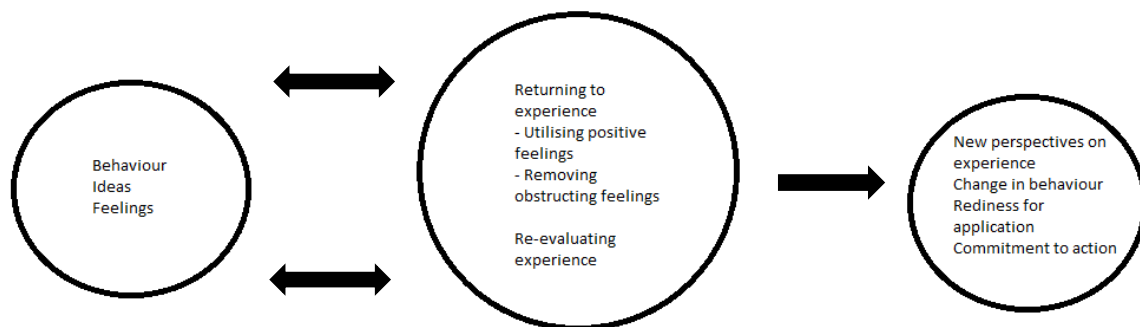


Figure 1: The reflection process in context (Boud et al., 1985)

Stage *one* involves returning to experience, recollecting the experience objectively, taking note of what has occurred, and one's own reaction to the experience. In this manner, the learner has the ability to visualise data about the actual event without judgement or what the learner wished had happened (Boud et al., 1985). Stage *two* refers to attending to feelings, creating an awareness of the learner's feelings during the initial experience being reflected upon. Stage two enables the learner to explore their feelings toward an experience in an attempt to clarify and address negative obstructions that may cause impairment in learning from similar experiences in the future. This stage prevents the learner from closing themselves to learning opportunities. Stage *three* involves the learner re-evaluating the experience and

includes four aspects that may enhance outcomes; association, relating new experience to existing knowledge and attitudes, integration, beginning the process of discriminating ideas related to association whilst attempting to understand the nature of relationships that may have developed and drawing conclusions or insights, validation, whereby learners begin to challenge new insights for internal consistency, and appropriation, whereby learners adopt new knowledge into their own value systems and become less amenable to future change. Importantly, Boud et al. (1985) make the point that reflective writing about experience can provide a clear way to return to the experience while exploring aspects of reflection can benefit from discussion between learner and facilitator or peer-to-peer. Asynchronous environments provide a new method of exploring reflections in a peer guided environment. They may contribute to deeper reflection and learning from experience.

Mezirow (1981, 1990, 1991, 1998) is also regularly cited in nursing related reflective practice journals and has written extensively on the topic (Chirema, 2007; Dymont & O'Connell, 2011; Hargreaves, 2004; Kember et al., 1999; Murphy, 2004; Thompson & Pascal, 2012). Mezirow takes a similar view to Schön (1983), and contends that education is largely focused on technical rationality, in which competency based, skills training, task analysis and criteria-referenced evaluation are frequently applied to practice. Mezirow (1981) described two other modes of learning and educational design that he believed are lacking in practice. He maintained that social interaction and perspective transformation are key elements lacking in education and may be found by adopting reflective practice. Social interaction is described as being when learners, and others they are involved with, construct meaning, how they label themselves and others and understanding of sensitivity to the way others anticipate, perceive, think and feel while involved with



the learner in common endeavours. The second characteristic, perspective transformation, involves the learner being able to identify problems and considers the way in which power relationships and institutionalised ideologies, in which the learner can identify cultural or personal beliefs that may be challenged through considering differing perspectives. It should be noted that to achieve both modes, Mezirow (1981) recommended the use of reflection, and identifies alternative perspectives and collaboration in reflection as significant. This is a significant addition in the research literature and is neglected in current nursing curriculum.

Mezirow (1981) added further to the reflective concept by developing a hierarchy, or levels of reflection. These levels have been adapted and utilised in some nursing research to determine the effectiveness of individual reflections.

Mezirow's levels of reflection include:

Level 1: Reflectivity

Aware of a specific perception, meaning or behaviour of our own or of habits we have of seeing, thinking or acting.

Level 2: Affective Reflectivity

Aware of how we feel about the way we perceive, thinking or acting or about our habits of doing so.

Level 3: Discriminant Reflectivity

Assess the efficacy of our perceptions, thoughts, actions and habits of doing things; identify immediate causes; recognize reality contexts (a play, game, dream, or religious, musical or drug experience, etc.) in which we are functioning and identify our relationships in the situation.

#### Level 4: Judgemental Reflectivity

Making and becoming aware of our value judgments about our perceptions, thoughts, actions and habits in terms of their being liked or disliked, beautiful or ugly, positive or negative.

#### Level 5: Conceptual Reflectivity

The act of self-reflection which might lead one to question whether one's own concepts are adequate for understanding or judging.

#### Level 6: Psychic Reflectivity

Recognize in oneself the habit of making precipitant judgments about people, events or ideas on the basis of limited information about them (as well as recognizing the interests and anticipations which influence the way we perceive, think or act.)

#### Level 7: Theoretical Reflectivity

Aware that the reason for this habit of precipitant judgment or for conceptual inadequacy is a set of taken-for-granted cultural or psychological assumptions which explain personal experience less satisfactorily than another perspective with more functional criteria for seeing, thinking and acting.

The later work of Mezirow (1991, Chapter 4, Section 4, Para. 1) provides more clarity about reflection and posited the definition "Reflection is the process of critically assessing the content, process, or premise(s) of our efforts to interpret and give meaning to an experience." Mezirow (1991) surmised that reflective learning could be confirmative or transformative, and clarified reflection by describing it as being constituted in three forms; non-reflective action, reflective action and premise

reflection. Non-reflective action included three sub-categories, habitual action, an activity that is performed automatically with little conscious thought, thoughtful action, existing knowledge or experience identified with no attempt to appraise that knowledge or experience, and introspection, identification of feelings or thoughts towards the self or others without attempt to examine why these exist. Reflective action is described in two sub-categories, content reflection and process reflection. Content reflection pertains to reflection based on what we perceive, think, feel or act upon, while process reflection examines how one critiques their own perception, thinking, feeling or acting with an assessment of efficacy in performing them. Premise reflection is described as the dynamic by which our meaning or perspectives become transformed. These meanings may be more inclusive, discriminating, open and more able to integrate experience. Mezirow (1991) clarified the differences between learning techniques, making the distinction that problem solving is different to problem posing, in which reflection may bring about to challenge the validity of the experience.

Understanding the depth of reflection in learning is significantly different than theoretical concepts of reflection. In this sense, researchers have developed models to identify the depth of reflection learners are able to achieve. This research is particularly useful, as without a clear guide, it is difficult to assess the effectiveness of reflective interventions or understand if students are benefiting from this style of learning. Significant research has utilised the work of Boud et al. (1985) and the later work of Mezirow (1990) as templates to develop clearer methods to recognise the purpose and extent of student reflection.

Wong, Kember, Chung, and Yan (1995) conducted a study with the intent of creating a consistent method of assessing the level of reflection from written

reflections. During a post-registration unit related to nursing education, participants in the study were asked to deliver planned education to either student nurses or their patient and write a reflective paper related to this experience. Theoretical work by Mezirow (1990) and Boud et al. (1985) formed the basis for estimating the quality of reflections in two separate systems. 45 scripts were included in the study and coded into respective categories by five independent researchers. The first model was derived from the work of Boud et al. (1985), described earlier, and pertained to six levels, including attending to feelings, association, integration, validation, appropriation and outcome of reflection. This model posed significant challenges for the researchers to code, though they described the ability for researchers to discriminate between the first three levels, attending to feelings, association and integration versus the three higher levels, validation, appropriation and outcome of reflection. Reliability values of the coding in this study were calculated by dividing the number of agreements by the total number of agreements plus disagreements. The first three coders reached agreement between 0.5 and 0.75, though two coders found this method too difficult to differentiate between the elements and the study provides no reference to the reliability of this method when the missing coders are added. The researchers made the point that the model itself suggests that some aspects are not distinct or unrelated. The researchers do not recommend the further use of this model. The second model was derived from the later work of Mezirow (1991), described earlier. It classified the 45 participants into three categories, non-reflector (13%), reflector (76%), and critical reflector (11%). A reliability coefficient of 0.88 was reached independently between coders and it was possible to reach full agreement with discussion. The researchers made the point that this three level system was straightforward and reliable.

Building upon the work of Wong et al. (1995), Kember et al. (1999) conducted further analysis of methods to evaluate reflection in student journals by adapting the work of Mezirow (1991) into a similar but more defined classification scheme. The classifications were broken into those discussed by Mezirow (1991), being habitual action, thoughtful action, introspection, content reflection, process reflection and premise reflection. Kember et al. (1999) collected journals from students undertaking undergraduate degree programs in Hong Kong, including nursing, occupational therapy, physiotherapy and radiotherapy. An initial sample student journals were reviewed to determine the reliability of coding and to modify definitions of each category and tested upon three representative journals. Cronbach alpha was utilised as a measurement of reliability, computing this at 0.65. Following this, an unknown number of reflective papers from students undertaking clinical placement were coded independently by four separate assessors with a higher level of agreement, a Cronbach alpha value of 0.74, of which the authors state is considered reliable. The authors indicated that the major difference between both coding attempts was the later assessed reflections as a whole while the former assessed divided text segments. The authors also make the point that this method is sufficient to determine if reflective thinking is taking place. Categorising reflectors as this study demonstrates, is possible to accurately attain and provides a solid benchmark for interventions intending to evaluate and implement reflective curricula. The coding scheme and determinants were utilised and adapted for coding in the current research. This method is less reliable than the previous adaption of Mezirow's work described by Wong et al. (1995), but does provide significantly more instruction about how to code reflections into the categories. A model utilising the coding scheme described by Kember et al. (1999) but adopting the three level model may

provide more reliability while still creating insight into the categories originally described by Mezirow.

The process of reflective practice has many roots, though it is firmly embedded in Constructivist theory. Constructivist theory is derived from the work of Piaget (1972) and describe learners as being able to construct their own knowledge, and building upon previous experience and knowledge, rather than passively absorbing or reproducing it (Brandon & All, 2010; Garmston & Wellman, 1994; Young & Paterson, 2007). Young and Paterson (2007) state that Constructivism is individualistic in nature, overlooking the social aspect to learning. This proposition is in direct conflict however with Piaget's thoughts on egocentrism and socialisation, in which a learner seeks validation of thoughts through social interaction with peers (Wadsworth, 1971). When thinking about learning, reflective practice, learning from experience is a key foundation and is consistent with the premise of constructivist theory. Unfortunately, if students are asked to document reflections in a private journal, there can be no interaction of ideas among peers, negating the aspects of validation through social interaction. Providing a model to incorporate Piaget's descriptions may increase learning in the reflective model. Constructivism is often described including social parameters for learning, though to be technically correct, the theory that incorporates Constructivist and social interaction is titled 'Social Constructivism.'

Social Constructivism's origin is predominantly credited to Vygotsky (1978), who implied that learning cannot be separated from social context. Vygotsky (1978) put forth that learning can lead development. This has implications for the proposed research, as the aim of reflective practice is for learners to develop higher levels of reflection that, according to the research outlined in this chapter, are not being met

by nursing students under the current paradigm of individual journaling. Vygotsky's major theme was that the space between a learners' actual level of development and the potential level of development, termed the 'Zone of Proximal Development (ZPD),' can be reached through guidance or collaboration with peers at higher levels of development.

The ZPD may also be reachable by the process of *scaffolding*, initially described by Wood, Bruner, and Ross (1976) as the processes which enable the student to achieve learning which would typically be beyond their unassisted ability. These processes take various forms and often include teacher intervention to determine necessary scaffolds or peer interaction (Howe, 2013; Lin & Samuel, 2013) Wood et al. (1976) made the point that for scaffolding to be successful, comprehension of the solution must precede the ability to produce the steps leading to independent production of the learning outcome. Without this comprehension, strategies such as feedback are ineffective (Wood et al., 1976). Yelland and Masters (2007) build upon scaffolding theory, making the point that scaffolding needs to be dynamic in order to meet individual ZPD requirements, collaborative and with the learners intentions being the aim, provide an environment slightly beyond the learner's level, and that the scaffold must be gradually withdrawn as the learner becomes more adept. Rosenshine and Meister (1992) cited in Yelland and Masters (2007) add that scaffolds should be dynamic and generative when higher level cognitive skills, such as reflective practice, are being learned, noting that step-by-step scaffolds are not appropriate to these formats. Various types of scaffolding are apparent in the research literature, though the expectations of reflective learning with peer's limits the exploration to those not strictly focused on skills acquisition.

Howe (2013) conducted a review of studies related to abstract learning and scaffolding, concluding that scaffolding has the ability to support abstract learning and improve learner performance on subsequent tasks. Howe (2013) described positive associations with teacher directed scaffolds rather than peer related, stating that scaffolding would benefit from a richer range of tasks and teacher input, prompting groups of students to explain their reasoning. Peer interaction, while viewed as positive, enabling consensus forming in the group and the ability to challenge uncertainties, did not display positive correlations to testing in the abstract environment. Despite examining the use of scaffolding on abstract ideas, these ideas still tended to relate to technical rationality, to which firm answers could be reached or researched, for example ideas influencing the size of shadows or rates of cooling (Howe, 2013). This type of scaffolding seems suited to technical learning rather than the experiential learning desired through reflective practices. Reflective practices are designed to challenge learners to engage with their own pre-conceived beliefs related to experience. The peer related portion of this model may enhance reflection through the asynchronous reflective environment through the ability to form consensus and challenge uncertainties of experience (Mezirow, 1981).

Yelland and Masters (2007) conducted a case study to explore scaffolding strategies and interactions in computer contexts over two years, examining two separate cohorts in the same primary school. First year participants were observed and teaching incorporated aspects of technical and affective scaffolding. The study of second year participants adopted three simultaneous scaffolding strategies post observation and strategy planning from year one. These included cognitive, technical and affective scaffolding. Yelland and Masters (2007, p. 367) defined the term *cognitive scaffolding* as “activities which pertain to the development of conceptual



and procedural understandings which involve either techniques or devices to assist the learner,” and included the use of questions, modelling, planning and encouraging collaboration. Technical scaffolding related to assistance with the technological learning context. Affective scaffolding was utilised to keep participants on task, including encouragement to engage with various activities. The study indicated that the second year scaffolded participants completed tasks at higher and more knowledgeable levels, spent more time discussing plans, were more enthusiastic and noted the requirement for differing levels of individual scaffolding. Paired scaffolding participants displayed the ability to work together to understand and interpret requirements, create actions, reflect upon plans, predict consequences, monitor and modify progress, discuss and analyse results and seek information from their partners related to the environment. The study indicated a direct need for teachers to be included in the scaffolding process, particularly in the affective, providing means for learners to present their ideas to an authentic audience of peers.

The research context proposed for the current study includes an asynchronous environment, and despite the research of Yelland and Masters (2007) pertaining to young learners, it identifies significant implications for peer based reflection in adult learners. Yelland and Masters (2007) made the point that a major factor in cognitive scaffolding is collaboration with peers, promoting problem-solving ability, planning, and implementation of strategies when young learners are able to listen to alternative perspectives, reconcile these with their own experience and reach consensus. This style of scaffolding is directly relatable to reflective practice, specifically that of Mezirow (1981), who described a need for reflective practices to include social interaction to construct meaning while involved in common

endeavours such as nursing clinical practicum. Mezirow (1981) also noted that reflection requires the challenge of personal beliefs through consideration of different perspectives, provided for in the cognitive scaffolding model and a significant gap in the process of individual reflection. Technological scaffolding displays a need for clear and concise instruction for the utilisation of the online environment which should be peer led. Affective scaffolding including prompts and encouragement in a true peer led environment may be the most significant challenge, as the teacher presence is deliberately removed and interference in reflective processes may influence the outcomes of this study. Perhaps assigning specific roles for the teacher in the asynchronous reflective environment such as allocating specific time for participants to reflect may be useful. Yelland and Masters (2007) concluded their work by indicating teachers need to recognise how learners spontaneously solve problems in order to be effective in determining the level of scaffolding. This point highlights the importance of the current study in recognising how participants reflect and learn in the new environment, providing potential to explore, and in the future, implement targeted scaffolding related to the affective, technological and cognitive needs in the constructivist inspired asynchronous reflective environment.

Brandon and All (2010) make clear that Constructivist learning theory promotes conceptual growth, which develops from the sharing of differing perspectives, especially if another perspective can challenge a students' own pre-conceptions. This re-enforces the notion that an asynchronous dialogue, which replaces an individual journal, may enable students to challenge and grow ideas through dialogue with peers. Garmston and Wellman (1994) contend that in the constructivist model, the environment is just as important as the material, or content to be learned. They outline social interaction as a key feature for deep learning, in

which students may work together, sharing experiences, to find meaning, holding true to the social aspect of Mezirow (1981, 1998) and reflective learning.

Tobias and Duffy (2009) argue that Constructivist approaches may not be appropriate for every learning situation. Tobias and Duffy (2009) use the example of a learner being required to perform highly repetitive skills. In such contexts, repetitive drill and practice exercises may produce better or more accurate outcomes, such as accurate drug measurements or injection techniques. In these situations, direct observation and repetitive practice generally tend to be more effective than constructivist approaches. Tobias and Duffy (2009) make the point, however, that in other areas, such as creating sustained interest in learning, student growth, interest, and agency, adopting constructivist ideals such as social engagement in activities, would result in deeper learning than the repetitive drill and practice approach. Constructivist driven learning theory supports the contention that reflective based, experience focused learning models and environments may maximise certain learning outcomes, such as those outlined by Mezirow (1981, 1998).

Another learning theory that may support the use of reflection includes social learning theory. Rutherford-Hemming (2012) with reference to Bandura (1977, 1993), outlined social learning theory, also known as social cognitive theory, making the point that learning begins through observation of others, but recognise that people are self-reflecting, self-organising individuals who gain expertise through practice with internal and external feedback. This theory resonates with the current research in that individual participants will not only be provided the opportunity to observe the reflections of others to develop an understanding of reflection, but gain

expertise through their own internal reflection and receive external feedback from peers.

Andragogy is another learning theory that can be considered to align with constructivist thinking and approaches. Andragogy is described by Forrest and Peterson (2006) as a theory of adult learning. Forrest and Peterson (2006) state that Andragogy contains four key components, first, a self-directing self-concept, whereby students will learn more effectively using self-directed approaches. Secondly, use of experience, meaning students bring with them valuable life experience to aid class discussion and learning. Third, a readiness to learn, whereby students will perform better if the unit is relevant to their life or future. Lastly, a performance-centred orientation to learning, in which students will learn if tasks are set in relevance to real life. Knowles, cited in Bryan Taylor and Kroth (2009) add two more components, being motivation to learn, whereby adults motivation is based more internally and focuses on goal attainment and self-fulfilment. Secondly, the need to know, describes how adults will perform more exceptionally when they understand the reasons behind the learning and why it is relevant or important. All these key features resonate with constructivist approaches and reflective theory, since the majority of points require some form of reflection to determine the abstract meanings.

The implementation of andragogy in a practical sense raises issues and questions for educators. Gehring (2000) asserted that the distinction between a student being an immature learner in an adult body is common. However, we need to consider the diversity of the student population in order to design relevant learning environments. For example, if we consider first year nursing students, who come to nursing education in a university directly from high school education, we need to consider the following question; do all students possess a readiness, or motivation to

work, in self-directed environments? Reflective and constructivist approaches may provide insight into the depths of experience which may answer these questions for both student and teacher.

Allman (1983) cited in Grace (1996) makes the point that Andragogy is limited in that human beings are social beings and are socially and historically, interactive. She noted that andragogy is an approach involving a realignment of relationships. Andragogy seems to neglect the social context of learning and puts a large emphasis on the self.

Another prominent learning theory related to reflection and constructivist theory is Kolb's learning cycle. The importance of this learning theory is highlighted by Desmedt and Valcke (2004) who conducted a citation analysis using the Institute for Scientific Information's Social Science Citation Index. This analysis revealed that Kolb's cycle pertained to 49% of the literature related to learning styles, indicating its significant interest by researchers. This cycle contains four aspects of a learners' path that must be achieved for learning to take place. Duff and Duffy (2002) describe the four aspects, being; concrete experience which leads to; observations and reflections of the experience, which leads to; forming abstract concepts about the experience, which leads to; experimenting or testing the concept. This theory contends that without reflection on the learning, a student may not strive to the higher levels of learning, being forming abstract concepts or experimenting. Utilising reflection to enhance aspect the second aspect, observations and reflections of the experience, may enable the student to achieve higher learning. Incorporating this model encourages students to build upon new and existing experience and change pre-conceptions that may not be accurate. The potential for nursing students on clinical placement may lie in the reflector category. As students are exposed to

experience on clinical placement, a concrete experience, they require a chance to reflect upon this thoroughly. The reflective environment or task may have potential to enhance learning as set out in Kolb's cycle, and validates investigation into creating effective environments.

In contrast to the paper written by Duff and Duffy (2002), Vince (1998) makes the point that experiences are not always positive, and utilising this type of learning may actually have the opposite effect if the experience is a negative one. Vince (1998) also stated that people are not always open to experience in the first place, blocking their minds to potential learning and without adequate support, may resent the learning process aimed at reflection. E. Smith (2011) supported this, and highlighted that without proper explanation of techniques, students may perceive reflective practice as elusive or idealistic rather than essential to learning. An engaging environment and applying an environment that can address negative experiences, as described by Boud et al. (1985) may limit or negate the negatives described.

Honey & Mumford (1986, 1992) cited in Rassool and Rawaf (2007, pp. 36-37) developed a questionnaire oriented toward Kolb's learning cycle, designed to identify a participant's learning style. The questionnaire was written on the assumption that individual learners will learn more effectively under differing portions of Kolb's cycle. Each of Kolb's 4 aspects were renamed to reflect the learner categories as follows;

(1) Activist: Learning dominated by immediate experience. Learn in the here and now.

(2) Reflector: Prefer to Observe and reflect on experience thoroughly.  
Tend to be quiet and keep a low profile.

(3) Theorists: Adopt logical and rational approaches, need structure with clear goal.

(4) Pragmatists: Take a practical approach, like to experiment and test ideas to see if they work.

Much of the research performed on the learning styles of nursing students utilised Honey & Mumford's questionnaire (2000a). Cavanagh, Hogan, and Ramgopal (1995) administered the questionnaire to 184 nursing students prior to any contact with teaching staff and found 46.3% of learners identified as reflective. Rassool and Rawaf (2007) administered this questionnaire to 108 undergraduate nursing students, finding that the reflector group was the highest category identified, with 48.44%, followed by activist, 16%, theorist 6.5% and pragmatist 5.5%. The remainder of the group fell into dual categories. The findings of this study were confirmed by Fleming, Huntley-Moore & Mckee (2011) who performed the same questionnaire on 58 nursing students in their first and then in their final year. They found the preferred learning style of students in their first (69%) and final (57%) year was as reflector. The high levels of reflector styles in nursing students over many years remains relatively consistent and highlights the importance of developing teaching and learning that will encompass and enhance reflective learning.

A. Smith and Jack (2005) examined the attitudes toward reflective practice using a focus group interview and web discussion board. They stated that after completing Honey & Mumford's learning style questionnaire, participants who were identified in the reflector category found reflection more useful. Although the research does not provide conclusive or substantial evidence for this claim, it does add to the assertion that reflector category students may learn best in an environment suited to their style. Considering the large proportion of reflector style

nursing students described earlier, adding appropriate teaching and learning techniques that target reflection may improve learning outcomes of nursing students.

### 2.3 Reflective practice in nursing education

This section intends to explore the current state of reflective practice in nursing research literature. A review of the beliefs, application and outcomes of older and current research papers will be explored in this section to gather an understanding of the usefulness of various approaches. This provides an opportunity to adapt successful strategies and avoid the pitfalls of previous attempts to improve reflective outcomes. Gaps in the literature will be critiqued, discussed and rationalised in the context of the current study.

The reflective process as documented in nursing literature may leave one with a sense of vague and loosely defined benefits, without clear definition or instruction on how to incorporate this into practice (Carroll et al., 2002; Cotton, 2001). Take for example “Reflection involves not only cognitive processes but also affective, social, cultural, and political reasoning” (Mezirow, 1981) cited in (Jensen & Joy, 2005, p. 139). Chong (2009, p. 112) states ‘in short’ that reflective practice “is associated with relationships and to individual needs and to a larger extent emotional and personal feelings that have impacted on the intellectual reflective learning.” Statements such as these may leave nursing educators wondering what tangible practice could possibly incorporate so many divergent ideas.

Schön (1983) originally put forth the theories of ‘reflection-in-action’ and ‘reflection-on-action.’ Reflection-in-action refers to that of ‘tacit’ knowledge or actions we may do intuitively, unaware at the time of the reflective process involved. This is not to say reflection is not taking place, but is limited to the action. In nursing,



reflection-in-action may have merit, enabling nurses to 'think on their feet,' intuitively utilising the knowledge from coursework to put into practice. Despite this, the use of reflection in nursing tends to focus more on the latter, reflection-on-action, whereby students may reflect on actions or events that happened prior to the reflective period. The major premise is that through discourse on action, learning and meaning will result (Clegg, Tan, & Saeidi, 2002).

There is some consensus in nursing literature as to the intended beneficial aspects of reflection. These include, enhancing or developing critical thinking skills, problem solving, bridging theory to practice, self-awareness and deriving meaning from experience (Carroll et al., 2002; Chong, 2009; Duffy, 2009; Epp, 2008; Legare & Armstrong, 2017; O'Connor, 2008). Other more loosely defined benefits include identifying clinical strengths, limitations, knowledge deficits, learning objectives, improving the quality of patient care, challenging personal values, and exploring alternative approaches. (Burton, 2000; Levett-Jones, 2007; O'Connor, 2008; Stonehouse, 2015). Unfortunately there does not seem to be consensus on which reflective strategies actually meet the loosely defined goals of reflection in the most efficient way, despite reflection being strongly advocated in nursing curriculum, the actual benefits, especially those focused on student learning, also seem to be lacking in current research literature (Dyment & O'Connell, 2011; Hargreaves, 2004).

Without clear objectives of reflective practice, it raises the question of what is actually being assessed or evaluated, is there congruence among higher education providers or is this left entirely to the assumption of educators? There is little evidence in the literature to make a clear determination of this and many even discuss that evaluation or assessment of reflections actually diminishes their

legitimacy due to safety or privacy concerns (Bristol & Kyarsgaard, 2012; Chirema, 2007; O'Connell & Dymont, 2011).

There is also an obvious need for clear objectives of reflection in nursing practice. The nursing literature puts forth some ways in which to incorporate reflective practice into curriculum. Typically, reflective practice is utilised during clinical placements and may include narrative reflection, journaling, debrief by group, individual debriefing, diaries, discussion, or a combination of these (Burton, 2000; Chong, 2009).

The literature surrounding reflective research provides more layers of complexity. As with the learning outcomes, there are many abstract frameworks for identifying appropriate levels of reflection. There does seem to be a basic theme however. Levels of reflection tend to adopt certain criteria, though the wording of such and levels of hierarchy differ. Typically these criterion move from lower levels to higher, encompassing the following; describing or identifying, evaluation or critical analysis, developing action plans, developing hypothesis, changed viewpoint, or drawing conclusions (Mantzoukas, 2008; Mezirow, 1981, 1998; Thorpe, 2004). These types of criterion provide educators a guide as to how reflection can be either graded or guided. Not surprisingly some of the nursing research into reflection utilises similar scales to draw conclusions from.

It has been noted that in nursing, and in particular nursing education programs and institutions, the ability to critically reflect is held as being of particular importance (E. Smith, 2011). Some of the more recognised claims in non-researched nursing literature are that reflective practice enhances critical thinking, problem solving abilities, higher level thinking and bridges the theory-practice gap. These

claims deviate from the message of original reflective authors and research proving such claims is severely lacking in both numbers and quality.

The use of a reflective journal during clinical practice has been one of the most common techniques adopted in nursing preparation programs (Epp, 2008; Jensen & Joy, 2005). Consistently, the majority of research on reflection has been performed with regard to nursing journals, whereby the student maintains a diary of sorts that relates to a particular theme, for example clinical placement. There has been limited research conducted in this area in the last ten years, therefore some older studies have been examined throughout this literature review.

Hatlevik (2012) conducted a study to examine nursing students' acquired reflective skills, practical skills and theoretical knowledge in relation to the coherence between theory and practice. The sample involved 446 third year (final year) nursing students from two universities in Norway. Hatlevik (2012) found that reflective skills, one full standard deviation above the mean, predicted coherence at 0.43 above the mean, demonstrating that a higher level of reflection helps to bridge the gap between theory and practice. The study also provides some evidence that theoretical knowledge plays a role in reflection. Hatlevik does not, however, attribute any meaning to this, whether higher academic achieving students are naturally inclined toward reflection, or the act of reflection improves academic performance. It should also be noted that this was a secondary study, not initially targeted at these findings, providing scope to target a future study towards the specific agenda. This study does provide some insight into the role of reflective practice in developing a loose link between theory and practice.

Chirema (2007) conducted a qualitative case study to examine the use of reflective journals in promoting reflection and learning. Participants in this study included 42 post-registration nurses undertaking units in either palliative care or breast care nursing as part of a Diploma in Professional Studies and participants were chosen due to their previous experience in reflective journal writing. Participants were asked to reflect upon a significant event or incident from their clinical experience and identify future learning needs. Though feelings toward a significant incident were to be documented outside of the reflective journal. The removal of feelings seems incongruent with the nature of reflection, in that participants cannot fully explore an experience fully delving into their intrinsic response and confronting the feelings toward the experience. In addition, the coding criterion used by the researchers clearly identifies feelings in multiple levels of reflection, demonstrating some inconsistency in the study. Data were collected from 42 reflective journals and 20 interviews. Categories or levels of reflection by Mezirow (1991) and utilised by Wong et al. (1995) were utilised for coding in a similar fashion to the current research. Interestingly, reliability of the model displayed 0.95 between the researcher and rater between non-reflectors, reflectors and critical-reflectors, providing merit for this method of coding and its use in the current research. Reflective journals were analysed and participants separated into one of three levels as follows, nine non-reflectors, 28 reflectors, and five critical reflector. Five participants were randomly selected from each level for follow up interviews to better understand their experience and views of writing reflective journals. Two teachers who provided reflective guidance and three preceptors who supported participants of each level of reflection on clinical placement were also interviewed to investigate their views on the preparation and role in the process. Participants acknowledged

that the reflections assisted with the analysis of experience and highlighted enhanced awareness of learning and its application and the need for further learning. Some participants were confident in writing their journals, though others appreciated the opportunity to discuss the issues and receive feedback. Confidentiality was a major concern to participants and the students required reassurance from the safety of journals. The amount of time involved in reflecting was also a large issue for participants who noted that the reflective journal was not a priority. Participants requested exemplars to clarify positive and negative aspects of reflection and requested more feedback on reflections. The individual reflective journal does not provide a clear avenue for discussion nor feedback as requested by participants in this study, creating an opportunity to explore models which do so. Participants requested more exemplars despite being provided with some, opening a gap for a reflective design incorporating multiple exemplars such as an asynchronous reflective journal. The perception of time and the low priority of reflective journaling may also benefit from the creation of a more engaging model of reflection and deserves investigation.

Assessing the educational viability of reflective diaries in facilitating reflection in a community health care practice setting was analysed in a study by G. Richardson and Maltby (1995). The participants included 30 second year nursing students attending a four week community health clinical placement. Reflective diary entries were analysed according to an adjusted version of six levels of reflectivity, initially based on the seven levels described earlier, by Mezirow (1981). G. Richardson and Maltby (1995) combined level five and six in this study to create a new level five, 'assessment of whether further learning is required to assist in decision making.' Thematic analysis of a focus group interview comprising of eight

participants followed to discuss the experience of reflective diary writing. Descriptive statistics relating to the levels of reflection indicated that the majority of reflections occurred in the lower levels, 36% at level 1, 28% at level 2 and 30% at level 3, accounting for 94% of entries. Only 6% of entries reached higher levels. Focus group discussion found positive aspects of the medium, including that participants were able to utilise their reflections to describe inner feelings of discomfort, some participants understood the reflective process enabled them to evaluate their own clinical progress, the reflective diary did facilitate reflective learning, or learning from experiences and ensured that participants did learn from and analyse aspects of their clinical experience. Participants describe a major barrier in the reflective diary as a feeling of being judged, preventing true reflections, relating to the assessable nature of the reflective diary. Participants also noted that it is helpful for the facilitator to provide some guidance, feedback, and that the facilitator be well versed in reflective writing. This research provides an early example of nursing students benefiting from the medium, reflective journaling, in that it does produce the researchers aim of facilitating reflection on practice. The research provides a clear goal of reflection, rather than the platitude of claims around this topic. The levels of reflection reached by participants was low, providing room for different strategies to strengthen reflection in nursing students. Assessment of reflection is shown in this study to detract from reflection as the assessor is seen to be judging participants. This is in contradiction to the significant request for feedback highlighted by participants and also found in the previous study by Chirema (2007). This leaves room for a strategy, such as asynchronous reflective journals, to provide peer feedback, while removing the power unbalancing judgement of assessors.

Duke and Appleton (2000) produced one of the few semi-quantitative studies using a reflective grading scale to determine the level of reflection being demonstrated by their 160 post-registration students undertaking a palliative care undergraduate module over the course of one to two years. Duke and Appleton (2000) reviewed the content of each student's reflective journal style assignment to determine the extent of reflection. The results provide evidence of students being able to describe practice but less likely to analyse knowledge and its appropriate application to practice, context of care or develop action plans, skills which are deemed essential to reflection. The lack of action planning also suggests that reflection by journaling may not encourage nurses to improve their practice as a result of reflection. Another finding of this study was that reflection did improve over time, though these students were all post-registration, meaning many may have already undertaken a three year Bachelor of Nursing with reflective practice embedded in the curriculum.

Other research investigating levels of reflection in nursing journals tends to point in the same direction. Jensen and Joy (2005) utilised a seven level model of reflection by Mezirow (1981), outlined earlier, to analyse the extent of reflection in the journals of 20 junior baccalaureate nursing students at the beginning, middle and end of a 12-week health assessment unit. Despite preparing students for the task with learning activities related to Mezirow's seven levels of reflection and asking participants to actually document in each level, 82% of entries were categorised in level 1 to 4. 41% of journals were rated at level 3 and 37% of journals were lower. Jensen and Joy (2005) noted in that interrater reliability between two researchers coding the levels was 0.74 and noted in their limitations that further validation was needed. This research highlights the point that reflective journals, even when well

explained, struggle to reach higher levels of reflection. In direct contrast to the findings of Duke and Appleton (2000) however, Jensen and Joy (2005) found that reflection was devolved over time. This study provided students with rigorous training before the research began, and then ceased. Jensen and Joy (2005) surmised that students required ongoing re-enforcement of how to complete nursing journals at levels deemed appropriate for outcomes. Other authors agree with this and have suggested that re-enforcement, providing consistent advice or clear instruction of journaling may improve performance, though there is a dearth of research in nursing literature to validate these claims (Chong, 2009; Jensen & Joy, 2005; Thorpe, 2004). Perhaps the amount of re-enforcement required to ensure journaling is performed at an appropriate level is too difficult or time consuming for teachers. It may be possible that teachers do not recognise the outcomes expected of journaling to begin with.

Testing the function of reflective models was conducted in a study undertaken by Thorpe (2004). Thorpe (2004) conducted a qualitative study of 52 nursing students undertaking a nursing management course with unknown nursing experience. Participants were required to maintain a written journal to explore concepts discussed in class or in prescribed readings. Thorpe (2004) utilised a three category system, based on the work of Mezirow (1991) and adapted by Wong et al. (1997) and Kember et al. (1999) to categorise participant's reflections, being; non-reflectors, reflectors and critical reflectors. The non-reflector category consisted of 8 to 20 participants, the reflector category consisted of the majority, and critical reflectors consisted of 6 students. This study provides some insight into how well reflection is performed by students using journals and despite providing no evidence of reliability, does affirm the use of the reflective descriptions provided by Mezirow (1991) and developed as coding devices by Kember et al. (1999) and Wong et al.



(1995); Wong et al. (1997). It seems reasonable to assume that students find it difficult to reach the critical reflector level. Another supposition could hold that perhaps the expectation of student nurses to reach the higher levels of reflection is not an appropriate goal, and the reflector category, where the majority of participants resided, is an appropriate level for student nurses to achieve learning from experience. Jensen and Joy (2005) add to this, making the point that higher levels of reflection such as critical reflection, require a substantial well-grounded base of experience to build upon, though in the context of student nurses, this may not exist.

Ross, Mahal, Chinnapen, Kolar, and Woodman (2014) conducted a qualitative thematic analysis of 64 individual reflective journal entries by 11 third year nursing students on a pilot community mental health placement. Although the aims of this study were to explore the participant's lived experience during the placement, the analysis of the journals does provide some insight into the reflections of nursing students. Four themes emerged in the study. The first theme, pre-conceived notions, entailed description of feelings including nervousness, anxiety, excitement and fear related to insufficient knowledge or uncertainty of how to interact with clients. The written journal provided a way to document the realisation of how this was overcome. Learning outcome and experiences was the second theme, describing more confidence, understanding of condition and ability to apply new and learned knowledge to practice. Due to the nature of the research, it is unclear if the reflection in the journal created the confidence and understanding or was merely the document of what took place anyway. The authors stated that the placement helped them change perspectives but did not mention the reflective journal contributing. Atmosphere of the workplace was identified as the third theme, whereby most participants noted that staff in mental health were warm and welcoming. Holistic

client centred care was identified as the final theme, whereby participants found themselves moving away from the task oriented aspects of nursing and moving toward a deeper personal connection with patients. Although this research was aimed at examining a new type of clinical placement, the themes do provide insight into the way nursing students utilise reflective journals. Students were more likely to reflect upon anxieties, confidence, knowledge application and perspectives. These topics provide a way for students to intuitively describe non-skills related aspects of clinical practicum which are not straightforward. The individual journal however does not allow for the participant to discuss these topics independently deemed important enough to reflect upon by students, creating a large gap for investigation.

Chong (2009) conducted a quantitative cross sectional descriptive survey of 108 pre-registration final year Diploma of Nursing students in Malaysia with the aim of developing a report on how the students perceived and interpreted reflective practice. Students were asked to write a minimum of one reflective journal entry every two weeks during clinical placement. It should be noted that the reflective practice in this program is used as an assessment and the author notes that students did not do well in this area. Face validity was utilised in the development of the questionnaire and validated by five nursing lecturers for content validity. Cronbach alpha was utilised to determine internal reliability, returning a value of 0.8. A pilot study of 10 students, who were not included in the final questionnaire, was conducted prior to the larger cohort, to test reproducibility via test-retest validity. A three point Likert scale, including agree, not sure and disagree was implemented to discern student perceptions. A reproduction of the questionnaire and data can be located in Appendix 4 and due to the direct and significant findings, has been adapted for the current research. The results displayed numerous findings, including

that most participants understood the usefulness of reflective practice, including learning from experience, fostering accountability and that it helped to review both positive and negative experiences. Interestingly, the author stated that participants were more inclined to reflect upon positive experiences, though when provided the statement 'I usually reflect upon negative issues' the data clearly stated that 62% of her respondents agreed. Although this does create a significant conflict of data, it does provide an insight that participants may view reflecting upon negative aspects of experience as a positive, perhaps providing a means to address these experiences. The study found that 61% of participants believed they could manipulate the process to meet the course outcomes and that 59% agreed they were writing what was expected rather than what was truly felt. This point provides significant data towards the previously qualitative view that assessment of reflections actually inhibits learners from true reflection, though the author does not state that assessment was the causative factor. The majority of participants acknowledged time constraints as barrier, described the need for more assistance from the tutor to develop more critical reflection and noted that tutors should be consistent and be equipped with knowledge on reflective practice. The author notes that reflection may enable nurses to interrogate their actions, but is more effective in a supportive environment. Further, 86% of participants agreed that they need feedback on their reflective practice. These few statements provide deep insights into the state of individual reflective journals, displaying that student nurses are not provided with feedback, or support, related their individual reflections. Perhaps keeping a personal diary of ones' own reflections does not provide much, if any support, for participants and that feedback is a direct form of support. Models that provide this type of support may include asynchronous environments that would provide peer reflections and

feedback. The four issues of reflection of highest frequency included acting professionally/nursing skills (51%), nursing action/decision making (51%), emotional reactions (45.9%), and communication with patient (42.8%). All of these are legitimate issues that the student nurse may require reflection upon to assist in determining or informing future actions. Sixty-six percent of participants agreed that they felt frustrated at not being able to resolve their reflections. Without feedback to confirm or challenge the student perception of their experience, the reflection is left drifting and may never manage resolution. A study into an environment that provides peer reflections to challenge, or confirm, experiences may enable the student nurse to resolve such frustration and provide a way forward in the study and implementation of reflective practice in nursing.

There would seem to be a perception amongst nursing students that journaling is an academic requirement and as such, not an integral part of practice. Kok and Chabeli (2002) report a study conducted by one of their students, involving six nursing students from South Africa. Participants attended a six month mental health clinical placement in which participants were asked to submit their reflective diary post completion of placement. A qualitative design including a focus group interview was conducted post placement which related to student perceptions of reflective journal writing as a teaching strategy to promote reflective thinking. Their findings were similar to Chong (2009), whereby students acknowledged the usefulness of reflective journals, such as developing problem solving skills by reflecting on key incidents, though despite the acknowledgement, students stated they were writing at the surface level, merely what happened, with no deep reflection. Kok and Chabeli (2002) found an emerging theme was related to the element of time causing negative perceptions on reflective journaling, perhaps

diminishing engagement in the activity. Distrust was identified as a final but not inconsequential theme. One participant explained they did not want to write down their emotions as they did not know how others, presumably the teacher, would interpret them. The authors make the point that reflection should be completed in a safe environment, free of judgement or reprisal, to enable students to reflect honestly. Though small, this study does provide a significant qualitative description that confirms some of the earlier findings related to nursing students reflecting at lower or descriptive levels, relating that time is an issue and distrust in who would read their reflections. Kok and Chabeli (2002) made recommendations for future research and teaching design and included the need for peer group discussion, indicating that such an environment would encourage dialogue and prompt students to justify their reflections in a rational manner while learning to validate assumptions. They note that peer discussions should be teacher led, but fail to note the significant description of distrust provided earlier. An environment in which student nurses could create a reflective discussion led by peers, rather than teacher, may provide the benefits described without the significant distrust of relating personal experience to teaching staff that have the ability to influence student course outcomes.

Perhaps the most significant study to confirm the detriment of assessment in reflective writing was conducted by Bowman and Addyman (2014). Bowman and Addyman (2014) conducted a qualitative study utilising focus group interviews to explore the student experience of academic reflective writing (ARW). Eight self-selected post-registration nursing and midwifery students undertaking a supported learning in practice course were asked to complete a 4000 word ARW piece during their clinical placement. Major themes emerging from the interview included ARW being a challenging task related to work-life balance of post-registration nurses and

the difficulty of linking the personal experience in reflective writing with a body of literature to support their experience. This is not a surprising finding, considering the original purpose of reflective writing is to explore experiences not covered by technical rationality, literally meaning there is no rule book or guide for these experiences. Participants described the need for excessive supervision of their writing, as the format challenged participants to move from first person reflections to third person academic writing. True reflections were inhibited in this format as found in previous research due to the assessable nature (Chong, 2009; Kok & Chabeli, 2002). The research conducted by the authors led to the discontinuation of this form of assessment at the institution. Participants asked that exemplars be made available due to the challenging nature of the writing. One participant asked that a group be set up for peer review. The peer review was recommended by the authors, along with the potential for interactive sessions to analyse good and bad reflective pieces and shifting from individual reflection to group face-to-face or an online format. This opens the possibility that an online asynchronous journal could improve reflective writing in multiple areas, especially the ability to review multiple reflections, ability to receive peer feedback on reflections and it meets the direct recommendation of the authors of this study.

These studies provide evidence that not all forms of reflective practice may be ideal in enhancing reflective learning outcomes. From the research it is clear that students struggle to reach the higher levels of reflection and the claims of enhanced critical thinking and problem solving skills via the use of current reflective practices are not encompassed adequately in the current designs. Perhaps the ideal level of reflection may not reflect the realistic expectations for an undergraduate level of study. It is possible that the evaluation of reflection is not actually measuring what

some educators intended to find in the first place. Problem solving skills tend to relate to technical rationality as described earlier, which does not have a place in reflection that is designed to promote other areas such as social or perspective changes based upon reflection of experience (Mezirow, 1981). By utilising reflective models it is not surprising that students are not meeting the outcomes purported by non-researched literature. It may also be possible that the style of reflection, journaling, is not the appropriate context for reflection.

Many studies in the research nursing literature have been aimed at assessing the level of reflection students are able to achieve. This poses a question, is the goal of nursing education, particularly on clinical placement, for students to become more skilled in reflection and deriving meaning from experience, or to develop the skills reflection is perceived to enhance, such as critical thinking ability and bridging theory to practice gap? Perhaps reflection needs to be guided toward skills related goals in another separate entity and not clustered under the heading of reflective practice?

With the end goal of reflective practice originally being that of developing an understanding or new perspective towards experience, it seems at odds with the notion of nursing's commonly stated benefits of linking theory to practice or enhancing problem based learning. These 'benefits' of reflective practice lean heavily toward a more technical and task based level of understanding, changing a profession into a technician. For instance, asking a nurse to reflect upon a scenario in which an injection was performed earlier in the day, may lead the nurse to review the skills utilised and possibly understand how the actions could have been improved. This however cannot be described as creating meaning or perspective change when a text book is determining the best practice approach to the task. This is known as 'technical rationality' (Schön, 1983). It may explain why research

conducted on student journals, utilising reflective models, tend to highlight that students are merely writing at a surface level. Schön (1983) describes professional practice including unique cases that fall outside of applied theory, whereby problem solving may fall outside the categories of applied sciences as it is unique or unstable, known by Schön as the 'swampy lowlands.' Much confusion in the literature can be drawn to this one point, as reflective practice was intended to deal with the non-technical aspects of practice, though it is now being evaluated on the merits of improving this.

## 2.4 Social reflection in nursing literature

Mezirow (1981) describes becoming critically reflective and notes that in the higher levels of reflection, one is able to develop superior perspectives, being inclusive, discriminating or interrogative, but also permeable enough to allow access to other perspectives. This statement does not seem to resonate with the self-reflection of individual journals, as other perspectives are completely lacking and cannot be taken into account. This opens the door to the possibility of a social driven reflective model.

This insight is developed further by Thompson and Pascal (2011) who discuss the existential-phenomenological concept of being in the world of practice. This idea refers to understanding individual insights in the wider social context with interaction in practice. On clinical placement nursing students work in an incredibly social context. The majority of their experience is derived from interactions with multidisciplinary teams including nurses, doctors, physiotherapists, social workers, education staff, radiologists, pharmacists, dieticians, peers and pastors to name a few. Outside of the team, the experience consists of further social interaction with



patients and family members. Asking students to create individual journals may prompt some reflection toward social constructs but lacks the context to perform this adequately if there is no challenge or confirmation to existing beliefs. A social platform to reflect may provide this challenge or confirmation of reflections of social context, as its nature is existing in this social sphere.

Thompson and Pascal (2011) contended that individual reflection may lack the ability to challenge the influence of cultural formations in one's experience, especially strong belief systems such as those based on cultural or gender factors. Being that such belief systems strongly shape how we see the world, neglecting a social discourse to challenge these may lead to simplification or re-enforcing already held beliefs or stereotypes, rather than challenging our belief and forming new meaning or perspective. Thompson and Pascal (2011) also make the point that humans are not free from social restraint nor bound by it. This point does imply the potential for reflection in a social context to be hindered by social norms, whereby students will not reflect a true insight due to fear of reprisal in the group. In contrast, individual reflective journals have the potential to neglect the social context of experience and develop individual focused reflections that reduce context and meaning making in real practice.

In the study conducted by Kok and Chabeli (2002) an interesting insight from one participant seemed incongruent with the research:

*"We develop analytical critical thinking skills as we debate and argue situations in an effort to connect and relate different experiences by different students. When we justify our thinking, we verbalise our*

*thinking loudly and fellow students can criticise you and thus growth in thinking develops (Kok & Chabeli, 2002, p. 39)."*

Kok and Chabeli (2002) focused their research on individual journal writing, though the student is clearly identifying reflecting with peers, despite the study relating to the individual journals that were not disclosed to peers. The participant is making links between reflection and learning through peer or social interaction and not the journaling itself. Chong (2009) described 66.3% of her respondents feeling frustrated at not being able to solve issues brought up by journaling. Perhaps a model of reflection that incorporates the social aspect would address this issue.

Asselin and Fain (2013) indirectly examined group reflection in two groups of 10 acute care nurses in the north east United States. This study was aimed at assessing the interventions of Kim, Clabo, Burbank, Leveillee, and Martins (2010) titled the Critical Reflective Inquiry model (CRI). The CRI model encourages learners through questioning and cues in a three stage structured approach to reflection. These include the descriptive stage whereby learners construct a written narrative of experience, a reflective stage, whereby learners examine personal beliefs or assumptions by reflecting upon standards or ethics, and a critical stage in which learners focus on correcting or changing ineffective practice through critique. Groups were required to attend three two hour sessions in which direction was provided on the use of the CRI. Participants were asked to provide a written reflective narrative which were explored as a group in relation to the CRI in weeks two and three. An adapted Self-reflection and insight scale (SRIS) was administered at the end of each week to develop quantitative data related to engagement with self-reflection. 56 narratives were collected and individual interviews conducted with each participant to produce qualitative themes. Findings of the study included noting that self-reflective

scores were higher immediately post-program, peer facilitation was viewed as a positive experience in working through reflections and participants recognised that reflection was learning through practice or experience. Despite this research being aimed at examining the CRI, the most significant findings of this study unknowingly pertained to the effect of group reflection, in a similar fashion to that of Kok and Chabeli (2002). The following participant is described by the authors as commenting on the value of the written narrative, though upon closer analysis, appears to be describing the value of peer reflection:

*“When you actually put it down on paper and share it with someone, you gain clarity in process; whereas I think a lot of times we keep things just circling around in our heads and never share one-on-one or reflect to grow – to get it out there, to expose it.... To work on it and then to put it to rest (Asselin & Fain, 2013, pp. 117-118).”*

This participant is clearly indicating the importance of sharing their reflections within their group. Other major findings of this study included the fact that participants grew more confident and comfortable reflecting in depth by listening to the reflections and perspectives of others in the group, learning from the experience of other members of the group from different hospital units, the importance of a similar experience in the group to make a connection, groups focusing on similar issues dependant on their level of expertise and roles, and reflections developing over time. Although Asselin and Fain (2013) intended to examine the CRI, the most significant findings of their study highlighted by participants were related to reflection in a group setting. They provided minimal direct link to the CRI intervention and outcomes. This study leaves a wide gap in the literature for avenues to explore an intervention designed to actually enhance group reflection, particularly when engaging student nurses. In the

case of nursing students, it would be unreasonable to spend too hours discussing individual reflections during clinical placement, as this should be spent learning from experience in the hospital setting. An asynchronous online environment may create the setting for group reflection to produce the positive outcomes noted in this research without detracting from the clinical experience itself.

Van Horn and Freed (2008) examined the impact of reflective journaling in pairs versus individual ones. The participants included 39 nursing students undertaking a seven-credit Nursing III course, who were divided into 20 paired and 19 individual journaling. Students were asked to keep a weekly journal for nine weeks, using them to answer and record specific guided questions. Van Horn and Freed (2008) found that the individual journal entries mostly focused on psychomotor skills and negative feelings such as anxiety, fear or intimidation which consisted of half the emotions described. The paired students demonstrated less negative emotion, 30% of emotional entries were assigned to this category. Paired students on placement were able to discuss their fears and emotions with each other and were able to identify learning in the social context:

*“We can point out problems and we can discuss important information with each other (Van Horn & Freed, 2008, p. 224).”*

This research confirms some of the problems of individual journaling, especially relating to students writing reflections at surface levels and provides some evidence of groups making real connections that impacted on practice. Van Horn and Freed (2008) chose to utilise a nine stage reflective model based on the work of (Boyd & Fales, 1983) to evaluate reflective practice. The nine questions presented to students in the journal exercise directly relate to each stage in the model, strongly

leading the participants to confirm the researchers point. The nine questions also produced such effects as to create research that is non-representative of a typical nursing student journal. Boyd and Fales (1983) clearly describe their end goal of reflection as clarifying the meaning of experience in terms of self to develop a new conceptual perspective. Although utilising a model adapted from the work of Boyd and Fales (1983), Van Horn and Freed (2008) do not address the idea of changed conceptual perspectives. This research is one of the only nursing related pieces to explore the social aspects of reflection and despite the negatives in its methodology, is perhaps a step forward.

Liddiard and Sullivan (2017) adopted some aspects of social reflection when conducting reflective practice sessions in a Welsh mental health facility. Reflective sessions consisted of group discussions and were run once per month on each unit for an hour. All nursing staff were encouraged to attend. Topics for reflection were participant driven and exploratory, allowing group discussion of any issue pertinent to the nurse. Liddiard and Sullivan (2017) conducted semi-structured interviews of eight participants, including charge nurses and deputy nurse managers, in an attempt to evaluate nurse's views of the reflective sessions and how they may become more helpful. A thematic analysis of the interviews revealed both positive and negative aspects of the group reflections. Positive factors included generating ideas related to nursing growth, such as gaining reassurance and insight from the reflections of other's experience, or perspective, and being able to self-disclose experiences, frustrations or feelings. Reflecting on alternative ideas for patient care as well as reflecting on poorly managed situations to improve future outcomes through collaboration were also considered positive outcomes of the study. Negative aspects of the study included participants feeling unable to be completely honest or

reluctant to participate. This was explained as an authority issue, as participants felt those of higher status or rank may look down on their experience. Other detrimental factors included poor attendance or contribution, leading to less viewpoints and therefore a poor quality reflective process. Some staff were also singled out and ridiculed in this process. A feeling that some ideas came to no resolution was also reported as a negative aspect. This study re-enforces the findings of Van Horn and Freed (2008), that group reflections provide participants the ability to engage with ideas rather than document them. Wider input from peers allowed participants to be exposed to alternate thinking on how to approach nursing and was viewed as a positive element in improving practice. The current paradigm of using individual reflective journals does not allow for peer feedback. Although it allows the nurse to document and reflect on their own experience, it does not encourage the nurse to challenge or learn from alternative strategies, severely limiting growth.

The authority aspect of the Liddiard and Sullivan (2017) study implies a serious power imbalance which limits reflection and participation in the process. This view was surmised by (Piaget, 1932, 1985) cited in (Howe, 2013) that conceptions which are prescribed by authority have the ability to be appropriated by the learner for short term growth, rather than coordinating existing conceptions with alternative or contrasting views, creating long term change. The asynchronous reflective journal proposed includes nursing students on their first clinical placement, and asks each participant to contribute once per week and respond to a peer once per week. This approach limits power imbalance as peers are of the same workplace status and the format ensures participants have a clear voice in collaborative reflection. This also has the potential to align with Piaget's assertions, enabling learners to build upon experience through peer reflection leading to long term growth rather than short term

appropriation of an authority's ideas. Moving to an online reflective model in nursing is a fairly new idea and requires some investigation.

## 2.5 Asynchronous environments

Since the introduction of computers to classrooms, teachers have recognised their potential importance and benefits for learning. However, teachers may not consider the learning environment when designing virtual classrooms or lessons. Teachers have been inclined to use new technologies and their associated learning spaces, as information 'dumps' whereby they present large amount of references online for the students to use (Jonassen, 2008). They may also use drill and practice activities as their main form of pedagogy (Jonassen, 2008). For this reason, Constructivist Learning Environments (CLE) have been developed. CLE are technology driven learning spaces aimed at enabling teachers to adopt constructivist learning strategies to creating experiential learning spaces. In these environments, students can explore, experiment, construct, converse and reflect upon their learning and experiences (Wang, 2009). These environments maintain the traditions of constructivism, though they focus heavily on the tenants of *social* constructivism. In this way, students create knowledge through collaborative construction in a social-cultural context, mediated by discourse (Wang, 2009). Through such collaborations, students in CLE are able to reflect in very different ways than in previous contexts. However, to date, minimal research has been conducted regarding the effectiveness in the approach, especially in relation to the nursing sciences (Wang, 2009).

Waters (2012) suggested that collaboration in online environments often takes the form of asynchronous discussion boards, whereby students can read a post or comments, and reflect upon them before making a follow up comment or providing

feedback, potentially forming communities of enquiry. Hansen (2008) supports Waters' theme that the online environment produces more communication, both with peers and teachers, and has the potential to create a greater sense of community than that which occurs in face to face learning. The higher frequency of communication and interactions observed in online environments helps to foster a sense of belonging to a class and social group which does not always occur in traditional education (Hansen, 2008). Adding to this, separation in time encourages students to gather information before framing a response or argument when responding to peers (Curtis, 2006). This format has a distinct advantage over face to face, in that students may develop communities of minds, increase communication, and provide students time to truly reflect on action.

In contrast to positive factors associated with online learning, aspects of this context, such as lack of teacher presence, have been attributed to high course withdrawal rates and poor quality of learning, leaving students confused with a lack of direction (Ekmekci, 2013). Jonassen (2008) contended that online discussions may not have the richness of face to face in some instances. Jonassen (2008) also discussed the difficulties in online communication, stating that the loss of communication cues such as body language, tone of voice, accents, dialects, pace and pauses, which humans tend to derive meaning from, is lost in online contexts and has the potential to detract from the quality of the interactions. With benefits and pitfalls of social reflection and discussions, a review of the literature seems pertinent but is significantly limited in nursing literature. The research to be conducted and report here intends to explore this gap.

Curtis (2006) conducted the most similar study to that of this intended research, in that it explores the use of an asynchronous environment. However, the



context differs significantly. Curtis (2006) examined the reflections of 29 online HIV/AIDS education students in an asynchronous environment. Participants were provided topics and readings over 15 weeks to examine and reflect upon. Participants were encouraged to post reflections, provide feedback for peers and pose questions of their own. Coding of each reflection was undertaken utilising Mezirow (1981) Levels of Reflection, adapted by Kember et al. (1999), for a total of 238 postings. Participant responses were separated into three categories, content reflection (133), process reflection (75) and premise reflection (30). Qualitative examination of postings revealed students were able to reassess ideas due to peer challenges. The following quote from a participant resonates with this and provides evidence of reflecting on the insights of peers before responding.

*“Now that I’ve read everyone’s responses, I’ve decided that I have a lot more to think about and research before making an educated answer (Curtis, 2006, p. 6).”*

Interestingly, participants were able to change or shape their thinking in response to peer feedback. The majority of premise reflection involved participants questioning the meaning and validity in which HIV/AIDS educators are engaged. The study provided topics for discussion each week that seemed designed for students to reach the higher level of reflection, premise reflection. Broad, controversial and discussion topics which were challenging to values and beliefs were included. This study included a weekly posting to the account with topic title. Unfortunately, the author does not comment on the large number of premise reflection for certain topics and lack of postings in others. The titles of each week may provide some insight into the lack of postings, the following titles have 0 instances of premise reflection; “men who have sex with men,” “HIV and addiction,” “international issues,” “aids education

in schools,” and “STI co-factors.” The lack of premise reflection in these topics leaves one to ponder why. It may be possible that participants did not have experience in these issues. The works of Schön (1983, 1987) make it apparent that reflection on action requires an action or experience to reflect upon. It may also be possible that participants were not comfortable reflecting openly about controversial issues, for example, “HIV and addiction,” “men who have sex with men,” and “aids education in schools,” are sure to develop some controversy if discussed by a group of people who have never met before, leading participants to be fearful of being targeted. In contrast to this, less controversial topics whereby participants may have experience yielded high results, for example “testing for HIV” revealed the highest instance of premise reflection, followed by “partner notification.” Participants working in this field would obviously have tested patients for HIV and provided education on partner notification, allowing participants to actually draw from lived experience, producing deeper meaning in these discussions.

Hampton, Pearce, and Moser (2017) supports the assumption that reflecting on lived experience may produce deeper meanings, making the point that online learning activities need to be transferrable to real world situations and be authentic to ensure learner engagement is achieved. Creating an environment in which participants will actively engage, such as an asynchronous reflective journal, may be enhanced in the context of clinical placement, whereby participants are reflecting upon real clinical experience within a group of peers who are experiencing a similar theme. Here, there is a large gap in the literature with no research investigating this particular theme.

Despite the lack of research pertaining to reflective practice in asynchronous environments during clinical placement, some evidence on the use of asynchronous

environments does exist in the nursing literature that may provide some indirect guidance regarding the appropriate implementation and student perspectives.

Bristol and Kyarsgaard (2012) conducted research pertaining to group sizes in asynchronous environments utilising descriptive, correlational and quasi-experimental methodology. Twenty-three Bachelor of Nursing students participated in the study which included asynchronous discussions held in different courses over separate semesters. The variables being the first course enrolled participants in groups of 12 and 11 in an adult medical-surgical course, the second course enrolled participants in a larger group of 23 in an obstetrics and paediatric course. Participants were expected to complete critical thinking activities and questions in the asynchronous environment. Surveys were conducted in the last two weeks of class which displayed only one significant difference, being the smaller groups found that online discussions helped them to 'dig deeper' into the course content. Qualitatively participants noted that the environment provided more flexibility, helped them with organisation, facilitated peer connections and stated that that interaction with classmates was a positive. Although this study was not aimed at reflection, it does provide evidence that the asynchronous environment can encourage students to dig deeper into their course requirements and connect with peers. The size of the participant group for the current research can be enhanced with a smaller group and create greater interaction with peers.

Hampton et al. (2017) conducted a study in an attempt to understand student perceptions regarding which methodologies for teaching are the most engaging, most effective and most preferred in on-line nursing courses. They used a descriptive comparative study design with a 23% response rate, including a final sample of participants entailing 56 Registered Nurse to Bachelor of Science in

Nursing, 118 Master of Science in Nursing and 43 Doctor of Nursing studies participants who had recently completed or were currently enrolled in on-line nursing schools across the United States. Seventeen teaching and learning methodologies were included in the Likert scale including asynchronous discussion boards. Asynchronous discussion boards were rated highly, 37% rated this as their most preferred, 5.2% rated as their least preferred, 42.9% of responses indicated it was the most engaging with 3.1% stating the least engaging and 37.2% indicated it was the most effective for learning with 7.9% indicating it was the least effective. Although this study was not conducted in similar conditions as the current research, nursing students rated the environment in the top five methodologies and does assert that students rate this type of learning highly. An investigation into the merits of specific styles of learning in the asynchronous environment is therefore a topic worthy of exploration.

Wilhelm, Rodehorst, Young, Jensen, and Stepan (2003) conducted a study utilising a qualitative interpretative approach to understand students' perceptions of the usefulness of on-line discussion related to a nursing seminar. Thirty-one maternity nursing students from Nebraska, United States were selected and surveyed, a further 10 with 'extreme views' were selected for interviews. Three seminars were conducted, each including a one hour session hosted by the assigned student group, each with a different topic. Topics included sexuality, abuse in pregnancy or perinatal grief. In the second part of this exercise the presenting group was asked to create and lead an online asynchronous discussion for the remaining students, by posting discussion topics for response and allowing one week for the remaining participants to respond in the asynchronous environment.

Relevant findings of this study include participants describing ‘learner-to-learner learning.’

*“Because I learned more from other students, I realized my views needed to be altered a little bit. Or that I needed to take their view into consideration when I answered my question (Wilhelm et al., 2003, p. 317).”*

In this passage, the participant provides evidence of reflection on their own experience, or possibly bias, when exposed to the insight of peers and provides evidence that asynchronous reflective journaling may promote reflection. Other participants noted that being exposed to multiple perspectives provoked thinking of others’ points of view. Participants also related that they enjoyed collaborating with peers without the intervention of a faculty mediator, though some participants indicated the need for a facilitator to provide firm guidance on experiences expressed. This would seem to indicate some peer responses did not directly answer the questions posed. The asynchronous environment was seen to provide time and freedom for participants to reflect on the questions and responses of others and actually think about what they were posting. The authors viewed this as a positive feature and compared it with face-to-face group discussions, in which participants may need to fight for time to speak. Negative aspects of the asynchronous environment were related to the lack of user friendliness, creating some confusion as to which questions participants were responding to. Although this use of an asynchronous environment in nursing was not targeted toward reflection, many of the outcomes seem congruent with its nature. Sharing and challenging points of view are clearly lacking in individual journals and provided by peers in this study. The group themes in this study challenged face-to-face group reflection

models, in that the asynchronous environments do not allow for the loudest personalities to dominate discussion, and provides equal time for participants to reflect upon the merits of discourse before their contributions are made. These attributes may enhance the reflections of nursing students and have not been explored in the current literature.

## 2.6 Summary

There is a dearth of knowledge in nursing research related to whether reflective practices are effective in producing reflective learning in nursing students. This review has examined the current methods and outcomes of reflective interventions aimed at improving reflection on experience. The primary method of reflection identified is through individual reflective journals or diaries.

Through the use of individual reflective journals, nursing students are able to acknowledge that reflections upon experience are a valid and important form of deriving learning from experience. They are able to evaluate their own progress on clinical placement through this method. Students are able to reflect upon some negative aspects of their clinical experience whereby the reflective journal may provide the ability to overcome the emotion and provide clarity on the experience. Despite the acknowledged benefits associated with individual reflection, students are often dissatisfied by the method associated with them. This review of the research literature has provided evidence that individual reflection occurs mainly at the descriptive level, requires a large portion of time and that student priority for reflection is low. Nursing students have expressed a desire for more guidance, exemplars and peer or teacher feedback about the reflective process. Though these

mechanisms are not congruent with the premise and current practice of individual journal writing, there is a significant issue with trust, whereby reflections might be curtailed due to the fear of being judged by an authority figure and there is also clear evidence that the assessment or academic writing of reflections produces detriment to the honesty of reflections, whereby students will manipulate their reflective writing to what they believe their teacher expects.

Some research has been conducted to assess the merits of peer reflection in moderated face to face, paired group written reflection and discussion of theoretical topics in asynchronous environments. There was no direct research identified in the English literature investigating the intervention of asynchronous reflective journals during clinical practice, creating a large gap for investigation. Reviews of face-to-face group reflective methods in nursing has demonstrated that the group environment has the potential to address the gaps left by the intervention of individual reflection. The group method enables students to learn from the experiences and perspectives of their peers, provides access to feedback, reassurance, consensus and validation. Despite this, face-to-face methods suffer from disruptors. Overwhelming personalities have the ability to commandeer the discussion, leaving shy personalities without a chance to speak and some students without time to really reflect before committing to discourse. Power imbalance inhibits some nurses from contributing to reflective discourse and is linked to authority figures in the group. Groups must also be of a similar expertise to provide greater focus on topics relevant to the student's own experience.

Asynchronous environments in nursing were also investigated. Nursing students viewed these environments as being engaging and highly relevant. Group sizes of 11 or 12 are recommended to promote groups to dig deeper into concepts

when compared to larger groups. No research into reflection in asynchronous environments during clinical placement in nursing has been identified despite this being the largest focus of reflection in nursing curriculum. Evidence does suggest that nursing students may reflect upon discussion topics at comparatively deep levels, through a lived experience, rather than discussion points, have the potential to create deeper and true reflections.

There is a significant gap identified in the nursing research literature regarding the aspect of validation of reflection. However, when nursing students anticipate that their reflections will be assessed or reviewed by a higher authority, reflections may not be authentic in nature. In face-to-face groups, timid students may not be willing to share. Creating an asynchronous environment for reflection that is truly peer-led has the potential to create a supportive environment that provides equal opportunity for students to gain the beneficial aspects of group reflection, whilst diminishing the negative factors associated with a true group of peers at the same level of expertise and relevance during their first clinical placement, creating a shared lived experience. Asynchronous environments have been viewed as positive by nursing students, though their use in reflection, particularly during clinical placement, have not been investigated, creating an opportunity for original research to investigate this intervention.



## Chapter 3

## Methodology

### 3.1 Introduction

This chapter describes the research design and methods used to conduct the study reported in this thesis. This chapter is guided by the five components of case study research design outlined below by Yin (2009) and each component is addressed as part of the sections that comprise this chapter. Specifically, these relate to the study's:

1. Purpose
2. Questions
3. The units of analysis
4. Logical linking of the data with the purpose
5. Criteria for interpreting the findings

The research purpose, as outlined in chapter one, was centred on the intent to explore the potential of asynchronous learning environments and the role they can play in facilitating collaborative reflective discussion during the nursing clinical practicum. The literature review in chapter two provided significant evidence that the current paradigm of individual reflections in written journals during clinical placement were somewhat effective in producing reflective learning, but that they created significant challenges to authentic reflections, validation and trust. The literature review has also examined limited research which has identified various methods of group reflection attempt to address these limitations and provide the addition of learning from the experience of others as being important. Group reflection was found to introduce alternative limitations including the diminished ability for 'shy'

students to participate and also highlighted the power imbalance between instructors or senior nurses and their students, inhibiting the ability to reflect openly.

The research that forms the basis of this thesis, intended to build upon current practice, research and theory related to reflective practice by adding the neglected element of social reflection. This was achieved by incorporating a new environment aimed at enhancing social reflection, that is, an asynchronous reflective environment. To explore these aspects of clinical practices, a case study methodology was selected. A concern of the case study research was related to being able to develop deeper understandings about the group of participants, their interactions, sentiments and behaviours, occurring from a specific process, the asynchronous reflective environment, over time (Woodside, 2010).

Four research questions were established based upon a review of the literature with the aim of addressing the research purpose. Each question provided direction to enable focus, while still maintaining a wide enough margin for exploration in the attempt to derive meaning, understanding and explanation of interactions in the new environment. The research questions were;

1. In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?
2. How do levels of reflection change in the asynchronous environment?
3. What changes in reflections, if any, can be attributed to the new environment?
4. What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?

Research question one provided scope to explore the actual content of reflection in both the initial participant reflection and the responses provided by peers, particularly related to the interaction between peers. This question enabled the researcher to develop analysis and interpretation of how participants interacted and their thought processes in the context of an asynchronous environment, which does not exist in current nursing literature. The second research question aimed to identify the depth of reflection that occurred in the new environment and to provide evidence of any change between initial reflections and responses to peer reflection. The third question provided the ability to develop explanations related to causal factors and variables that may have impact on the reflections of participants. The final question focused upon participant perspectives of the new environment and provided the ability to provide corroboration of the data from the participant's perspective. This question also allowed comparison to established findings in the current literature against differing models of reflection.

This chapter will provide a detailed account of the methodology utilised in conducting the study and follows the case study protocol of Yin (2009) to ensure reliability:

- Case study and units of analysis
- Linking data to purpose and collection
- The criteria for analysing findings
- Conclusion
- Quality
- Ethics and consent

### 3.2 Case study and units of analysis

The case study design was informed and selected, based primarily on the work of Yin (2009). This section will review relevant aspects of case study design and rationalise these in relation to the study, in order to clarify choice and implementation. Each data set will also be rationalised in the context of case study design, literature review and ability to respond to the research questions and purpose.

Yin (2009) describes case studies in a twofold definition, firstly as those that investigate a contemporary phenomenon in depth within a real-life context. The current research examined in depth, the real life contemporary phenomenon of nursing students undertaking peer reflection in a new context, the asynchronous environment. Yin (2009) describes the case study approach as being especially relevant when the boundaries between contexts are not clearly evident. As revealed in the literature review, the relationship of the particular context in this research had not been explored in detail, and required flexibility in the research design to investigate it in this context to which case studies are suited.

Blaikie (2009) supports the assertions of Yin (2009), noting that case studies enable the researcher to explore factors that can lead to the initiation of change. This feature is well suited to the current research, as the how and why of any change is required in order to truly understand the phenomenon and address the purpose of the research. The case study research design applied to the study does not only allow strict investigation into the existence of change, but allows active investigation and exploration of the new context, variables and their relationships, necessary for the exploratory nature of this research (Gibbert, Ruigrok, & Wicki, 2008).

The second aspect of case studies described by Yin (2009), relates to the data collection and data analysis strategies, which need to include the ability to cope with more variables than data points, possess multiple sources of evidence with data converging in a triangulating fashion, and benefits from review of prior literature to guide data collection and analysis. The four questions of this investigation required significant in depth study and a large data set was proposed to address each question with converging lines of interest in order to ensure the findings were more convincing and accurate through triangulation (Yin, 2009). Data collection and analysis strategies will be explained in detail in section 3.4 and 3.5 respectively.

### 3.2.1 Participants

Purposive sampling was undertaken to select participants for this study. The researcher was able to request access to students based on their year of study and location of placement only. It was essential to the study that all participants attended the same placement to ensure they were involved in a common endeavour, enhancing social interaction and the ability to construct meaning (Mezirow, 1981). Participants were assigned to clinical placements by the College of Health and Biomedicine clinical office at Victoria University. Sixteen first year full-time Bachelor of Nursing students were selected, of which, 13 agreed to participate in the research. Participants were assigned to a three week clinical placement in a major public hospital located in the inner west of Victoria, Australia. According to the Australian Bureau of Statistics (2011), 54.2% of residents in the hospital catchment area were born overseas and 57.5% of residents speak a language other than English at home. The placement required participants to undertake clinical practice in a geriatric evaluation and management unit (GEM) that was combined with a palliative care

unit, and a separate rehabilitation unit. This placement provided a mixture of acute and sub-acute patients for the participants to care for. The mean age of the group of participants was 24.8 years of age, and included 12 female and one male participant. Participants had been instructed about the aims and structure of reflective practice during their first year theory class that pertained to the model described in the literature review by Boud et al. (1985). The current research provided an instruction guide (see Appendix 7) on the use of the asynchronous environment to all participants. This instruction guide also incorporated the directions on reflection from the first year coordinator based on the work of Boud et al. (1985).

It was believed that participants in the same hospital, with access to the same knowledge base and types of experiences, may provide more relatable reflections as found in the literature review. It was also believed that participants without large experience in reflection during clinical placement would produce results with less bias in perspective toward reflective practice than participants with extensive reflective experience within the individual written reflective journal paradigm.

Thompson and Pascal (2011) made the point that humans are not free from social restraint nor bound by it. This point implies the potential for reflection in a social context to be hindered by social norms, whereby students may be restrained from true reflection. Studies into reflective groups elude to group dynamics affecting the reflections shared. Group composition, including authority, level of expertise and acknowledgement of willingness to share all impact group led discussion (Asselin & Fain, 2013; Liddiard & Sullivan, 2017). The potential for impaired group reflection may have been negated by the deliberate setting of group dynamics within the asynchronous environment. In particular, all participants were of a similar knowledge and nursing skill level, and all were sharing a similar experience, being their first

clinical placement in the same hospital units. Participants were the providers of feedback also, removing authority figures from their reflections.

It should be noted that this case study research was not designed with the intent of encompassing a sample that may be representative of wider communities despite some of the research findings in chapter four being potentially transferrable to future research.

### 3.2.2 Asynchronous environment

An asynchronous reflective discussion board was created with the authorisation of the Bachelor of Nursing first year coordinator and clinical coordinator, post ethics approval, and within the clinical module shell, Professional Practice 1, at Victoria University. The shell comprised of three weekly sections for participants to post their reflections and respond to peers. Initially, two groups were set up in this manner, with the aim being that eight participants would be assigned to each group.

Unfortunately, the initial enrolment into the research comprised of only five students, leading the researcher to merge the two shells into one only. After their first day of placement, orientation, more students agreed to participate. This created a single shell of 13 participants. This was convenient since it was just over the recommended number of 12 identified in the literature as being important for effective asynchronous writing in nursing (Bristol & Kyarsgaard, 2012).

Participants in the study were asked to complete their reflective journal during the clinical placement in the asynchronous discussion board and informed that this replaced the need to complete the individual reflective journal found in their clinical log books. The reflections were a required piece of evidence for their clinical

placement but it was not graded. Review and feedback were expected to be performed by peers, rather than the clinical facilitator. This was agreed to by the clinical coordinator and unit teacher as being acceptable for meeting the requirements of the clinical placement. Participants were asked to contribute once a week, over three weeks, by posting an individual reflection and to provide reflective feedback or discussion to one of their peer's posts. Participants were allocated time at the end of their clinical day in a computer room based in the hospital library to complete their reflection. This final step was aimed to partially address the perceived time consuming nature of reflection identified in the literature review as being important and implemented with the assistance of the clinical facilitators.

This forms the basis of the single case study that includes a group of 13 participants undertaking the same unit of study during the same clinical placement and identified by their inclusion in the context of the asynchronous reflective discussion (Yin, 2009). Despite the similarities of participants, the diversity of experiences and the variables present in data were large. The case study design enabled the researcher to determine appropriate sources of evidence and set boundaries for data collection.

### 3.4 Linking data to purpose and collection

Case studies focus on an in depth analysis of the case and its components or variables, and it is described as enabling the study of a small group for many hours rather than a large group for limited time, to create opportunities to develop deep understandings within the context (Woodside, 2010). The investigation of a small group allows the researcher to delve into and associate causal and variable factors



that may have influenced key findings in the data, of significant importance to the exploratory nature of this study. The group of participants within the context of the asynchronous environment highlighted the many variables and causal factors relating to their reflections. Data source selection and collection was planned and developed with reference to the case study literature to ensure a deep understanding of the findings and associated factors could be achieved.

Yin (2009) described six main sources of data for case study research, including; documentation, archival records, interviews, direct observations, participant-observation, and physical artefacts. The current research utilised one data set of documentation and two sets of interviews to address the research questions and purpose. These were evaluated for strengths and weaknesses according to the generalised descriptions provided by Yin (2009) and the further analysis in this section.

SOURCE OF EVIDENCE	Strengths	Weaknesses
Documentation	<ul style="list-style-type: none"> <li>♦ Stable—can be reviewed repeatedly</li> <li>♦ Unobtrusive—not created as a result of the case study</li> <li>♦ Exact—contains exact names, references, and details of an event</li> <li>♦ Broad coverage—long span of time, many events, and many settings</li> </ul>	<ul style="list-style-type: none"> <li>♦ Retrievability—can be difficult to find</li> <li>♦ Biased selectivity, if collection is incomplete</li> <li>♦ Reporting bias—reflects (unknown) bias of author</li> <li>♦ Access—may be deliberately withheld</li> </ul>
Archival records	<ul style="list-style-type: none"> <li>♦ [Same as those for documentation]</li> <li>♦ Precise and usually quantitative</li> </ul>	<ul style="list-style-type: none"> <li>♦ [Same as those for documentation]</li> <li>♦ Accessibility due to privacy reasons</li> </ul>
Interviews	<ul style="list-style-type: none"> <li>♦ Targeted—focuses directly on case study topics</li> <li>♦ Insightful—provides perceived causal inferences and explanations</li> </ul>	<ul style="list-style-type: none"> <li>♦ Bias due to poorly articulated questions</li> <li>♦ Response bias</li> <li>♦ Inaccuracies due to poor recall</li> <li>♦ Reflexivity—interviewee gives what interviewer wants to hear</li> </ul>
Direct observations	<ul style="list-style-type: none"> <li>♦ Reality—covers events in real time</li> <li>♦ Contextual—covers context of "case"</li> </ul>	<ul style="list-style-type: none"> <li>♦ Time-consuming</li> <li>♦ Selectivity—broad coverage difficult without a team of observers</li> <li>♦ Reflexivity—event may proceed differently because it is being observed</li> <li>♦ Cost—hours needed by human observers</li> </ul>
Participant-observation	<ul style="list-style-type: none"> <li>♦ [Same as above for direct observations]</li> <li>♦ Insightful into interpersonal behavior and motives</li> </ul>	<ul style="list-style-type: none"> <li>♦ [Same as above for direct observations]</li> <li>♦ Bias due to participant-observer's manipulation of events</li> </ul>
Physical artifacts	<ul style="list-style-type: none"> <li>♦ Insightful into cultural features</li> <li>♦ Insightful into technical operations</li> </ul>	<ul style="list-style-type: none"> <li>♦ Selectivity</li> <li>♦ Availability</li> </ul>

Figure 2: Six Sources of Evidence: Strengths and Weaknesses (Yin, 2009, Chapter 4, Section 2, para. 4)

All data in this research were collected in January and February of 2015. Three sources of data were used in this study, derived from the asynchronous discussion, a focus group and questionnaire. Each source will be explained and detailed in this section related to purpose and explores further strengths and weaknesses related to the specific evidence.

### 3.4.1 Asynchronous environment data

Considering that the purpose of the research was to explore the potential of the asynchronous environment in facilitating reflection among peers, the asynchronous reflections themselves were an obvious source of rich data directly linked to this purpose.

This data set aimed to provide data for analysis in all questions, but specifically related to effect of the asynchronous environment upon reflection, Q1, and how reflective levels changed in this environment, Q2. Due to the exploratory nature of the research, the asynchronous environment data set provided insights into participants' worlds, and helped create understandings about how events were perceived and understood by the participants (Hewitt, 2017).

A total of 58 reflections were collected from the asynchronous discussion board including 36 initial reflections and 22 responses to peers. The asynchronous discussion board also provided further causal data utilised in the analysis of findings, including time and date, the amount of responses read by each participant and to whom each response was directed. This data was de-identified, and stored electronically, labelling each participant from P1 to P13. Data was systemically transcribed and separated into sequential weekly individual participant blocks, initial reflection, responses to peers and responses from peers. Each response indicated which participant the response was originated from or was aimed at to allow coherent exploration of expansion in reflective discussion.

Yin (2009) made the point that documentation is likely to be relevant to every case study and provides the cornerstone of data for investigations. Utilising

diaries/journals for documentation in research, is recognised as a significant source of qualitative data (Jyi-yeon, 2008). The asynchronous environment provided similar data to that of a diary or journal context and may be connected as such. Bryman (2012) cited in Hewitt (2017) made the point that diaries can be utilized in research to explore the complexities of human behaviour and practices. This sentiment is congruent with the nature of the study, in that the human behaviour and interactions in the asynchronous reflective environment is largely unknown in nursing literature and required deep exploration to address this gap.

Mackrill (2008) made the point that written data, in the form of diaries, are generally recorded within a more appropriate time frame to the event than retrospective interviews or questionnaires, and that this may improve the accuracy of qualitative data. Mackrill (2008) continued, describing that qualitative research further benefits from this format, highlighting the ability to compare and contrast differing perspectives and that the format grants access to topics that may have been unforeseen or neglected by the researcher. This format also provided a convenient design for the researcher to compare reflections and discussion responses to derive insight and meaning.

Curtis (2006) explained asynchronous environments in nursing qualitative research, highlighting the point that these environments allow participants to create diverging opinions and more deliberate discussion by allowing time to develop insight and argument framing. This may add to the veracity of qualitative data obtained, as reflections may contain more thoughtful data from participants.

Conversely, collecting data in this form can also have negative implications for research and participants. Reflective journals have been described as time

consuming in nature and are sometimes viewed as of secondary priority, which may lead in inauthentic documents for research (Chirema, 2007). Participants may feel they are being judged when they anticipate their reflections being reviewed, especially through authority which may also influence authenticity (G. Richardson & Maltby, 1995). Participants may even write content in order to manipulate reflections so that they are able to meet course outcomes, writing what is expected rather than true reflection, typically found when grading of reflective journals is used (Chong, 2009). These implications had been planned for in this study, by removing assessors from the equation through peer feedback, utilising an ungraded assessment and providing time and access to computers on the hospital site. The foreknowledge that their reflections were to be reviewed by the researcher however may still have created this atmosphere but unfortunately could not be avoided.

Data related to the potential negative aspects of reflective journaling in the asynchronous environment was planned for and collected in separate data sets. Flick (2009) cited in Hewitt (2017) make the point that diaries can be combined with other types of data as a strategy to gain a range of perspectives. In this manner, the current research identified a further two data sets, a focus group and questionnaire.

### 3.4.2 Focus group

Immersion in the subject matter continued with interviews in the form of a focus group. Due to the nature of the current research pertaining largely to the peer interactions in the asynchronous environment, it seemed appropriate to undertake interviews in a focus group environment. This type of choice is supported by Bloor, Frankland, Thomas, and Robson (2001) cited in R. S. Barbour (2008) who state that

focus groups are the method of choice when the purpose is to study group norms, group meanings or group processes, all of which pertained to the current research.

The focus group provided the means to collect both primary and supplementary data. It was intended that the focus group would provide key data pertaining to research question four, regarding student perceptions of the asynchronous reflective environment. The data also provided the opportunity to confirm and explore themes from the initial asynchronous data developing in question one, two and three, enhancing credibility of the findings (Beverley Taylor, Kermode, & Roberts, 2006). The focus group was used to gain insights into the areas of collective ideas, cross referenced views and topics related to the group's reflective experience as a whole, and to provide direct participant responses to initial themes that developed from the first review of the asynchronous data. This premise is supported by Woodside (2010) who points out that in case study research, interviews are an integral data in creating a deep understanding of the thinking processes of participants. This could not have been achieved solely by analysis of the asynchronous data.

The focus group plan was guided by R. S. Barbour (2008); Yin (2009) and Litoselliti (2003) and included a topic guide (see Appendix 8). The topic guide was focused toward the research questions, concepts identified in the literature review, and preliminary analysis of the asynchronous data available at the time. The topic guide was broad, yet focused to explore topics through open-ended, fluid discussion in non-academic language, rather than provide direct rigid questioning in order to explore group concepts (Litoselliti, 2003; Yin, 2009).

The focus group session was conducted at the hospital site on the final day of clinical placement by the primary researcher. Twelve of 13 participants were present for the focus group. This discussion was recorded and transcribed by the researcher and broken into participant responses and questions or comments by the interviewer. The focus group provided a range of views and a consensus on some, related to the asynchronous reflective environment, and particularly, in relation to the peer interaction and perspectives on the comfort of sharing in the environment.

Hollander (2004) argued that focus groups excel in deriving data related to in depth stories and experience, data on both collective and individual experience, and provide a way to understand how people feel about an experience. Hays and Singh (2012) add further benefits to focus groups, including; creating opportunities for the researcher to follow-up and clarify earlier data, creates a more relaxed feel than individual interviews and allows a group with common interests to validate experiences.

Despite the aforementioned benefits of focus groups, significant drawbacks have also been described, including less vocal members being overlooked and difficulty tracking individual perceptions in a group consensus (Beverley Taylor et al., 2006). The interviewer tried to limit this effect by directing questions to participants who were not so forthcoming with discussion. Other drawbacks include the researcher having less control over the interaction and data produced, potential for bias and manipulation, strong personalities dominating discussion, and the inability to make generalisations with such a small sample (Litoselliti, 2003). Steps to limit the drawbacks of focus groups were addressed through the development and use of a topic guide, a basic introduction, and rule setting of the focus group (Litoselliti, 2003). The need for an experienced moderator was mentioned in multiple texts though this

was performed by the lead researcher who was a novice focus group moderator, but has ample experience leading group discussion in nursing education.

Interestingly, as Litoselliti (2003) described, focus groups are useful for exploring controversial, complex or sensitive issues. This was experienced during the conduct of this particular focus group, and although this did create a rich source of data, limited the ability of the remaining participants to contribute. For example, toward the end of the focus group, one participant described the experience of a dying patient and related this to the use of the reflective environment. As the moderator and lead researcher, this discussion was intriguing and clearly relatable to the research. The participant was prompted to discuss further, though unfortunately, the nature of this discussion and the strong views espoused by the participant diminished the ability of other participants to respond. Future topics were related to by this participant and one other only. This was a clear limitation in the focus group data and can be attributed to the inexperience of the researcher in such a setting struggling to direct the discussion back toward the group. Fortunately this discussion took place at the end of the focus group and the majority of data was already recorded.

### 3.4.3 Questionnaire

Woodside (2010) made the point that case study research is not restricted to qualitative techniques and designs and that the value of research data is enhanced by adapting multiple research methods to corroborate data and confirm feelings or beliefs determined by alternative methods. Utilising multiple methods in case studies is suitable to both theory build and theory test, a key intention of the current research (Woodside, 2010). In the current context, a significant change to reflective practice



was implemented in order to build upon and test theory identified through the literature review. A survey is a common practical strategy to evaluate such changes, and has the ability to produce useful results when there is a clear purpose to the questionnaire design and when topics are well focused to this purpose (Gillham, 2008).

Yin (2009) made clear that case study research benefits from the review of prior literature to guide data collection and analysis, and as such, a questionnaire for determining student perceptions of reflection was adapted from the work of (Chong, 2009). The questionnaire had produced significant, clear findings in their initial research and possessed high reliability to the current research (see Appendix 4). Their validation and reliability, as discussed in the literature review, was also well described and applied in the creation of the questionnaire. This questionnaire provided significant quantitative data related to the majority of issues found in the literature review and was adapted for the current research by removing non-relevant questions and including specific questions related to collaborative reflection (see Appendix 5). The Likert scale was also adjusted from three level to five levels, ranging from strongly disagree to strongly agree, and the option of additional comments by participants was included post content validity by four nursing teachers holding PhD qualifications in either nursing or education. The questionnaire was administered post placement to provide data on perceptions of reflection in the asynchronous environment.

The questionnaire provided the format for clear anticipated responses to all research questions and also ensured every participant in the research was provided an opportunity to provide their perceptions, as participants with strong personalities in the focus group may diminish the ability for shy participants to contribute in group

based interviews (Litoselliti, 2003). Despite the variables in the current research, the questionnaire provided clear insight into how the current study differs from the issues identified in the literature review and provided scope to add to the study's discussion and conclusion.

The questionnaire was distributed and collected by the clinical facilitators prior to the focus group on the final day of placement to reduce social context pressures that may have arisen during the focus group (Hollander, 2004). Data was transcribed into categories on the Likert scale and assigned descriptive statistics in numerical values and percentages for reference by the researcher.

### 3.5 The criteria for analysing findings

Data was analysed with reference to the research questions and linked with the findings section in order to develop deep rational meaning and logical flow from the data presented. Although each research question was typically addressed with a primary data set for investigation, it should be noted that triangulation was utilised in order to refer multiple data sets towards each item of investigation to provide more convincing and corroborated results, a requirement of case study research (Woodside, 2010; Yin, 2009).

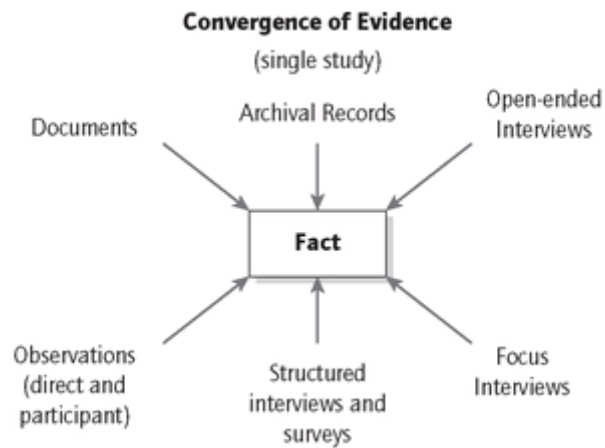


Figure 3: Convergence of evidence in triangulation of data (Yin, 2009, chapter 4, section 2, para 10)

The study utilised convergence of evidence where possible through analysis of three of the evidence measures outlined in figure 3, including documents through asynchronous data, and open-ended interviews through focus groups and questionnaires.

### 3.5.1 Asynchronous data

The asynchronous data set underwent thematic analysis using the block, group and label approach with hermeneutic and iterative processing. The aim being to explore and develop an understanding of how reflections and social relationships developed within the context of the asynchronous learning environment. The asynchronous reflections underwent preliminary data analysis during the three week placement to ensure adequate time for intuitive follow up during the focus group. The data was then analysed multiple times in a manual, iterative manner; developing codes, themes, sub-themes and taking notes. Themes were analysed in various separations in order to test variables. Separation by time was achieved by allocating theme

occurrence by weekly basis and also dividing between initial reflection and responses. This approach was used in an iterative manner to achieve data saturation. Themes and sub-themes were reviewed by the research supervisor to ensure accuracy and objectivity, providing the prompt to refine the large number of themes toward the focus of the research questions. This re-enforced the criteria for interpretation and boundaries required, being themes that were directly related to the asynchronous environment. The rich data provided in the thematic analysis was the primary data used to address question one of the research, though converged to support findings in questions two, three and four.

Determining the quality of reflection demonstrated by participants was required to meet the objectives of this research and enabled analysis of causal explanations in the research to make more accurate deductions from the data. As described by Yin (2009), the nature of case study design should include prior literature to guide data analysis. Understanding the depth of reflection among peers in the asynchronous discussion benefitted from Yin's prescription. A recognised and validated coding scheme was identified during the literature review, being levels of reflection described by Mezirow (1991) and adapted by Kember et al. (1999); Thorpe (2004); Wong et al. (1995) (see Appendix 2). The Levels of Reflection were utilised for coding of both original posts and responses to peers. Full reflective posts were analysed. Significant descriptions of coding were provided by the aforementioned authors, particularly Thorpe (2004). This coding system has been validated on multiple occasions and displays a high level of inter-rater reliability, up to 0.95 between raters (Chirema, 2007). Reflections were coded into weekly initial posts and weekly responses to peers. This enabled the researcher to differentiate and

understand the changes brought about by the asynchronous reflective context and create deductions through time series analysis.

The three level coding consisted of the categories Non-Reflector, Reflector and Critical Reflector. Each code contained sub-coding and reflections from the asynchronous journal entries were categorised accordingly. Each posting was examined in full to determine the appropriate classification and the following descriptions were referenced for clarity.

### *Non-reflector*

The Non-Reflector code was assigned to posts displaying no sign of reflection. This code describes participants who merely document what happened or made assumptions with no evidence of analysis, meaning making or re-visiting the experience (Wong et al., 1995). Though this category has been described as being of little importance, understanding if participants are not reflecting is useful to this research (Kember et al., 1999). Non-Reflectors were placed into the following sub-codes; habitual action, thoughtful action, or introspection to assist in analysis for this study.

Habitual action refers to participants acting on what has been learned previously, with an automatic response learned through frequency with little conscious thought (Kember et al., 1999; Thorpe, 2004). Thorpe (2004) made the point that this category, although based more on actions than reflection, may be assigned when a participant refers to a habitual action without thought or planning related to change in behaviour. No participants displayed habitual action in their reflection.

Thoughtful action refers to posts that discuss existing knowledge or cognition without an attempt to make a considered appraisal of the experience. Kember et al. (1999) describes this as book learning that differs from habitual action in that the participants must think before performing the action. Participants in this category may refer to learning from class or readings without evidence of learning or relation to experience.

The following example of 'Thoughtful action' was posted by P7 responding to P4. There is no discernible considered appraisal of the experience, merely describing the action.

P7 to P4:

*"I also had to wash a patient on the bed. The patient was in too much pain for my buddy nurse and I to continue with giving him a wash. Medication was administered to ease his pain before we could wash him."*

This example of 'Thoughtful action' is an initial post by P6, describing tasks without any evidence of learning.

P6 Initial post:

*"My second week was in rehab. I liked that ward too. Week 1 I was in palliative care and did showers, blood sugar levels, washes etc. But did not get chance to do observations there. I did in rehab ward and that was a good experience and I watched buddy nurses to do an ECG on a patient."*

Introspection refers to the feelings or thoughts about oneself rather than cognition in the thoughtful action sub-code. Although reflections in this sub-code recognise a feeling such as 'I felt happy,' they do not reflect on reasons as to why and cannot be determined a true reflection as they do not examine nor test the validity of these feelings (Kember et al., 1999; Mezirow, 1991; Thorpe, 2004).

The following is an example of 'Introspection' from P9 responding to P12 talking of feeling happy to have the experiences listed without examination or depth.

P9 to P12:

*"I was also very lucky to have buddy nurses who let me do observations, showed me how to fill out and read the different charts including the meds chart. I was very happy to have those experiences."*

The following is an example of an initial post from P13 coded as 'Introspection.' The post describes confidence and perspective change without further examination. The participant does not provide any evidence of what built confidence or how the perspective has actually changed.

P13 Initial post:

*"I know this is just our first placement and more placements are about to come but it did really help me a lot with building my confidence and it changed my perspective when it comes to nursing. I am looking forward to learn more things about nursing and I really enjoyed this placement!"*

## Reflector

The Reflector code was assigned to reflections that displayed insight into the how and why of thoughts. This code represents reflections that provided some analysis, self-awareness, description, critical thinking, critical analysis, discrimination synthesis or evaluation of the experience described (Thorpe, 2004). This code is broken into two sub-codes, being Content Reflection and Process Reflection.

Content reflection refers to what we perceive, think, feel or act upon (Mezirow, 1991). This may be in the form of an awareness or acknowledgement that current understanding, thoughts, beliefs, feelings or actions that may or may not have been adequate for the experience at hand and may describe a solution to overcome the dearth (Curtis, 2006; Thorpe, 2004).

The following example of 'Content reflection' is derived from an initial post from P8. P8 displays awareness of feeling uncomfortable with an experience, providing rationale indicating what lead to this, how the feeling was overcome and takes satisfaction in the knowledge that time and experience will provide more confidence.

P8 Initial post:

*"Today I assisted a patient to urinate in a bottle unsupervised as the other nurses were busy. It was my first time and I felt a little out of my comfort zone at first. The patient had a family member present at the time who waited outside. I also found it hard to re-dress the patient after, as he had limited mobility. At first I felt unsure about what exactly to do. Thankfully the patient informed me of what he wanted. Even though I felt a little uncomfortable at first I had to act confident, like I knew what I was doing. Especially as there was a*



*family member waiting just outside the curtain. I think the experience was good (even though it was gross), it is something that as a nurse I am going to be doing on a regular basis, so I am glad I was exposed to it early on. I feel that I will be a lot more confident next time."*

Other participants shared similar feelings to P8 and shared their experiences that were also coded as 'Content reflection.' The following is a response from P11 to P8's original post, reflecting on a similar experience, describing how the shared feeling was overcome and a similar conclusion that time and experience will 'desensitise' them to the uncomfortable nature of some nursing roles.

P11 to P8:

*"I know I felt the same when I had to change a patient's "incontinence underwear" (sorry, I don't really know the proper term for it). I almost panicked when the nurse handed me the wipes and encouraged me to clean his rear, but as she directed me through it, it wasn't as bad as I thought it would be. Sure I felt uncomfortable, but I know the more we are exposed to this kind of care, the more desensitized we will be in the future. It's amazing how nurses aren't affected at all by it!"*

Process reflection refers to how the participant arrives at their belief, perception, thought, feeling or action (Curtis, 2006; Mezirow, 1991; Thorpe, 2004). This may include an acknowledgement or description of past experience, prior learning, beliefs, feeling or perceptions impacting on the current experience. The following response from P7 to P1 reflects upon how they felt more at ease, through performing more accurate observations.

P7 to P1:

*“Like you I felt I was able to do my observations more accurately and therefore I was more at ease in doing future obs.”*

### *Critical reflector*

The Critical Reflector code represents what Mezirow (1991) described as *Premise Reflection*, and entails why the participant holds the belief, perception, thought or feeling related to the experience. This code identifies the highest reflection and requires the participant to challenge the validity of prior learning in an attempt to create new and original meaning or perspective (Kember et al., 1999). There were no participant reflections in this category.

Multiple data variables were able to be investigated through this means, creating descriptive charts and figures. These included matching of reflective levels to peers, the ability to compare the number of posts read by each participant in the asynchronous environment versus their reflective level, enabling simple correlation to be formed (see 4.4.3), and how the number of responses to peers correlated with reflective levels through correlation (see 4.4.4). Without the validated approach of assigning levels, these causal factors could not have been investigated to any significant extent. Although the coding described was a qualitative approach, the data derived from this approach was able to be utilised in a quantitative style to produce standard deviation and descriptive statistics.

Coding the asynchronous reflections with these levels provided insight into the depth of student reflections and discourse with peers and allowed for key segments of participant entries to highlight points made throughout the findings and

discussion chapter. The coding provided direct evidence to respond to question two and three and indirect evidence to support question one and four.

Causal evidence in the asynchronous discussion was also utilised to contribute to the findings and discussion. These included data relating to student engagement with the asynchronous journal such as the number of posts read by each participant. This was instrumental in gauging the findings related to question three, being how can the changes in reflection be attributed to the new environment. Inferences can be made from documents though may require further investigation to ensure these are not false leads (Yin, 2009). With this in mind, data analysis continued with the focus group and survey data.

### 3.5.2 Focus group data

The focus group provided an opportunity for the researcher to pose questions related to the preliminary data analysis and gain both an individual and collective sentiment on the participant perspectives. The focus group data was transcribed in full (see Appendix 6) and in a similar manner to the asynchronous data, a thematic analysis using the block, group and label approach of the interview was conducted by the researcher. This data was primarily focused on providing response to question four, relating to student perspectives, though were imperative to create triangulation through corroboration in the researcher's findings related to question one and three.

### 3.5.3 Questionnaire data

Questionnaire data was analysed and descriptive statistics produced, including percentages. Questions were grouped in sections and included topics related to

reflection in general, and more specifically, the experience of reflecting in an asynchronous environment. A Likert scale of five sections ranging from strongly disagree to strongly agree was utilised to derive meaning from the data. Data from the questionnaire (see Appendix 5), was analysed in sections of relevance and provided the opportunity for loose comparison to the literature in the conclusion.

The questionnaire was not intended as the primary unit of analysis in this case study. The intent ascribed was supplemental data which allowed for analysis of a clear and wide ranging set questions and responses that could be triangulated effectively to qualitative items. Throughout the main data analysis and findings section, chapter four, the embedded procedure was undertaken to strengthen and assist the interpretation of qualitative analysis with evidence (Blaikie, 2009; Yin, 2009). Relevant responses with a high percentage of participant agreement or disagreement were utilised throughout this process and ensured the triangulation of data was structured through the data analysis and findings, required in case study research (Yin, 2009).

### 3.6 Summary and conclusion

Chapter five presents the key findings related to each research question posed in the study. These are related to the literature and draw forth key implications, highlighting contribution to knowledge. Implications for future research are discussed through the proposition of recommendations and open discussion of the limitations and weaknesses of the research. Chapter four presents findings and discussion derived from the data collected in the asynchronous environment, during the focus group interview and from the questionnaire.

### 3.7 Quality

Case study designs need to maximize their quality through four critical conditions related to quality including construct validity, internal validity, external validity, and reliability (Yin, 2009).

TESTS	Case Study Tactic	Phase of research in which tactic occurs
Construct validity	<ul style="list-style-type: none"> <li>♦ use multiple sources of evidence</li> <li>♦ establish chain of evidence</li> <li>♦ have key informants review draft case study report</li> </ul>	data collection data collection composition
Internal validity	<ul style="list-style-type: none"> <li>♦ do pattern matching</li> <li>♦ do explanation building</li> <li>♦ address rival explanations</li> <li>♦ use logic models</li> </ul>	data analysis data analysis data analysis data analysis
External validity	<ul style="list-style-type: none"> <li>♦ use theory in single-case studies</li> <li>♦ use replication logic in multiple-case studies</li> </ul>	research design research design
Reliability	<ul style="list-style-type: none"> <li>♦ use case study protocol</li> <li>♦ develop case study database</li> </ul>	data collection data collection

Figure 4: Case Study Tactics for Four Design Tests (Yin, 2009, Chapter 2, Section 5, Para.5).

Construct validity is described as being the quality of the conceptualisation of the relevant design, or the extent to which the study actually investigates what it claims to be investigating (Gibbert et al., 2008). Two key measures have been utilised to meet this measure, being establishment of a chain of evidence and multiple sources of evidence (Gibbert et al., 2008; Yin, 2009). The chain of evidence is documented in detail throughout this chapter, providing the reader a reconstruction of the initial research propositions through to the conclusions of this thesis (Gibbert et al., 2008). Multiple sources of evidence were selected, partially for their ability to

converge with each other in a triangulating manner in order to provide more convincing, corroborated and valid findings (Yin, 2009).

Internal validity refers to the ability to construct causal relationships, whereby certain conditions are shown to lead to others (Tumele, 2015). Although this form of validity is reserved for explanatory or causal case studies, pattern matching was achieved through the use of pre-made codes related to the levels of reflection. Rival explanations of phenomena to that of the researcher were also explored in the findings and discussion to ensure internal validity was met (Yin, 2009).

External validity typically refers to a study's findings being generalizable beyond the immediate research participants involved (Gibbert et al., 2008). The current case study design is limited in regards to statistical generalisation, partially due to the small number of participants in the study. It is therefore erroneous to adopt statistical generalisation in case study research, but instead rely upon analytic generalisation, by the linking of observations to theory (Gibbert et al., 2008; Yin, 2009). The analytical generalisation related to the current research begun with a literature review, determining significant problems with the current reflective practice of individual journaling in nursing and determined that group reflection in the asynchronous environment displayed the potential to alleviate some of these. The findings, discussion and conclusion sections of this thesis extend upon current theory, and with reference to the description of this case study, thus generalizable to others studies with similar theoretical conditions (Villarreal Larrinaga, 2017).

Reliability refers to the reproducibility of the results of a measurement technique provided the same circumstances exist (Beverley Taylor et al., 2006). Reliability was achieved in the current study through strict adherence to case study

protocol and providing transparent documentation of the procedure, found in this chapter (Yin, 2009). Reliability of the levels of reflection left some room for subjectivity in the coding. Separate coding was conducted by an independent research nurse to ensure accuracy and reduce the capacity to misrepresent findings in this segment. This coding displayed an inter-rater reliability of 0.76, though through discussion, full consensus was able to be made for each reflective level.

### 3.8 Ethics and consent

Formal ethics approval was obtained through the Victoria University Human Research Ethics Committee which ensured aspects related to participant mental and physical safety were accounted for in this research. This included information related to the ability to withdraw from the research at any time and also provided free counselling to any participants who may have required this service. Participants were provided with a research information sheet (see Appendix 9), and signed consent forms agreeing to participate in the research (see Appendix 10). The researcher had no involvement in teaching or assessing the participants in first year nursing subjects and had not previously met any participants. Communication took place between the researcher and two clinical facilitators from Victoria University during the study rather than directly with participants. The facilitators agreed to participate in this manner and had signed consent forms to ensure privacy and confidentiality (Appendix 12).

### 4.1 Introduction

This chapter presents findings and discussion synthesised from the data collected in the asynchronous environment, during the focus group interview and from the questionnaire. Findings are related to the research purpose and defined by the research questions proposed, being:

1. In what ways does an asynchronous journal, effect the reflections of nursing students while on clinical placement?
2. How do levels of reflection change in the asynchronous environment?
3. What changes in reflections, if any, can be attributed to the new environment?
4. What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?

Discussion of findings are related to each research question and presented with the intent of clarifying strengths and weaknesses of the findings. The discussion provides further insight into the relevance of findings, relating to relevant literature and alternate explanations where possible.

### 4.2 Q.1 - In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?

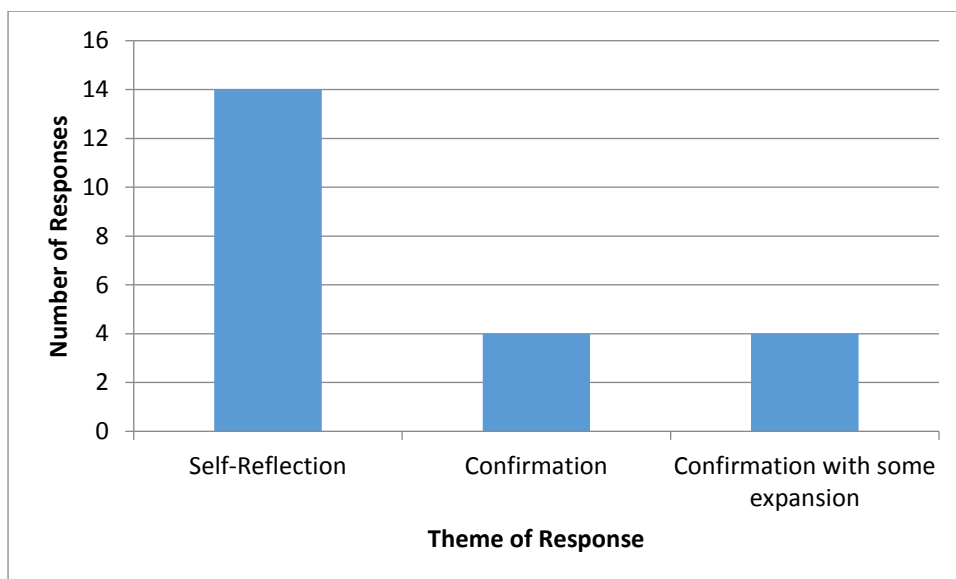
No prior research was available describing how the reflections of nursing students would be effected by the asynchronous environment during clinical practicum. The question of what ways does the asynchronous journal effect the reflections of



nursing students was addressed primarily with a thematic analysis of the reflections themselves, collected from the asynchronous environment data set described in chapter three.

#### 4.2.1 Shared experience

Thematic analysis of the participant reflections revealed that all responses to peers in the asynchronous journal were prompted by a shared or similar experience in an initial post. All responses to peers were new topics explored, meaning the response to peer was never reflected upon directly in the respondent's own initial post. The responses were broken down into three sub-themes, being self-reflection, confirmation and confirmation with some expansion.



*Figure 5: All responses to peers fell into three categories, being self-reflection, confirmation and confirmation with some expansion.*

##### 4.2.1.1 Self-reflection

The Self-Reflection sub-theme accounted for the majority of responses to peers (16 of 22 or 63.6% of responses). This sub-theme was driven by data obtained from the

responses to peers which reflected upon a shared similar experience. Rather than analysing the initial post and providing direct guidance or insight, the respondent would relate their own similar experience and reflect upon this. It would seem as if the response was in fact a catalyst to gain insight to provide clarity of their own experience through the lens of their peer. The following example of an initial post from P4 reflecting upon a careless incident in which the patient's leg was stuck in the bed rail. This was responded to by P1 with a self-reflection.

P4 Initial post:

*"Yesterday when I was working with my buddy nurse I have experienced a careless incident. I was assisting my buddy nurse to wash a patient on the bed. To start with we had to put the bed rails down. I did my side and when my buddy nurse was doing her side Pt started to scream in pain telling that his one leg was caught by the rail. First I didn't realize what has happened. Then I noticed because patient's legs were covered from the sheet we didn't notice it's too close to bed rail and by pushing it down we hurt patient's leg. Before we start we should have checked patient position. It could have been worse if patient couldn't respond. Luckily patient was conscious. I learnt when we do nursing we have to be very careful. Have to pay attention. Always check patient's condition and position before start a procedure."*

P1 to P4:

*"I had a similar experience in my first week. My buddy nurse and I overlooked in the notes that the patient had a pressure sore on his*

*bottom. I had showered him and didn't think to check his skin properly as I hadn't been told he had a pressure sore. One of the other nurses came to check him, that's how we were made aware. She then told me to check the patient's skin for reddened areas and especially at the bony parts of his feet, where it is rubbing in the shoes."*

The shared experience in this case is not the physical aspect of a patient leg being stuck from the initial post, but a self-reflection of shared experience related to careless nursing. The participant used the prompt of the initial post to reflect upon a careless experience of their own, which may not have been consciously reflected upon without access to the initial post. Both reflections reached the same conclusion that certain aspects of nursing require keen inspection to reduce errors related to careless nursing and highlights the ability of peer driven reflective learning.

Participant responses displayed an innate ability to delve into the 'swampy lowland' of nursing, reflecting upon experience and emotion or beliefs related to these experiences that cannot be learned through coursework (Schön, 1983). The following example of self-reflection was prompted by an initial post reflecting upon assisting a patient to void in a bottle. The initial post discussed feeling uncomfortable and lacking confidence.

P8 Initial post:

*"Today I assisted a patient to urinate in a bottle unsupervised as the other nurses where busy. It was my first time and I felt a little out of my comfort zone at first. The patient had a family member present at the time who waited outside. I also found it hard to re-*

*dress the patient after, as he had limited mobility. At first I felt unsure about what exactly to do, thankfully the patient informed me of what he wanted. Even though I felt a little uncomfortable at first I had to act confident, like I knew what I was doing. Especially as there was a family member waiting just outside the curtain. I think the experience was good (even though it was gross), it is something that as a nurse I am going to be doing on a regular basis, so I am glad I was exposed to it early on. I feel that I will be a lot more confident next time.”*

P11 to P8

*“I know I felt the same when I had to change a patient's ‘incontinence underwear’ (sorry, I don't really know the proper term for it). I almost panicked when the nurse handed me the wipes and encouraged me to clean his rear, but as she directed me through it, it wasn't as bad as I thought it would be. Sure I felt uncomfortable, but I know the more we are exposed to this kind of care, the more desensitized we will be in the future. It's amazing how nurses aren't affected at all by it!”*

The response mentioned, but did not use this forum, to address the task of assisting an incontinent patient, but rather provided a self-reflection of their own perceptions of an uncomfortable experience. This led the participant towards a new self-awareness of how they would be able to manage this in similar future encounters and again, displays learning from their own experience while sharing a similar reflective outcome as the original post, being that exposure to uncomfortable situations creates confidence in future similar situations, developing validation and consensus.

#### 4.2.1.2 Confirmation

The Confirmation sub-theme accounted for a small number of responses to peers (4 of 22 or 18.2 % of responses). The confirmation category encompassed participants who responded to initial posts merely with an acknowledgement of the initial poster's experience, without insight or further reflection. Not surprisingly, all responses in this category fall into the non-reflector category, displaying little evidence of considered appraisal or depth. Take for example the following response from P9 to P12. P12 had made an initial post related to feeling overwhelmed by completing basic nursing duties such as observations while caring for a patient with a past history of drug abuse and hepatitis C. P12 was relieved that the buddy nurse was there to assist.

P9 response to P12:

*"I was also very lucky to have buddy nurses who let me do obs, showed me how to fill out and read the different charts including the meds chart. I was very happy to have those experiences."*

This response displays little insight into their own experience or the experience of the initial post, merely stating they were happy to have had a similar experience. The following is another example of confirmation from P3 to P11. P11 had created a fairly eloquent initial post related to performing independent hygiene assistance for a palliative care patient.

P3 response to P11:

*"I agree! I think once you do a task by yourself once, you know you can do it and it's not as daunting anymore. Although it does make it a lot easier if the patient is pleasant and is happy for you to perform it!"*

#### 4.2.1.3 Confirmation with some expansion

The Confirmation with some expansion sub-theme was displayed for a small number of responses (4 of 22 or 18.2% of responses). This sub-theme encompassed responses to initial posts which confirm or agree with the original post and provide some expansion relating to the initial post, rather than providing their own different experience as seen in the self-reflection sub-theme. The expansion upon initial post is typically small but does provide some evidence of analysis, self-awareness or evaluation in the response and typically falls into the reflector category. The following example of this sub-theme is from P7 responding to an initial post from P1 discussing many improvements made over the placement, including nursing observations on the Geriatric Evaluation and Management (GEM) Unit.

P1 response to P7:

*“GEM ward has given me the chance to practice my observations manually. Like you I felt I was able to do my observations more accurately and therefore I was more at ease in doing future obs.”*

This response from P1 confirms the same findings as the initial post with a small evaluation of how the feeling of ease was attained which displays some analysis of the experience, however small.

The following example displays a greater depth of analysis in the reflection but is focused on the same topic as the initial post. The example below is a response from P5 to P3. P3 had initially reflected upon how a buddy nurse can shape the experience of one's clinical placement.

P5 response to P3:

*"I definitely agree that your buddy nurse can shape your experience.*

*I found some left you throughout the day and made me felt a little lost*

*where as others would explain what they are doing and make you*

*feel comfortable so you could get the most out of this experience."*

This post confirmed the findings of the initial post, being that a buddy nurse can shape the experience, while also providing some depth with examples of how the shaping occurs.

#### 4.2.1.4 Discussion

Consistently, participant responses to peers were experience sharing reflections. The majority of the experience sharing dealt with the 'swampy lowlands' described by Schön (1983) as experiences not taught, that may only be learned through experience. Almost no responses to peers in the self-reflection category could be classified as 'technical rationality' or skills focused, as participants did not discuss technique nor skills from class activities (Schön, 1983). This implies that responding to peers in the asynchronous environment itself may promote the type of reflective practice so difficult to teach and sought by many researchers.

Another implication of this theme suggests that the asynchronous environment is able to provoke reflection on areas unacknowledged previously by the respondent. All responses were directed towards topics not related in the respondent's initial posts. This revelation was not lost on the participants themselves. When asked in the focus group if they had learned from the experiences posted by others, participants outlined that responding in the asynchronous discussion was more aligned to developing their own insights related to a similar experience.

*“So your kind of evaluating it all in your head and thinking about it and how you can improve and everything like that, so I found me writing it for myself was beneficial for myself, not really other people’s posts though.”*

The following response in the focus group summarises this theme effectively, describing how relating to the initial post prompts reflection.

*“I think similar experiences, you can relate more to them, say how, say your side of it, and evaluate it through that.”*

This theme provides evidence of wider reflection, prompted by peers. All the responses posted were regarding an experience that was not related in the respondent’s initial posts. Without access to the initial reflections of peers, the respondent may not have reflected on their experience in writing, leaving this tacit. The new environment itself facilitated the link between the possible reflection-in-action and the reflection-on-action (Schön, 1983).

It may be argued that by requesting participants create multiple individual experiences per week, these reflections may have been explored. Conversely, without the insight provided by peers, participants may not have brought these experiences to the fore to be explored. Some evidence from the group discussion points toward the latter explanation however.

*“I think it’s a valid learning experience, but it’s good a few girls did different topics otherwise I didn’t just pause.”*

*“They may have other ways of doing it. You could say ‘I did it this way’ and they could say ‘oh there is this way as well that you could*



*handle it and then you start thinking oh maybe you could... or you could do it differently.”*

These excerpts describe how participant reflections were prompted by review of peer reflections, providing some insight into the process involved in provoking a new reflection in this environment and confirming the initial posit.

The shared experience theme clarifies that the asynchronous journal is not a forum to help others. There was a perception displayed by participants in the group discussion that the asynchronous environment was designed for students to help each other. The discussion led students to mention this even when questions were asked upon different lines.

*“...even though a lot of people had the same experiences it doesn’t necessarily help you.”*

Guidance on this expectation was not provided to participants as the effects of the asynchronous environment were unknown and pre-conceived notions may have also had the effect of altering the outcome of the data.

Some participants were not dismayed by the lack of direct helpfulness and understood that their reflections provided a different learning experience, differentiating between situations that required prompt responsiveness or assistance, as seen in the group discussion example below.

*“A lot of it was more similar experiences rather than helping... or (if we) wanted help we would have asked someone else on the shift.”*

Bridging the theory to practice gap is often cited as one of the benefits of reflective practice (Chong, 2009). This seems to be add odds with and denies the works of

original reflective authors who describe reflective practice in terms of becoming more aware of an attitude or learning from experience. The vast majority of reflections in the responses refer to items not related to skills, including communication difficulties, disclosure of fears or anxieties, and shared feelings or perceptions. Participants were aware of this, and understood there was another route for help with technical ability, through buddy nurses, clinical debriefings or talking with other students.

#### 4.2.2 Collaborative consensus

Mezirow (1998) discussed the need for discourse related to reflection of ideas, feelings and values, making the point that without discourse, ideas may not receive warranted consensus through validation or refutation. The asynchronous environment provided a pathway for this discourse. By presenting and analysing a wide range of discourse, validity of reason may be assessed, justified and understood (Mezirow, 1998). Participants were able to form consensus through discourse in the asynchronous journal, validating experience with peers on a range of topics including but not limited to;

##### *Lack of confidence in first experiences:*

P4 to P8

*“My first experience I felt a little out of my comfort zone.”*

P8 to P11

*“I also felt very anxious when I had to shower my first pt.”*

##### *Becoming more confident post experience:*

P4 to P8

*“I think even though it was not a nice experience, I can handle this type of situation better in the future.”*

P12 to P8

*“I can fully understand to why that would be a confronting experience, it can be apprehensive having that pressure on you to be confident in an experience you have not been exposed to before, myself I have only been washing and cleaning patients while they are lying down immobile which I feel is less confronting. But ultimately we all have to become confident in both the basic and complex care of patients.”*

*Difficulty building therapeutic relationships:*

P7 to P11

*“It took me a while as well to feel confident in approaching patients and getting to know them.”*

P12 to P13

*“I found it difficult to have conversations with patients in the rehab ward.”*

*Buddy nurses shaping the clinical placement:*

P5 to P3

*“Your buddy nurse can shape your experience.”*

P9 to P12

*“Lucky to have buddy nurses who let me do obs, showed me how to fill out and read the different charts.”*

*Overall placement was a positive learning experience:*

P13

*“We are now here in our last week of our placement and I can proudly say that I have learnt a lot of things.”*

P11 to P3

*“Exactly my thoughts! Being exposed to different patients in different wards is such an amazing learning experience for me to look back on in the future.”*

This consensus building is a new and important addition to nursing reflection on clinical placement. Participants were able to identify their reflections were not an individual anomaly and provided confidence and insight through validation of their experience.

#### 4.2.3 Validation of experience

Individual journals do not allow one to validate thoughts and experience through discourse and thus may isolate the learner in an indefinite shell. As described in section 4.2.2, all responses to reflection were related to the original reflection with the majority of participants responding with a reflection of a similar experience of their own, a form of validity checking of experience for both the initial reflection and the experience of the respondent. According to Wadsworth (1971), Piaget believed that validation of learning is actively sought by peers. Validation of experience was

acknowledged as a positive aspect of the asynchronous journal by participants in the group focus discussion:

*“It was good to know that with some of my experiences I wasn’t the only one who had that.”*

*“...it’s good to know everyone had similar experiences...”*

Validity of experience adds an element of authenticity to the participant’s reflections. Through discourse, participants were able to determine the experience was not a unique horror perhaps attributable to their own inability, but an experience shared by peers at a similar level of understanding and experience.

The validity of peer reflection was very evident in the asynchronous journal data, however, no direct refutations were evident in participant responses. Participants did have the capacity to indirectly provide subtle variance through experience sharing that included different methods of approaching a situation.

*“They may have other ways of doing it. You could say ‘I did it this way’ and they could say ‘oh there is this way as well that you could handle it and then you start thinking oh maybe you could... or you could do it differently.’”*

Further analysis of specific group discussion topics was necessary to define and build an understanding of the effects of validation related to the asynchronous journal. The following analysis attempts to define underlying rationale related to prominent themes emerging in the asynchronous data, including self-disclosure of conflict and communication.

#### 4.2.3.1 Self-disclosure of conflict

Participants displayed a propensity to post responses with reflections addressing self-doubts, fears, anxieties or short-comings. Multiple participants responded to peers with their own self-disclosures, including a range of emotions such as feeling uncomfortable, lack of confidence, panic and anxiety.

P11 to P8

*“I felt uncomfortable, but I know the more we are exposed to this kind of care, the more desensitized we will be in the future.”*

P7 to P11

*“It took me a while as well to feel confident in approaching patients and getting to know them.”*

P8 to P11

*“I also felt very anxious when I had to shower my first pt.”*

Through analysis of the data, a recognition that the intervention of reflecting in an asynchronous environment moves the concept of singular individual journals into a social environment. Reflections are no longer contained in a vacuum which may not ever be read, challenged or discussed. This leads to the inspection of social features related to the posts. Participant responses in this theme tended to acknowledge the feeling of uncertainty, doubt or fear, but lead to a resolution of these troubles in the responses.

P7 to P11

*“It took me a while as well to feel confident in approaching patients and getting to know them. Being able to see them on consecutive*

*days, I began opening up more to them. This made my care for the patients more rewarding.”*

P4 to P8

*“I felt a little out of my comfort zone. But with the help of another student who had more experience than me I managed to clean the floor. I think even though it was not a nice experience, I can handle this type of situation better in the future.”*

The very idea of reflection by design is based upon resolving ones inner conflict related to experience. Participants may have been likely to self-disclose such conflicts due to a cognitive need of resolution. The prompt by peer disclosure, despite its seeming negativity, is provoking inner conflict and leading to resolution. Mantzoukas (2008), discussing the works of Schön (1983, 1987), explains that consciously addressing problematic situations and analysing the outcomes of action are what leads a nurse to understand what works in a given situation, leading to positive improvements in patient care and outcomes in the future. This is the very premise of reflection in nursing and provides evidence that the asynchronous reflective environment leads to the desired outcomes of reflection.

Reflecting upon conflict, negative experiences or anxieties related to professional engagements are common in nursing journals and have been identified in past research conducted on individual reflective nursing journals (Bristol & Kyarsgaard, 2012; Chirema, 2007; Chong, 2009; Ross et al., 2014; Thorpe, 2004). The reflective models adopted in these studies, despite providing the mechanism to document these feelings, do not describe participants addressing or moving past the emotional barrier. Research conducted by Ross et al. (2014) stated that participants

in reflective journaling on clinical placement described fears and anxieties, especially related to interaction with clients that were overcome by engaging with the clients themselves, the reflective journal acted as a source of bringing the knowledge of how this occurred to the fore. This statement does not align with the description of reflective practice by Boud et al. (1985) who state that the reflective process itself should enable the resolution of the negative emotion toward the experience in order to prevent obstructed learning from similar experiences in the future.

The study displayed many entries that described fear or anxiety. The social environment of the asynchronous journal provided a way, through validation of experience, for participants to understand their peers were facing similar trials and also linked this to positive outcomes that could be achieved from their own experience. This is corroborated by the questionnaire responses:

*Table 1: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.2.3	Reflection focuses on negative issues	4 33.3%	5 41.7%	2 16.7%	1 8.3%	
1.1.7	It helps me review both positive and negative experiences				8 66.7%	4 33.3%

And focus group responses:

*“It made you go through oh this is might what I need to do next time  
or this is what happened and sort of offloaded some of your emotions  
or feelings that you had through the day.”*



When posed the question, 'reflection focuses on negative issues,' participants in the study of individual journals by Chong (2009) displayed 61% agreement with this statement and 31% being unsure. This provides some data to support the idea that despite participants in the study initially reflecting upon negative issues, the asynchronous environment provides a means for reversing the perception of negativity when compared to individual journals, creating a means to resolve the negative experience that is not found in individual reflection.

Boud et al. (1985) described that unresolved reflection upon negative experience can prove a barrier to learning, providing a false interpretation of events and undermining the will to persist. Validation of the learner or groups of learners is often needed to balance the reflection of negatives (Boud et al., 1985). Validation was provided through the asynchronous environment by peers experiencing and sharing similar reflections, often providing resolution. This provided comfort and validation to participant's experiences, creating a sense they were involved and supported by their peers, which was recognised as a positive. The following comment was made during the focus group interview providing insight.

*"It was good to know that with some of my experiences I wasn't the only one who had that, others would say 'oh I had the same experience or I did this to improve what I did, so yeah that was nice, I felt like I wasn't isolated from everyone else."*

This sentiment was also supported in the questionnaire response, indicating a supportive environment that reduced isolation:

*Table 2: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
3.1.5	I felt isolated in my group	6 50%	4 33.3%	1 8.3%	1 8.3%	
1.3.3	Lack of supportive environment	3 25%	6 50%	1 8.3%	2 16.7%	

The validation aspect and the ability to resolve negative experience is limited in individual journals, typically by means of brief comments by a facilitator, if at all. True validation can be achieved by peer reflections and aid in the resolution of negative feelings towards an experience, a significant finding of the research.

Being a significant finding of the research, the notion of rival explanations will be explored to test its merits. The resolution of uncertainty involved the participants self-disclosing information while still maintaining a positive image in the eyes of peer review in the asynchronous environment. Volkova and Bachrach (2015) make the point that consciously projecting a positive self-image online is common and may alter the truthfulness of posts to maintain this image. This may explain why the many of responses in this category, despite the negative experience discussed, provide positive outcomes.

Perhaps the responses, despite providing a route to greater self-reflection, are guided by social interaction, with self-disclosure as a prominent feature. Journaling in the traditional format provides no opportunity for response to reflection, which may be personal in nature. When these thoughts are shared with a community of peers however, social normalcies may influence the types and rates of discussion. Yu, Hu, and Cheng (2015) make the point that in the social networking environment, self-

disclosure may create a sense of obligation for respondents to reciprocate this disclosure, which performs a social function of strengthening relationships.

P4 Initial post:

*“To start with we had to put the bed rails down. I did my side and when my buddy nurse was doing her side Pt started to scream in pain telling that his one leg was caught by the rail. First I didn't realize what has happened. Then I noticed because patient's legs were covered from the sheet we didn't notice it's too close to bed rail and by pushing it down we hurt patient's leg. Before we start we should have checked patient position. It could have been worse if patient couldn't respond. Luckily patient was conscious. I learnt when we do nursing we have to be very careful. Have to pay attention. Always check patient's condition and position before start a procedure.”*

This initial post by P4 displays a clear self-disclosure of error, stating that ‘we should have checked the patient position.’ The participant did reflect upon their error, but posting this to the group may have left the participant vulnerable. P4's initial post was responded to by P1.

P1 to P4

*“My buddy nurse and I overlooked in the notes that the patient had a pressure sore on his bottom. I had showered him and didn't think to check his skin properly as I hadn't been told he had a pressure sore. One of the other nurses came to check him, that's how we were made aware. She then told me to check the patient's skin for*

*reddened areas and especially at the bony parts of his feet, where it is rubbing in the shoes.”*

P1 responds to P4, describing a similar error of nursing judgement. It is possible that participants may have felt an obligation to respond with similar disclosures, producing the large amount of data in this theme but also validating and aiding in resolving the original participant's ascribed negativities. As this research was undertaken during the first clinical placement of first year nursing students, the initial posts were also likely to contain a large number of uncertainties and self-doubt. The response to these, however, was unknown. A similar study on final semester nursing students who may not disclose large amounts of uncertainties may be warranted in the future to assess if this is an enduring theme in the asynchronous journal environment. Contributing factors to why participants chose to reflect upon certain posts remains unclear and out of the scope of this study.

Despite the clear reflective nature of most responses, a large portion displayed an almost social cathartic nature when viewed through this theme. This nature has been noted in the literature related to nursing reflection in the past and continues in this research (O'Connor, 2008; A. Smith & Jack, 2005). Participants were also aware of this and mentioned this nature in the group discussion.

*“It made you go through oh this is might what I need to do next time or this is what happened and sort of offloaded some of your emotions or feelings that you had through the day.”*

The nature of reflection provides a route for participants to challenge and confront their conflicts, and in so have the ability to offload the emotion derived from such conflict.

#### 4.2.3.2 Discussion

The majority of participants displayed self-disclosure of personal conflict in the asynchronous journal. Research related to discourse in social networking provides evidence that an obligation for a self-disclosure response exists in similar environments (Yu et al., 2015). Reflection in the asynchronous environment displayed evidence of similar self-disclosure behaviour, but differs in perspective from prior research in social networking, which views this disclosure as a negative. Reflection, by design, intends to raise inner conflict and resolve it. This conflict is necessary for the participant to analyse and face the experience with the intention of creating logical pathways of thought and self-awareness to better manage similar experiences in the future (McMullan, 2006). Individual journals have the ability to provoke documentation of negative experience, though do not provide a route to resolution. The intervention utilised in this research provided a space that encouraged self-disclosure of conflict, provoking reflection aimed at becoming self-aware of the conflict, the peer responses played an active role in the resolution through validation and confirmation of experience.

#### 4.2.4 Communication

A large number of reflections relating to communication with the patient were present in the data, both in the initial posts (15 of 36 initial posts) and responses to peers (10 of 24 responses). This is similar to the findings of previous research indicating nursing students focus a large proportion of their reflections upon communication with patients (Chong, 2009; Ross et al., 2014). This theme was derived from the data

and broken into two sub-themes, being 'Therapeutic Relationship' and 'Language' in order to create an understanding of how these prominent themes were affected by the asynchronous reflective environment.

#### 4.2.4.1 Therapeutic relationship

'Therapeutic relationship' in nursing is a term describing a deliberate bond formed between nurse and patient, adapting qualities such as empathy, caring, verbal communication, non-verbal communication and active listening in order for the patient to feel less anxious in a confronting environment (Doherty & Thompson, 2014; C. Richardson, Percy, & Hughes, 2015). Therapeutic relationships allow the nurse to look past the superficial aspect of the patient and make a connection with the person behind the tasks related to managing disease (C. Richardson et al., 2015). These tasks may take many forms and it is not surprising that participants, on their first nursing placement found looking past tasks difficult. Many tried to look past the tasks and condition to attempt therapeutic relationships. Others found such attempts overwhelming.

P9 Initial post:

*"I felt very overwhelmed not knowing where anything was or how to interact with the pts. As the week progressed I started to learn different techniques from the different nurses on how to talk to the pts while doing their obs."*

This participant reflection discusses two conflicting issues related to the therapeutic relationship. First, the participant is overwhelmed by unfamiliarity of the unit or tasks, at the same time could not look past this to see the human they were caring for. The

second sentence describes how they were able, with some learning from their buddy, to undertake the nursing 'task' of patient observation whilst also being able to communicate. This post provides evidence that participants understand a therapeutic relationship is necessary for both the patient and themselves, and the fact many participants found this topic worthy of reflection itself points to underlying conflict related to the therapeutic relationship.

Developing therapeutic relationships between nurse and patient may be learned through techniques such as reflective practice (C. Richardson et al., 2015). This assertion is relevant to the topic of reflection, in that reflection is aimed at providing clarity and awareness and learning from experience. This type of relationship cannot always be taught, considering every patient encounter is different, but through reflection on action, one may learn through lived experience, thus an effective reflective environment may enhance this learning.

P13 Initial post:

*"Today I had a good discussion with one of the patients in the Rehabilitation ward. It was really good because I had the chance to practice and build a good therapeutic communication skills with that patient and chance to get to know her and her family as well. She told me that she misses her children because before she was the one who cooks for them and take care of them but now since she got admitted in the hospital no one do that anymore. I think earning the trust of a patient is one of many benefits of doing a placement and I think you can only do that by putting yourself in their shoes and understanding what they are going through right now."*

This participant is forming a therapeutic relationship, reflecting upon its features and how they were able to adopt techniques such as empathy, caring and active listening, not just with the patient, but the family also. The reflective process taking place displays the participant becoming aware of relationship building, while developing an understanding of how empathy, 'putting yourself in their shoes,' enhances this relationship. A link with the asynchronous environment however is missing and will be explored forthwith. As this is an initial post, the participant may have written a similar entry in an individual reflective journal.

The therapeutic relationship and its defined aspects are difficult for nursing students to learn through theory and are enhanced by learned experience (Mirhaghi, Sharafi, Bazzi, & Hasanzadeh, 2017). Although prior literature (J. F. Barbour, 2013) has displayed that individual journaling does focus on communication with patients, the access to peer reflections and ability to respond in this research provided an outlet for real social learning related to the therapeutic relationship through shared experience. The following case involves P3 across multiple entries. P3's initial post below displays poor understanding or awareness of the therapeutic relationship and lacks an understanding on how this may be developed.

P3 Week two initial post:

*"As it was my first and only day in that ward, I wasn't familiar with the patients and you feel quite unsettled when a patient that you're trying to help just doesn't want it or they're starting to get quite aggressive as they can't communicate with you on what they would like or what they need. This experience links with basically every day of being at .... Hospital because you will always get patients that cannot*



*communicate in the way that you would like them too. I probably couldn't have achieved a better result apart from offering the patient different food or possibly trying to understand them a bit more."*

P3 is frustrated with herself and the patient because the patient cannot communicate in a manner suited to herself, rather than the other way around. She did not make an active attempt to self-evaluate, merely mentioning that she could 'try to understand them a bit more.' Lack of self-awareness may lead to dismissal of the difficult patient who displays characteristics such as aggression (Brownie, Scott, & Rossiter, 2016).

Therapeutic nursing, as stated earlier, is a difficult concept for nursing students to comprehend and recognize in the practicum context, and is best learned from experience (Mirhaghi et al., 2017). When exposed to the more developed reflections of P13 (see earlier quote), who was able to learn positively from a therapeutic interaction, P3 was able to develop deeper meaning in her own interaction, recognizing that the therapeutic relationship is not a one way transmission of meaning and there are alternative methods and steps to take in such situations.

P3 week two response to P12 & P13:

*"I do agree, it's very hard to communicate and to put yourself in their shoes as it must be so hard trying to communicate their needs to us when we don't understand them!"*

This response demonstrates that it is possible for participants become self-aware of limiting bias in order to separate their needs from the patient's needs, and this may be accomplished by the act of reflection in the asynchronous environment (Brownie et al., 2016). P3 has made a realisation in this response, recognising that communication is difficult at times, but by reading insights related to empathy they

explored in P13's initial post, P3 has now rationalised that it would be worse for the patient and may take this awareness to the next patient in a similar circumstance, rather than 'giving them some food.' The asynchronous environment in this example provided a clear path for P3 to challenge her initial bias and adopt empathy. This may have been the catalyst for P3 to write her next and final post, more focused on how to care for her patients.

P3 week three initial post:

*"Now that we are at the end of our three week placement, I've really learnt a lot. Even just little things like going that extra mile for patients so that they can have a better day. I'm confidently taking observations and trusting what I'm writing down."*

P3 mentions learning a lot and specifically mentions 'little things like going that extra mile for patients so they can have a better day.' This is a transformation of perspective over a short period of time which was initially influenced by reading and responding to a peer with a deeper understanding of therapeutic nursing. This example provides insight into the effect the asynchronous journal can make upon student learning and provides an avenue to for future studies to explore therapeutic relationships in nursing.

#### 4.2.4.2 Language

The language barrier for participants was a recurring theme through both initial posts and responses to peers. This was influenced by the clinical placement location and patient demography as described in section 3.2.1. This led to many participants

being exposed to patients who could not speak fluent English. Communication is a topic students are exposed to in nursing courses, but this communication tends to focus on building therapeutic relationships, with some cultural awareness.

Participants displayed evidence of being unprepared for this experience, creating tension, and therefore reflected upon this topic to try and resolve the issues surrounding this.

P2 Initial post:

*"My patient today was a 65 year old with dementia and NESB (non-English speaking background), behaviours include wandering, agitation, physically aggressive and can be quite unpredictable. My buddy nurse asked me to feed him breakfast which I did, he was very cooperative and happy. Much later on the buddy nurse tried to give him his morning meds but he spat them all. After that we tried to attend to his personal hygiene but patient was getting agitated when being taken to room so we just made sure he was clean and let him go as at this point he had started kicking. I think that not having his morning meds this patient behaviours had escalated, and when he started showing agitation, we should have given him more time to calm down and not approach him in this state. Patient meds should have been given together with his breakfast when he was in a good mood and cooperative. However nurses were very effective handling the situation making sure other nurses and patients are safe. Plan- To understand patient body language,*

*recognize triggers before attempting anything in order to  
minimize incidents”*

Despite a long analysis of the situation outlined in P2's initial post discussing aggression, medication errors and mood, the plan formulated to deal with this in the future is all related to communication. This indicates that P2 believes if there were no communication difficulty, this situation may have been averted. P2 is trying to create a logical plan for future similar incidents based upon experience. Reflection is an ideal format for this planning, as the participant may not have taken the time to step back and think critically about the situation without this intervention.

Schenker, Pérez-Stable, Nickleach, and Karliner (2011) conducted research related to language barriers and hospital staff in San Francisco, United States, and found 74% of patients would prefer an interpreter was available when speaking with nurses, though only 4% of interaction with nurses involved an interpreter. This study revealed that patients themselves also desire clearer communication with nursing staff. Several reasons are mentioned for this low frequency of interpreter use, including being unable to delay care activities, viewing communication as less important and lack of training in the use of interpreters (Schenker et al., 2011).

Utilisation of an interpreter between nurse and non-English speaking patients has been shown to provide clear positive outcomes for both parties (Ian, Nakamura-Florez, & Lee, 2016; Schenker et al., 2011). Unfortunately, resources in health are scarce and it may seem inappropriate for student nurses to utilise interpreter services and hospital resources. Participants in this research utilised the reflective journal to share ideas of how to communicate effectively instead, without costing hospital resources. These examples were typically learned through experimentation

and experience or from their buddy nurses. These unique experiences were shared with peers in an attempt to provide clarity of the topic.

Participants were potentially reflecting upon this aspect of communication as there is no clear guide stating the correct procedure to care for a patient with limited English. Again this relates to the work of Schön, who discussed reflection as being well suited to aspects of professional life that can be learned through experience rather than technical drill approaches (Schön, 1983).

P11 to P10

*“A language barrier was one of the major problems I had with the patients, but with the help of the buddy nurses, I was able to learn a few words of their language here and there so they could get an idea of what I was trying to tell them. I'm so grateful for this experience as I never really realised what a big factor language barriers were in nursing practice.”*

This comment emphasises the point that participants were not anticipating such difficulties with language and displays little evidence of prepared techniques to deal with this experience. Participants shared their reflections on this topic with peers to negate this deficit, providing their own insights and learned experience from buddy nurses.

P11 to P1

*“Things like hand gestures and using my body to demonstrate an action made it easier for the patients to understand.”*

P1 to P10

*“Mostly I saw that the nursing staff had learnt some words of the patient's language.”*

Ian et al. (2016) make the point that caring for non-English speaking patients can lead to increased self-awareness, attitude changes and personal development, though limiting factors such as hospital resources and time may inhibit these.

P1 to P10

*“In future I would like to, if I have more time and ongoing care of the patient, to learn some words from their language to help in more effective communication and care.”*

Participants tended to make note of increased awareness or need for personal development, dependent upon their experience. P11 to P10 in the earlier quote mentioned how the experience had led them to identify a new aspect of nursing in her consciousness, that language barriers can have a large effect on nursing. Other participants recognised that time was a major source of challenge in communicating with non-English speaking patients. These ideas were brought to the group consciousness as a direct result of the asynchronous journal. Bringing forth ideas that required self-evaluation and personal development in the group promoted reflection related to shared experience on a range of topics specific to the case study group, enabling participants to construct a shared meaning.

### 4.3 Q.2 - How do levels of reflection change in the asynchronous environment?

Determining the quality of reflection demonstrated by participants was required to meet the objectives of this research and enabled analysis of variables in the research to make more accurate deductions from the data. Understanding the effect of the asynchronous discussion upon participant reflection levels required consistent and validated coding, therefore a recognised and validated coding scheme was utilised, being levels of reflection described by Mezirow (1990, 1991) and adapted by Kember et al. (1999); Thorpe (2004); Wong et al. (1995). The Levels of Reflection were utilised for both original posts and responses to others. Full posts were analysed. Coding the asynchronous reflections with these levels provided insight into the depth of student reflections and discourse with peers and is described in section 3.5.1.

A full breakdown of individual post and response data can be viewed in Appendix 3.

#### 4.3.4 Weekly levels of reflection

Table 3: Distribution of reflections based on frequency and percentage

	Non-Reflector	Reflector	Critical Reflector
<b>Week 1 Reflections</b>	8 (67%)	4 (33%)	
<b>Week 1 Responses to Others</b>	1 (14%)	6 (86%)	

<b>Week 2 Reflections</b>	6 (46%)	7 (54%)	
<b>Week 2 Responses to Others</b>	4 (44%)	5 (56%)	
<b>Week 3 Reflections</b>	3 (27%)	8 (73%)	
<b>Week 3 Responses to Others</b>	2 (33%)	4 (67%)	
<b>Total Initial Postings</b>	17 (47%)	19 (53%)	
<b>Total responses to peers</b>	7 (32%)	15 (68%)	
<b>Total</b>	24 (41%)	34 (59%)	

A total of 36 initial reflections were posted over the three week clinical placement. 22 responses to peers were posted during the same time frame.

Initial postings involved 17 (47%) reflections being categorised as non-reflector, 19 (53%) categorised as reflector and 0 categorised as critical reflector. Participant responses to peers displayed 7 (32%) responses as non-reflector, 15 (68%) responses in the reflector category and 0 in the critical reflector category. These results display a higher affinity for reflection in peer responses versus initial postings.

The majority of participants displayed reflection in the reflector level. Mezirow (1991) made clear that content and process reflection are the areas to which



meanings are either created, negated, confirmed or identified as problems. As the participants were on their first acute clinical placement, much initial meaning making was taking place as identified earlier in the thematic analysis.

It should be noted that previous studies have found difficulty in reaching the outcome of critical reflection (Curtis, 2006; Siles-González & Solano-Ruiz, 2016). In the study conducted by Chirema (2007) pertaining to individual journals, a sample of 42 post-registration nurses, chosen in recognition of their reflective experience, only five participants were able to reflect at higher levels. Other studies, such as Curtis (2006), have prompted deeper reflection in graduate students by posting discussion topics that tend to provoke deep reflection about ones beliefs and perception, such as 'Racial and Ethnic issues' or 'Women and HIV.'

Thorough analysis of this reflective data, including assessment of variables and causal factors will be described in the following section.

#### 4.4            Q.3 - What changes in reflections, if any, can be attributed to the new environment?

Rutherford-Hemming (2012), with reference to Bandura (1977, 1993), outlined social learning theory, making the point that people can learn through observations of others. Despite such vicarious learning, he noted that expertise is also gained through practice with internal and external feedback about the issues or context under review. Vygotsky (1978) made similar observations, stipulating that learners hold an actual and potential level of development. Vygotsky noted that the potential level of development may be reached through collaboration with peers at a higher level of development. Wood et al. (1976) made the assertion that scaffolding

mechanisms are the method in which learners make gains in levels of development. Scaffolding mechanisms in the asynchronous environment were an unknown in the study, though intention to identify learner needs and habits serve the purpose of providing future intervention with clear, warranted scaffolds. The intervention of the asynchronous journal was guided in part by these premises and provided a unique exposure to participants of interaction with peer reflections of measurable levels. This intervention created wide ranging changes to reflections and is discussed in detail with reference to variables and causal factors that may have influenced the changes found in this section.

#### 4.4.1 Reflecting at the level of peer

Of the 22 total responses to peers, 15 responses were at the same level of the original post, 6 responses were at a lower level than the original post and 1 exceeded the level of the original post. This is highlighted further when examining week one reflections, whereby initial posts did not have the opportunity to learn from peers. Week one produced eight initial posts at the non-reflector category and four initial posts in the reflector category. Week one responses to peers produced a significant change, only one response was at the non-reflector level, while six responses reached the reflector level. Interestingly, in week one, despite only four initial posts being at the reflector level, five of the seven responses were directed to the reflector level initial posts and also reached the reflector level. The two remaining responses were directed at non-reflector initial posts, of which one remained at the non-reflector level and the other surpassed this level. This data lends credence toward Vygotsky's observations, that learners are able to reach higher learning through collaboration with peers at a higher level and that the scaffold of the

asynchronous environment is able to facilitate learners reaching their zone of proximal development, as discussed in the literature review, chapter two (Vygotsky, 1978). Participants acknowledged this phenomenon in the questionnaire, confirming that learning occurred from review of peer reflections. All participants stated they reflected on the experience of others and the majority of participants stated they were able to write at deeper levels post review of peer reflections.

*Table 4: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
3.1.4	I reflected on the experience of others				12 100%	
3.1.7	Reviewing peer reflections enabled me to write at a deeper level	1 8.3%	1 8.3%	2 16.7%	7 58.3%	1 8.3%

However, there is an obvious problem of this suggestion. How can participants be assured of engaging with the reflections of peers at higher levels when exposed to both non-reflective and reflective discourse?

#### 4.4.2 Participants responded to more reflective posts as deemed by levels of reflection

Interestingly, data indicates that the level of reflection in the original post directly correlates with the likelihood of response from peers. There were a total of 17 initial posts in the non-reflector category, of which only received 2 responses, indicating a low likelihood of response. In contrast, the Reflector category comprised of 19 initial

posts to which 20 responses were received, indicating a much higher likelihood of response. This data implies that participants did not need to be directly linked to participants reflecting at higher levels, as they were able to discern quality reflections to learn from without assistance.

#### 4.4.3 Number of posts read improved level of reflection

Participants who read more responses were more likely to post in the reflector category than the non-reflector category. Reflector category posts display a 0.51 correlation with number of posts read, indicating a strong relationship (Reinard, 2006). Non-reflector posts display a weak inverse relationship to posts read.

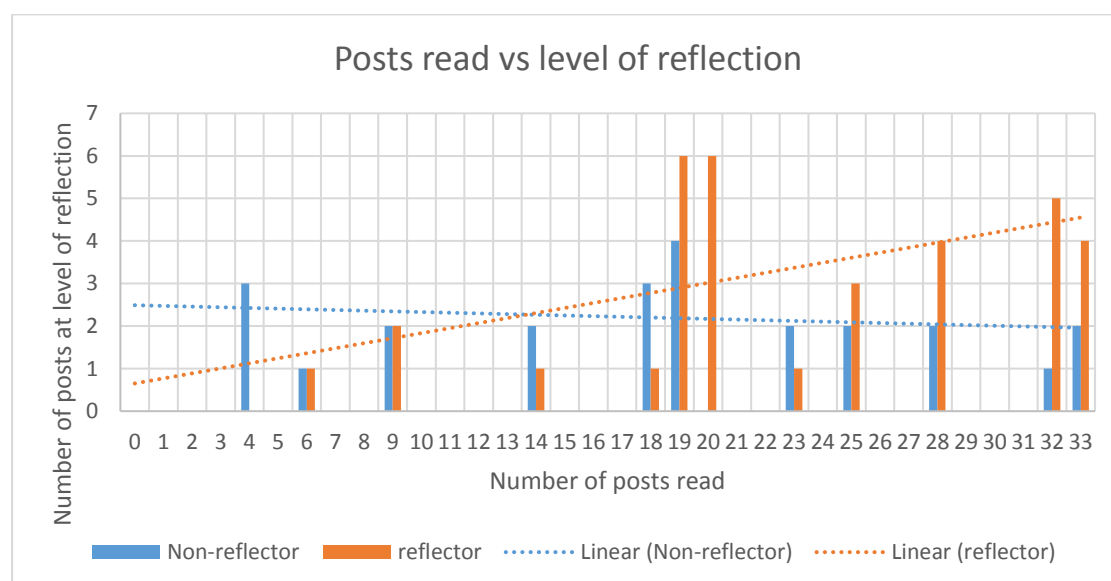


Figure 6: Posts read by participants compared to number of posts at varying levels of reflection.

#### 4.4.4 Number of responses to peers improved level of reflection

The number of responses to peers in the asynchronous journal improved the overall level of reflections participants displayed.

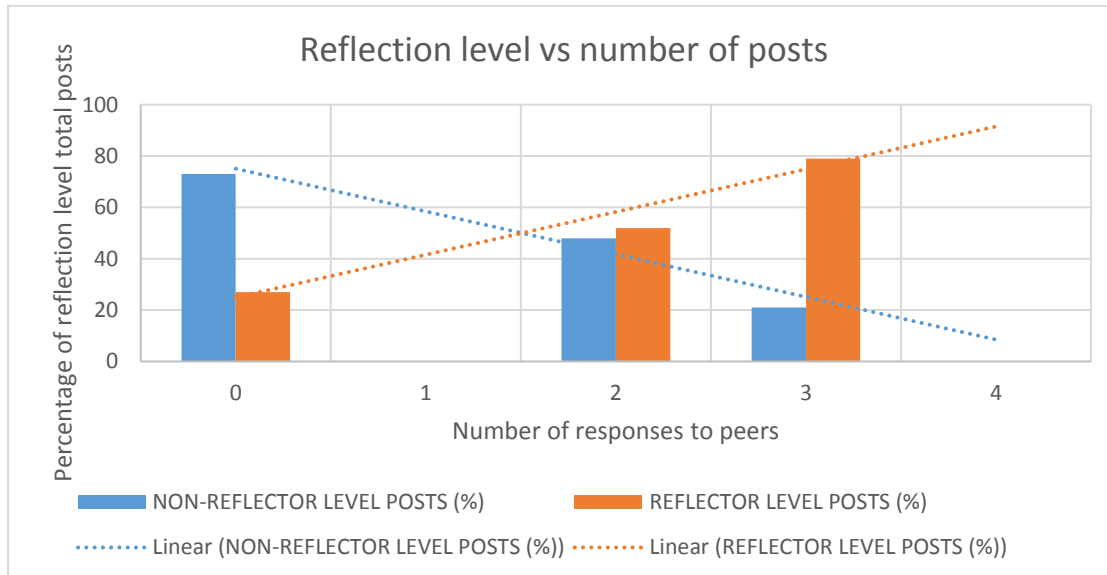


Figure 7: Percentage of posts at non-reflector or reflector level vs number of responses to peers.

The chart (figure 7) displays initial post and response to peer reflective levels in percentage value versus number of responses posted. When compared, reflector level displays a  $+0.978$  correlation with number of responses posted, indicating a high extent of linear dependence (Mirkin, 2011). The more a participant responded to peers the likelihood they would be posting at the reflector level also increased. The opposite was true for participants with less engagement in responding, displaying an inverse correlation of reflection in the non-reflector category.

#### 4.4.5 Reflection improved over time

Reflective levels improved over time in initial posts, shifting from mainly non-reflector level in week one to mainly reflector level in week three. Week one displayed 4 of 12 responses in the reflector category, Week two, 7 of 13 posts in the reflector category, and week three, 8 of 11 reflector level posts.

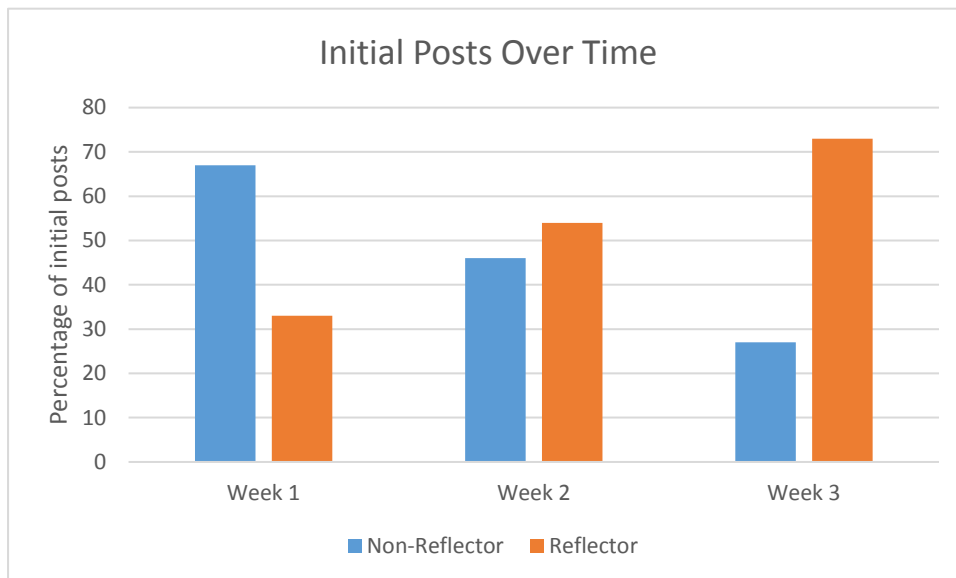


Figure 8: Percentage of initial posts at non-reflector or reflector level over time.

Responses to peers displayed a higher level of reflection from the onset, dropped, then levelled off. Week one responses to peer postings displayed six of seven responses in the reflector category. This positive trend did not continue in further weeks with five of nine reflector responses in week two, then improving slightly to four of six responses in week three.

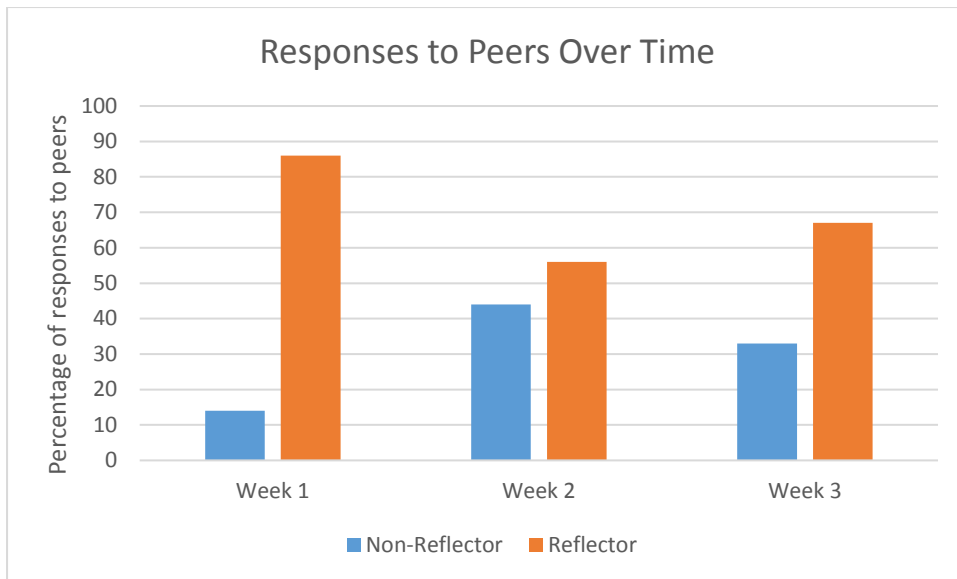


Figure 9: Percentage of responses to peers at non-reflector or reflector level over time.

Table 5: Distribution of respondents based on frequency and percentage (N=12)

		Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1.1.9	With experience, reflective practice develops from descriptive to a more critical and analytical practice			3 25%	8 66.7%	1 8.3%

#### 4.4.6 Lack of engagement

Previous findings in this section discuss single data points that when viewed together suggest overall engagement with the asynchronous journal improved reflective outcomes.

The study produced some participants who demonstrated a lack of engagement with the asynchronous reflective environment. As engagement produced certain outcomes, examining lack of engagement with the asynchronous environment was examined by investigating the least engaged participant.

This theme focuses on the case of P6, who recorded the lowest engagement with the asynchronous discussion overall. P6 read a total of four reflections over the three weeks, compared with a group average of 21. P6 did not respond to any peers, versus a group average of two responses over the period. This lack of engagement was displayed in the reflections of P6, who posted three initial posts, all in the non-reflector category. The grammatical errors of the following reflections have not been corrected in the following segments.

P6 Week 1:

*“my first week was good, i was in palliative care ward.buddy nurses are very good and helpful.they showed how to give shower,washes and bsl.that was good experience.”*

P6 Week 2:

*“my second week was in rehab. i liked that ward too.week 1 i was in palliative care did showers,bsl,wash etc but didnot get chance to do obs there.i did in rehab ward n that was good experience and watched buddy nurses to do EC on patient.*

P6 Week 3:

*“my last week was in gem and i had good experience in that ward.at the end of last week i can feel very confident that i have learnt a lot of things in this placement while working on patients understand them and able to communicate really well with them.i had very good week.*

P6 did not develop reflections over the placement period. Without engagement with peers, P6 may not have understood the intentions of reflection on placement and did



not engage in social reflection. It is also worth noting, the writing skills of this participant are at a relatively low standard, displaying many grammatical errors. Inability to clearly express written reflections concisely may limit engagement with the intervention related to confidence in expression. P6 was the only participant not to post at the reflector category.

#### 4.4.7 Discussion

This section intended to respond to research question three, regarding what changes in reflection may be attributed to the asynchronous environment. Group engagement in asynchronous reflective discourse is a new style of reflection during nursing practicum and as such, investigation into changes is of significance for exploration.

Vygotsky's zone of proximal development, discussed in the literature review, has the shortcoming of learners being required to be paired with a peer who has attained a higher level of ability (Vygotsky, 1978). Much of the data in this section implied that learning how to reflect was achieved through scaffolding mechanisms in the peer led asynchronous journal. Levels of reflection increased as a direct result of these scaffolds, including the ability to read numerous reflections of various reflective levels, providing and receiving insight and validation from peers. Participants were more likely to reflect at the level of peer, and able to move from non-reflector to reflector level through response to a reflector level initial post. The reflective level of responses dropped after the first week then levelled off, while at the same time, initial reflection levels improved, indicating that the need for scaffolding diminished as expertise grew, a recognised phenomenon in research literature (Howe, 2013; Yelland & Masters, 2007).

Despite the fact that the asynchronous journal provided participants with reflections at lower, similar or higher levels of reflection, participants were able to discern higher level reflections and were attracted to respond to these. This was evidenced by the high likelihood of responding to a reflector level initial post versus a lower chance of response to a non-reflective initial post described in section 4.4.2. Combined with the data displaying a high affinity for participants to reflect at the level of peer (15 of 22 responses), the asynchronous journal displays a propensity to derive more reflective responses than non-reflective responses to peers. The asynchronous environment itself ensures this occurs. Participants choosing to respond to non-reflective posts would be commenting on a description rather than an insight. This would be akin to providing reflective insight into a description of how to take blood pressure, whereby there is little room for discussion to a known technique. However, participants were naturally able to engage with insights in the form of true reflections, providing the direct mechanism to improve reflective levels and encourage participants to improve their own initial reflections over time.

Non-reflector category posts may also be viewed as lacking in honesty or seriousness. Asselin and Fain (2013) found that in face-to-face group reflection, participants felt more comfortable sharing experience once others had also shared authentic experiences. Authentic is the key word in this statement. One participant, through the additional comments in the questionnaire, felt that some participants were not taking their reflections seriously enough and recognised that this was detrimental to the group.

*“I don’t feel that enough people took the reflections seriously. The more people who get involved, the better the reflection experience is.”*

This may also explain the lack of responses to participants reflecting at a superficial level, as participants may not feel comfortable sharing significant feelings or experience if they perceive this is not the intent of their peer, and with the foreknowledge that honest reflection will not be reciprocated.

Participants improved their own levels of reflection in initial posts over time, developing an understanding of reflective discourse through peer interaction. This was highlighted significantly in the week one reflections, whereby participant initial posts displayed mainly non-reflector initial posts versus week three, whereby participants displayed mainly reflector level posts. This phenomenon of reflective improvement over time has been described in relation to individual journals (Duke & Appleton, 2000), but has also been shown to devolve over time (Jensen & Joy, 2005), or maintain descriptive levels of reflection (Kok & Chabeli, 2002). The participants not only improved reflective levels over time, but increased in level during the same week directly related to the asynchronous environment. All participants in the study besides P6 (7.7%) were able reflect above the level of non-reflector, a significant improvement over other studies that ranged from 13% (Wong et al., 1995), 21% (Chirema, 2007) and 15.3% - 38.4% (Thorpe, 2004). The case study provided a mechanism to assess the only participant unable to reflect above the non-reflector level, providing evidence that the participant did not actively engage in the environment, being unwilling or unable to respond to any peer reflection, and reading the least amount of peer reflections of the group.

The correlation between posts read and reflector levels highlights that participants were exposed to varying levels of reflection and that participants read a large number of reflections to determine which posts were relevant and of a higher level. The more posts a participant read, the higher their overall level of reflection

became. Participants actively read and learned from the responses provided by their peers which was supported by the questionnaire data.

*Table 6: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
3.1.2	Feedback from peers encouraged me to reflect deeper on my experience		2 16.7%	2 16.7%	7 58.3%	1 8.3%

Prior research into reflection in nursing indicates that nursing students are often unsure of what experiences to reflect upon, requesting exemplars to provide certainty of reflective expectations (Chirema, 2007; O'Connell & Dymont, 2011). Other studies have gone so far as to suggest providing real examples of exemplary and unsatisfactory forms of reflective writing (Bowman & Addyman, 2014). Furthermore, Josephsen (2013) found that students had to wait for a significant incident or experience to occur before writing their reflections. The asynchronous journal provided participants with an unprecedented number of exemplar reflections. The total number of reflections read (250 posts read) display that participants were reviewing multiple peer reflections. Participants may have shared similar experiences during their clinical placement but would not have been prompted to reflect on many of these without the asynchronous environment. Participants were able to determine the relevance of peer reflections to their own practice. The following excerpt from the focus group demonstrates that reviewing their peer reflections were utilised in this manner:

*“I think it’s a valid learning experience, but it’s good a few girls did different topics otherwise I didn’t just pause.”*

Uncertainty of topics for reflection was diminished through the use of the asynchronous journal. Participants were able to review the work of peers, discern depth of reflection, and contribute directly with similar experiences to their own, contrasting the original post and framing their experience. This is in contradiction to prior studies performed on individual journals and especially surprising considering this was their first attempt at reflective writing (Bowman & Addyman, 2014; Chong, 2009). This was highlighted in the questionnaire whereby the majority of participants disagreed that they were unable to identify learning issues to reflect upon and all participants agreed that they reflected on the experience of others.

*Table 7: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.3.5	Unable to identify learning issues to reflect upon	2 16.7%	6 50%	1 8.3%	3 25%	
3.1.4	I reflected on the experience of others				12 100%	

Contrasting with these findings however, participants described that assistance from the tutors was required to help identify issues for reflection.

*Table 8: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>

1.4.2	Assistance from the tutors is required to help identify issues for reflection		2 16.7%	2 16.7%	8 66.7%	
-------	---	--	------------	------------	------------	--

This was separated from the context of the asynchronous environment however, as described in the focus group, facilitators could help identify issues by posing questions rather than be actively involved in the reflective process.

“If they pose a question to make you think about it.”

One participant described this in the context of clinical debriefings creating the opportunity to discuss and identify issues for reflection, but the asynchronous environment providing the means to think analytically and learn from the experience of themselves and others:

*“I think it was good to have the debrief session with our educator, cause that’s when we were able to do that, but I thought it was really good to also write online because it helped you to think analytically for the next time you did something or you know gave patient care, or to read other student’s experiences. It just all came together for you to be able to give the patient care and communicate with the patient as well.”*

An alternative explanation of these findings could include that the participants were selected in a purposive manner to include a group of a participants at a similar level of knowledge, experience and attending the same clinical placement to ensure topics of relevance occurred throughout the study. This sampling was informed by the literature review, but in the context of nursing clinical practicum, would represent

the typical sampling of any nursing group. The majority of nursing research literature related to individual or group reflection studies groups of similar experience and within the same clinical context but has not displayed these results.

Another alternative explanation may be that of justification of experience. In the asynchronous environment, participants displayed the need to identify the means of development from their experience. This contrasts greatly to individual journals in which the nursing student may merely describe the skill or experience with minimal prospect of impending challenge. Participants in this study needed to justify and explain their actions to peers as a consequence of the dialogue imposed by the environment itself. This led to deeper analysis of their experiences, and therefore greater depth of reflection than if one is writing for themselves.

Causal trends in specific data may be difficult to prove from a single study with a relatively small sample of posts, though multiple data presented in this section point to an overall positive relationship between engagement in the asynchronous journal and reflective outcomes. When discussed individually, the findings may be explained by multiple variables. For example, the posts read, whereby it cannot be determined if posts read were of high or low reflective character from the data. When combined with the knowledge that participants were more likely to respond to peers posting at reflector rather than non-reflector level, we can determine participants were able to distinguish which reflections were more appropriate to learn from. This provides insight and evidence to suggest that engagement with the asynchronous environment itself is the key variable in developing reflective ability.

Constructing knowledge through experience is the basis of constructivist theory. The educator must take an active role in transforming the learner from a participant

in learning to active learner (Brandon & All, 2010). Participants in this study became active learners as described in constructivist theory, being involved in driving discourse and learning from the experience of themselves and others, coordinating these with their own. Engagement with the intervention largely determined the depth of reflection each participant was able to achieve. The asynchronous reflective environment creates a truly constructivist approach to learning, allowing participants to build upon group experience through developmentally relevant discourse with peers.

#### 4.5 Q.4 - What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?

This section intends to explore student perspectives on the asynchronous reflective experience. Many studies into reflective journaling in the nursing research literature were identified as qualitative, and investigated student perspectives related to the particular reflective process. This section benefits from the ability to build upon and contrast with previous findings. This creates the opportunity to discuss the study's findings from the asynchronous environment in a comparative nature, building upon theory and creating an understanding of student perspectives.

##### 4.5.1 Authority figures in reflection

Rather than the provision of artificial reflections from mentors, participants were able to engage with reflections relative to their context in both nursing clinical practicum, and reflective experience. Nursing students in reflective discourse prefer to



determine their agenda, ensuring topics of relevance are discussed (A. Smith & Jack, 2005). Determining which reflections to engage with in the asynchronous discussion was largely determined by the reflective level of initial reflection and the similarity of experiences of relevance described in section 4.4 and 4.2. Participants in the group described determination of relevance influencing their engagement. This was discussed in the focus group as the group being able to set the agenda.

*“We’re the ones in the experience”*

The reflective discourse was significantly affected by the similar level of understanding and experience in the group in determining relevance. Participants in the focus group, when asked if a mentor engaging in the asynchronous journal would improve the experience, formed consensus that they would prefer that it was students, being they are the ones with the experiences and therefore feel more relaxed in discussing these with the group.

*“You get so much from the lecturers already and the tutors sort of telling you this, this this, it’s nice to have a forum where you are with your peers and you’re able to feel relaxed about saying things, but if you have a lecturer or moderator or someone looking in ‘oh what’s that person saying,’ it makes you feel uncomfortable, yeah.”*

Mezirow (1990) explains that when seeking consensus, we turn to those who we believe are without bias and are best informed on the experience being discussed. Participants clearly indicated they would prefer it was only their peers in the reflective environment, as they were the ones with the experience, outlining that they are best informed on the topics of reflection, and of limited bias. Reflection among peers sharing the same authority was desired, rather than someone from the outside

looking in telling participants what is right and disrupting the ability to actually reflect. This provided participants the opportunity to attribute their own meanings relevant to their own prior experience.

#### 4.5.1.2 Facilitator role in asynchronous reflection

Conflicting data on the topic of the facilitator role was evident in the study. In direct contrast to the statements made during the interview sessions, the questionnaire provided evidence that participants desired more input from facilitators. This was found in previous research related to reflective practice. Jensen and Joy (2005) surmised that students required ongoing re-enforcement of how to complete nursing journals at levels deemed appropriate for outcomes. Other authors agree with this and have suggested that re-enforcement, providing consistent advice or clear instruction of journaling may improve performance, though there is a dearth of research in nursing literature to validate these claims (Chong, 2009; Jensen & Joy, 2005; Thorpe, 2004).

Questionnaire responses indicated that the environment itself was supportive, relating to feedback from peers.

*Table 9: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.3.3	Lack of supportive environment	3 25%	6 50%	1 8.3%	2 16.7%	

Participants thought the process indicated that they wanted more input from facilitators to understand the use of the asynchronous journal. This was described in

the focus group as needing more structure, particularly in the first week, and was also highlighted in the questionnaire responses.

*Table 10: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.4.1	Supervision by tutors for the introduction of reflection is essential	1 8.3%		2 16.7%	8 66.7%	1 8.3%

This is distanced from the understanding of how to actually reflect, as the majority of participants reported the explanation of reflective practice was adequate and the majority of participants were able to move beyond the descriptive level of reflection as outlined in section 4.3.

*Table 11: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.3.2	The explanation of reflective practice was not adequate	1 8.3%	7 58.3%	1 8.3%	3 25%	

Participants believed the clinical instructor was unsure of the asynchronous journal and reflective practice. This study aimed to distance the researcher and facilitators from participant engagement to prevent contamination of data and follow the suppositions made in the literature that authority figures diminish the ability to reflect openly (Kok & Chabeli, 2002). The data however highlights the need for more interaction with the clinical facilitator, specifying that advice needs to be consistent and knowledgeable.

Table 12: Distribution of respondents based on frequency and percentage (N=12)

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.4.4	The different tutors should be consistent in giving advice on reflection, to avoid confusion				12 100%	
1.4.5	Tutors should be equipped with knowledge on reflective practice			1 8.3%	9 75%	2 16.7%

#### 4.5.1.3 Discussion

Despite the contradictions expressed by participants in the study, seeking a peer led environment while also requesting facilitator supervision, it is evident that despite the attempt to provide a truly peer led environment, facilitators are still required to play a significant role in the reflective process. It is surmised that participants required scaffolding related to the technology of the asynchronous environment and that choosing the actual experience to reflect upon could benefit from both peer and facilitator involvement, as described in section 4.4.7. The facilitator role may benefit reflections through scaffolding such as the posing of questions and guiding reflections in the group debrief sessions rather than direct involvement in the asynchronous environment, providing scaffolding mechanisms while maintaining peer authenticity in the reflective process. Participants clearly did not want the facilitator to be involved in the asynchronous reflective process as this would diminish their comfort in sharing. Future studies may benefit from providing significant instruction to the clinical facilitator prior to the beginning of placement to avoid confusion. The facilitator role and recommendations are discussed further in chapter five.

#### 4.5.2 Trust and willingness to share

Previous research concerning individual reflective journals in nursing have described a tendency for nursing students to refrain from true reflection due to factors such as confidentiality, not knowing who would read it, how their thoughts would be interpreted or judged, and even potential legal retribution (Bristol & Kyarsgaard, 2012; Chirema, 2007; Kok & Chabeli, 2002; O'Connell & Dymont, 2011; A. Smith & Jack, 2005). Asselin and Fain (2013) Indicated that in group reflection, there must be a trust or confidence among the group to allow for true reflection which may be enhanced by exposure to shared experience within the group and consistency in group members. Liddiard and Sullivan (2017) in their study of face-to-face group reflection supported these findings and added that members could not reflect honestly or were reluctant to share due to power imbalance and that some members were ridiculed for their views.

As described in chapter three, participants were chosen for the consistency of group members, all attending the same placement, thus sharing experience, and members of the same year level of study, providing consistency of group members with minimal authority imbalance. The active removal of facilitators from this study was also intended to create a peer model of reflection whilst removing authority figures, though as mentioned previously, created other, different issues. Trust, and willingness to share were key negative issues found in the literature review and had not been addressed by the reflective literature in any meaningful way. A proposition of the asynchronous model put forward in the study, was that this new environment may limit these issues.

This study provides evidence that participants believed they could share their experience with minimal judgement, achieving trust in the asynchronous environment. Participants expressed that trust and confidence were also gained through reflection of similar issues and validation, described in section 4.2, reducing the feeling of isolation.

*“It was good to know that with some of my experiences I wasn’t the only one who had that, others would say ‘oh I had the same experience or I did this to improve what I did, so yeah that was nice, I felt like I wasn’t isolated from everyone else.”*

It was suspected before the study that some participants may not feel comfortable with the knowledge that peers would be able to read their reflections. When asked about this in the focus group, one participant responded:

*“It was alright. Everyone wrote the same kind of things so It’s not like someone on the outside reading it, we are all first year nursing so it was alright, I didn’t mind them reading.”*

Other participants supported this by stating:

*“I saw some views on my thread, a lot of people actually read it, so that was a little bit embarrassing, but it was alright.”*

*“...it’s nice to have a forum where you are with your peers and your able to feel relaxed about saying things, but if you have a lecturer or moderator or someone looking in ‘oh what’s that person saying,’ it makes you feel uncomfortable...”*

This supports the notion put forward by Asselin and Fain (2013) that trust and confidence among the group can be enhanced by shared experience, the most common feature noted in the asynchronous reflections themselves. This also supports the point that removal of authority, in this case the facilitators, from the group enhanced the willingness to share (Liddiard & Sullivan, 2017). Comfort in sharing was also evidenced by the questionnaire, whereby the majority of participants agreed they were comfortable using the asynchronous reflective environment and that they found the environment to be supportive.

*Table 13: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
3.1.6	I was comfortable using group discussion as a medium for reflection			3 25%	8 66.7%	1 8.3%
1.3.3	Lack of supportive environment	3 25%	6 50%	1 8.3%	2 16.7%	

The asynchronous reflective environment in this study represented a safe, inclusive environment of trust and willingness to share among the group. Participants were reassured of this through validation of shared experience in the group itself. Students were confident and secure in writing with the foreknowledge that review of their reflections were restricted to peers, rather than facilitators or staff from the university.

Following on from the environment of trust, reflections themselves were able to be written in a more truthful manner. Previous research has described students writing merely what they believed was expected of them to pass the unit

requirements rather than their true reflections. This has been associated with the lack of trust in other reflective interventions, caused by issues such as feeling judged if they documented their true insights (Bowman & Addyman, 2014; Chong, 2009; Kok & Chabeli, 2002; G. Richardson & Maltby, 1995). Participants noted in the questionnaire that they were not compromised by this, but actually writing what was truly felt:

Table 14: Distribution of respondents based on frequency and percentage (N=12)

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
2.1.5	I write reflection on what is expected rather than what was truly felt	1 8.3%	9 75%	1 8.3%	1 8.3%	
3.1.8	Reflecting in a group prevented me from being honest	3 25%	5 41.7%	1 8.3%	3 25%	

The asynchronous environment created a context in which the students felt that they could trust their peers, and accordingly showed a willingness to reflect and provide honesty in their reflections. One participant did however describe the feeling of being judged in the additional comments section of the questionnaire.

*“I felt like when others read it, I was being judged or criticised. It might sound pessimistic, but I truly felt others were feeling that way towards me, especially since they could see my name, I was the one who posted it.”*

The feeling of being judged was related to her name being available for other participants to see on each of her posts. Despite this being the minority view of the



participants, it creates an opportunity to change the format of the peer environment to improve future implementation.

One student in the focus group identified feeling confident enough to post a reflection with the group that related to a patient passing away and how that affected her. As described in chapter three, this discussion caused restraint from participants in contributing further in the focus group. This restraint was also evident in the analysis of the asynchronous reflections themselves, related to emotionally significant experiences.

#### 4.5.2.1 Emotionally significant experiences

There were three examples of participants sharing emotionally significant reflections relating to their experiences of death and dying. Participants were willing to share these experiences, though these reflections were restrained and none received responses from peers.

P9 Initial post:

*“During my second week I looked after a patient who seemed to be quite alright even though he got a bit confused at times, on this one day he was so confused he was saying he had to go to the Alfred hospital and yelling at us telling us he had to go right now. The next day I was informed that he passed away at lunch time. He had started to deteriorate rapidly. This has put into perspective how rapidly a patient’s condition can change.”*

P9 felt that this experience was valid for sharing with peers and reflecting on this experience itself is evidence P9 was seeking further input into this experience to be

able to move forward and derive more meaning. This reflection is really a recollection of what happened, without real exploration of the experience. Unfortunately P9 did not receive a response to this reflection. The following week, P9 did not create an initial reflection nor post response to peers, withdrawing from the reflective process.

P12 Initial post:

*"Today I looked after an elderly lady of 78 years old which refused to eat, she was malnourished and quite unresponsive in answering questions of directed conversation. When I assisted in cleaning and dressing her I noticed that she was covered in bruises, and possessed a greyish/yellowish colour to her skin. Trying to do her blood pressure was challenging at times due to her malnourished frame and an insignificant arm cuff. Two days later when i was looking after new patients in the afternoon shift i was made aware that this patient had deteriorated and passed away early in the morning shift. Me and another student were given the opportunity to see the body and then were asked to assist in preparing the body for the morgue. This was really quite confronting and shocked me knowing only 2 shifts before I was looking after her. On my last shift in the ward before she passed away, I witnessed and noted she was quite restless, yelling and screaming out of the room. She was quite distressed, I tried my best to make her comfortable and approached her for a conversation when things were quiet with my other patients."*

P12 has posted here relating to a significant experience that has created the need for resolution. Similar to P9, despite describing the events that played out over the week related to the patient, P12 does not make a real attempt at addressing her feelings toward the situation, stating what happened without deep analysis. As with P9, this reflection did not receive a response from peers and the following week, P12 did not create an initial reflection nor post response to peers, withdrawing from the reflective process.

P8 Initial post:

*"Today I looked after a patient in palliative who was unaware of her terminal illness due to the wishes of the family. I personally felt that this was unfair and I would want to know if I was the patient. This is a hard ethical issue and I acknowledge that the family has a right for their wishes to be upheld."*

P8 describes a significant ethical issue in this initial post. She does manage to evaluate the experience somewhat, making note of why this was unfair, but is minimally reflective when compared to her previous posts. P8 received no peer response to this reflection. As this was the final week, it is difficult to surmise if P8 would have continued to reflect the following week, though when responding to a peer after this post she provided an introspective non-reflector response despite all previous reflections during the placement being categorised as reflector.

The fact that participants were able to post such challenging issues among their group supports the assertions made in 4.5.2 that trust and willingness to share were enhanced in the asynchronous environment. As described earlier, the majority of participants did not respond directly to peers with helpful tips, but through

experience sharing to which the initial reflector and respondent could draw meaning from. Participants were more inclined to respond in this manner to reflections that were of a similar nature to those they had experienced themselves. Participants who did not share similar experiences would find it difficult to provide responses to peers in a reflective manner, as response to such topics could not be honest without experience to draw upon.

Section 4.4.2 described that participants were more likely to respond to an initial post that was of a truly reflective nature, though when non-reflective descriptions or statements are provided as reflections, little room for reflective discourse is available for peers to engage with. The reflections and experiences shared in this theme, despite their significant nature, were not truly reflective, being more descriptive of the experience. The focus group provided the chance to clarify this to some extent.

Emotionally significant experiences, especially if initially written in a non-reflective manner, were unlikely to receive a reflective response from peers. The initial posting of these experiences were also described by one participant in the focus group. This participant was forthcoming in describing her feelings related to posting her experience related to the patient death. This was prompted by a question related to discussion topics arising during both face-to-face interaction with the group and within the asynchronous environment. The participant stated that certain experience is best discussed in a face-to-face environment.

*“Seeing someone pass away, stuff like that. The stuff that we really needed that it’s better to talk face to face than online, I found after I*

*had to help bag up a patient I found it easier to talk to my group in person rather than go online.”*

This comment makes clear that it is preferable to discuss sensitive topics face-to-face for the person who encountered the experience, particularly related to death or dying. This was discussed in the context of the participant’s grandmother also passing away and herself being desensitised, though the nature of her responses displayed an extreme sensitivity to the topic that required guidance and reassurance. The participant could not receive help or sympathy through the asynchronous medium to manage the experience and created angst.

*“Online you can’t really get across that type of sympathy, whereas in person you can show that you really are sympathetic to that person and what they have been through and stuff like that like I found it was helpful to just sit in the room and just sit through that and everyone go are you ok, do you need to talk about it and all that sort of stuff, like, that helped, so.”*

The participant also confirmed the description of Jonassen (2008) who stated that the loss of communication cues in the asynchronous environment may detract from the quality of interaction.

*“I just find it easier to talk in person. You, just because people are there that may have the same experience and it’s easier if you see there expressions, how they’re feeling, than looking at a computer screen.”*

The participant described the inability to convey feelings through the medium but also mentions that peers may have a similar experience that would benefit such discussions, a key position identified in the asynchronous environment.

The participant was asked if there would be anything useful for peers to discuss related to the experience. She made the point that there would not be anything useful they could post but then stated that comments which describe going through a similar experience may be beneficial.

*“I don’t really think there is any, like, you just, I don’t know, comments like if you go through something like that.”*

This provides further evidence for the notion that participants benefit from experience sharing in the asynchronous environment through validation and confirmation of the initial post reflection. Unfortunately, it is unlikely that many peers will be exposed to such significant experiences and are therefore unlikely to provide the response so needed by this participant.

There needs to be a clear differentiation between the purpose of the reflective environment and its purpose in this case. The participant is asking for sympathy from peers, and while this is a valid request, is not the function of reflective practice nor the asynchronous reflective environment. A fellow participant recognised this and made the point that this type of discussion was accounted for in the debriefing sessions which were separated from the reflective environment.

*“I think it was good to have the debrief session with our educator, cause that’s when we were able to do that, but I thought it was really good to also write online because it helped you to think analytically*

*for the next time you did something or, you know, gave patient care...”*

All participants who reflected upon topics related to death and dying in the asynchronous environment displayed signs of withdrawing from the process afterwards. The causal factors behind the withdrawal are not crystal clear, though may be related to the lack of peer feedback on these topics. Section 4.2.3 described validation of experience providing means to resolution of negative experiences. Some participants also made the point that they wanted peers to be more actively engaged in the asynchronous journaling to improve the reflective experience and those who did not receive many responses were disappointed. The following participant made an additional comment in the questionnaire confirming this.

*“I did not receive much feedback on my reflections.”*

It may be surmised that participants desired validation of their experiences, though when this was not provided, especially when a participant had self-disclosed an extremely significant experience, may have contributed to withdrawing from the process.

This withdrawal may also lead to the creation of negative connotations toward the group or reflective process due to feelings of rejection. When revisited with the knowledge that the same participant in the focus group also wrote the following, this becomes clearer:

*“I felt like when others read it, I was being judged or criticised. It might sound pessimistic, but I truly felt others were feeling that way towards me, especially since they could see my name, I was the one who posted it.”*

When one participant felt isolated in their group:

Table 15: Distribution of respondents based on frequency and percentage (N=12)

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
3.1.5	I felt isolated in my group	6 50%	4 33.3%	1 8.3%	1 8.3%	

When one participant described strong feelings against the environment:

*“I always prefer face to face than online learning anyway.”*

*“I don’t know I just really didn’t like doing it online, that just me.”*

Peers in the asynchronous reflective environment cannot always be assured of the ability to contribute deep responses to all reflections. Withdrawing from the reflective process, however, is a real possibility due to this when significant emotional posts are made relating to death or dying. The means of resolution for such cases seems more suited to discussion with a knowledgeable facilitator who has lived experience with such significant issues rather than through the asynchronous reflective environment with peers of limited shared experience.

#### 4.5.3 Engagement with peers

Feedback is seen as central to the process of reflection, the more perspectives one is able to acquire when discussing an experience, the greater challenges experienced and the greater possible improved learning outcome (Chacko & Sreerenjini, 2012). This chapter has described the nature, role and value of feedback to reflective posts in an asynchronous environment. Most participants acknowledged



this as being helpful and positive for reflective learning from experience. Due to this, some participants felt disappointed they did not receive enough engagement in the process or that some peers did not participate in the environment in a serious manner.

*“I did not receive much feedback on my reflections.”*

*“I found reflecting in a group helpful as other students had similar experiences. However I don’t feel that enough people took the reflections seriously. The more people who get involved, the better the reflection experience is.”*

This assertion was supported by the majority of participants as evidenced in the following questionnaire response:

*Table 16: Distribution of respondents based on frequency and percentage (N=12)*

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
2.1.3	More feedback on my reflective practice is required		3 25%	2 16.7%	6 50%	1 8.3%

Only two of the 12 participants in the study did not receive any feedback from peers at all, P6, reviewed in section 4.4.6, and P2, who only posted two initial responses, did not respond to any peers and had read only six reflections versus the group average of 21. This indicates that a lack of engagement will in turn, create a lack of response and may suggest a facilitator role in affective scaffolding to enhance learner engagement.

#### 4.5.4 Time constraints

Time constraints in relation to reflection has been a constant theme throughout nursing reflection literature (J. F. Barbour, 2013; Chirema, 2007; Kok & Chabeli, 2002; McMullan, 2006; A. Smith & Jack, 2005). This has also been linked with the low priority nursing students place on their individual reflections (Chirema, 2007). Due to the majority of previous research describing this phenomenon, this study provides some insight into the perceived time constraints related to the asynchronous environment despite its lack of conclusively. Firstly, participants were split on whether they believed time constraints were an issue for their reflections in the questionnaire:

Table 17: Distribution of respondents based on frequency and percentage (N=12)

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.3.4	Time constraints	1 8.3%	4 33.3%		5 41.7%	2 16.7%

Participants described the environment as providing a fast way to document their reflections, and a preference for documenting in an online environment in the focus group.

*“I don’t like writing in books, I prefer it if I just do it online, it’s easier and takes actually not a long time, but less time to do it.”*

Reading the contributions however proved to be the time consuming portion of the reflective process. Participants described reading many posts, though long lists of reflections prevented participants from reading all responses.

*“At first I did but then there was a long list so I didn’t have a lot of time to go through and read every persons responses.”*

## 4.6 Summary

This chapter synthesised and discussed the findings pertaining to the four central research questions of this study, clarifying the strengths and weaknesses of each proposition and contributing to the discussions aimed at directing relevance to the study, literature and rival explanations where possible. Responses to the research questions were addressed in depth, providing clarity of findings.

Chapter five links these findings with the nursing research literature and generates conclusions from the study, providing a summary of key findings with detail of the contribution to knowledge. Limitations and weaknesses are discussed and recommendations for future research will be identified.

Nursing research literature has identified reflective practice during clinical practicum as being essential in contributing to learning from experience and has endorsed reflection in the form of individual reflective journals as constituting a positive experience. The research literature however, has also described significant problems with existing methods of incorporating reflective practice during the clinical practicum (Dyment & O'Connell, 2011; Liddiard & Sullivan, 2017). Little research has been directed at addressing issues related to the improvement of, or challenging the implementation of reflective practices to address these issues. Much of the research literature related to reflective practice cites the work of theorists such as Mezirow (1981) and Boud et al. (1985) but neglect to explore their themes of the use and impact of social discourse in reflection. This study was designed to explore the potential of an alternative method for approaching reflective practice during nursing clinical practicum, that is, one that includes the use of social discourse, aimed at addressing the shortfalls of the dominant method of reflective practice, individual reflective journaling.

In this study the asynchronous reflective environment was introduced into the nursing clinical placement for a small case of participants for first year students in a Bachelor of Nursing course. The nature and role of this environment was explored through analysis of participant interactions, reflections and perspectives within this new model. The aim of the study was thus, to explore the potential for reflective learning in an asynchronous environment. Four questions emerged to provide clear guidance for how this would be explored:

1. In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?
2. How do levels of reflection change in the asynchronous environment?
3. What changes in reflections, if any, can be attributed to the new environment?
4. What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?

Significant new knowledge and insights from the findings and discussion have addressed many issues encountered within the current paradigm, whilst shifting reflective practice to a more constructivist, peer led environment, more aligned with the ideals of original theorists of reflection.

## 5.1 Summary of key findings

The research questions provided a broad scope for exploration of the new environment. Being a new method for reflection during clinical placement, the majority of findings may be considered as new additions to the body of knowledge related to reflective practice and provide future researchers a pathway to implement and improve upon similar interventions in the future. The key findings are now summarised for each of the research questions.

### 5.1.1 Q.1 - In what ways does an asynchronous journal effect the reflections of nursing students while on clinical placement?

Being a unique study, no direct evidence exploring how nursing student reflections during clinical practicum would change in the asynchronous environment were available for reference. Therefore an examination of the reflections themselves

provide a significant addition to the body of knowledge related to reflective practice in nursing, including:

- All responses to peers were directed toward *different experiences* to the *respondent's initial reflection*. This is despite many similar topics being posted and provides evidence of wider reflection occurring due to the asynchronous environment.
- Participants responded to peer reflections by sharing their *own reflections of similar situations* through self-reflection. The responses were reflective in nature and did not focus on skills, but rather perceptions of the experiences.
- Participants were able to form consensus in the reflective environment related to numerous experiences.
- *Consensus was achieved through validation of experience*. Validation enabled understanding that similar experiences were shared with members of the group, though perceptions of these experiences varied and enabled co-construction of meaning.
- Self-disclosure of conflict was a prominent feature, whereby participants reflected upon doubts and fears related to their experiences. The new environment enabled participants to receive authentic validation and confirmation from peers who had shared similar experiences, providing the means to address the negative emotional aspect of the experience, a significant change in reflective practice.
- Participants did not view reflecting upon emotional conflict as a negative due to the validation and feedback received from peers, a significant change from individual reflection.

- Reflecting with peers reduced feelings of isolation and was perceived as being supportive.
- Learning from the reflections of peers led to changed perspectives over a period of time.
- Participants were more likely to respond to peers who posted reflections relating to non-technical aspects of nursing, such as communication, therapeutic relationships and conflict, highlighting the reflective nature of the asynchronous environment.

#### 5.1.2 Q.2 - How do levels of reflection change in the asynchronous environment?

Utilising a three category approach based on; non-reflector, reflector and critical reflector, participant's weekly initial reflections and their responses to peers were coded. A total of 36 initial reflections and 22 responses were made during the three week clinical placement. All participants, except one, were able to reach the reflector level, though none reached the critical reflector level. Of the 36 initial reflections, 17 were coded as non-reflector, while 19 coded in the reflector category. Of the 22 responses to peers, seven were coded as non-reflector, while 15 coded in the reflector category. There was a higher affinity for reflector versus non-reflector level reflections in the peer responses versus the initial posts.

### 5.1.3 Q.3 - What changes in reflections, if any, can be attributed to the new environment?

Engagement with the asynchronous environment was shown to improve reflective levels whereas lack of engagement displayed poor reflective outcomes. This was displayed through the analysis of numerous causal factors. Through exploration of causal factors, this unique analysis provided insight into how changes in reflection are directed by the causal aspects of engagement.

- 15 of the 22 responses to peers were of the same level of reflection, six lower and one higher, thus, displaying a strong likelihood of reflecting at the level of peer.
- Participants were able to recognise more reflective posts and were more inclined to respond to these. Reflector category posts held a 105% likelihood of receiving peer response, while non-reflective posts displayed only 12%. This point reinforces the value of reflecting at the level of peer as the majority of participants were inclined to engage with reflective posts.
- All participants agreed they reflected on the experiences of peers and the majority agreed that this enabled reflection at a deeper level.
- Engagement with the intervention displayed a strong correlation with improved levels of reflection. This was identified through causal data including the number of posts read per participant and number of responses to peers.
- Reflective levels improved over time in initial reflections.
- Reflective levels in the responses started off significantly higher, though dropped in the second week and levelled off in the third week. This point may be linked to removal of scaffolding as expertise grew



- Exemplars of reflection found through peer posts diminished the inability to identify experience for reflection.
- Participants reflected on the wider experiences of peers which created wider reflection and the prompt to reflect upon experiences that may have remained tacit.

#### 5.1.4 Q.4 - What changes to student perspectives on the reflective process evolve as a consequence of the asynchronous reflection?

As this was a unique case study related to a consideration of new phenomenon, student perspectives related to the reflective environment were investigated. Data from the reflections, responses, focus group and survey provided significant response to question four:

- Participants prefer the asynchronous environment to remain between peers, noting that they felt the addition of facilitators would diminish trust.
- Trust, honesty of reflection and comfort in sharing was further enhanced through validation of shared authentic experiences.
- Participants sought validation and confirmation through peer feedback and were disappointed if they did not receive many responses.
- Participants who lacked honesty or willingness to self-disclose through reflection were viewed as not taking reflection seriously by peers. Such posts typically fell into the non-reflector category and were unlikely to receive a response.

- Reflection upon death or dying were posted at qualitatively lower levels of reflection and were not likely to receive a response. Lack of response to such reflection displays potential for the participant to withdraw from the process through lack of validation.
- Participants were uncertain of the facilitator role, making note that facilitators required more consistent knowledge of reflection.
- More assistance on how to use the environment was requested and described as difficulty in accessibility, particularly during the first week.

## 5.2 Conclusions

Receiving feedback on their reflections has been a consistent request by nursing students found throughout the research literature related to individual reflective journals (Chirema, 2007; Chong, 2009; G. Richardson & Maltby, 1995). This request for feedback was described by Piaget, cited in Wadsworth (1971) and contends that learners will actively seek validation of thoughts through social interaction with peers. Mezirow (1981) described that through social interaction in reflection, learners would be able to develop understanding of how peers perceive, think and feel when involved in common endeavours, leading to construction of meaning. Despite the role of peer feedback being known, mechanisms for its provision had not been adopted effectively in reflective practice with nursing students. The majority of key findings from this study have their basis in the ability for the asynchronous environment to provide the missing social interaction that has clearly addressed this dearth.

Mezirow (1991) clarified problem posing from problem solving, noting that reflective learning may bring about problem posing in an effort to validate the

experience, explaining the request for feedback so prevalent in nursing reflective literature. Reflective feedback from peers played an important role for participants in the study by creating validation of experience. This was observed as participants responding to an initial reflection of experience with a reflection of a similar experience of their own. The responses did not provide helpful tips or direction of how to better the outcome, but provided reflection upon similar experiences, providing validation that the initial reflection was not an aberration, but shared throughout the group. Participants took comfort in this validation to their problem posing and led to the co-construction of meaning and consensus of ideas related to their reflection.

The asynchronous environment enabled participants to develop a shared meaning related to many topics of relevance during their clinical practicum. Real exploration of topics was undertaken to create this meaning and participants actively shared their experience of exposure to these. This was strongest in areas that participants were unable to directly relate to theory from coursework, requiring individualistic approaches, such as communication and building therapeutic relationships. This highlights the reflective nature of the asynchronous environment and aligns directly with Schön's notion of the 'swampy lowlands,' in which reflection should relate to experience that cannot be defined nor instructed in all occasions (Schön, 1983). This also aligns with the assertion of Piaget (1932, 1985) cited in Howe (2013) that meaning may be constructed by coordinating existing concepts with alternative or contrasting views which lead to long term growth. Participants were able to share ideas related to such topics, providing indirect guidance of how similar experiences were managed and perceived. When open to alternative perspectives, some participants were able to challenge their own initial reflection of

experience and develop perspective changes that were observed over the three week period.

The role of feedback was enhanced by the similarities of participants, sharing a common endeavour, the same clinical placement, and being of a similar level of understanding and authority during this clinical placement. The similarities in group makeup and experience contributed to feedback being regarded as authentic in nature, provided by peers who had truly lived a similar experience. This is in contrast to prior individual and group reflective research which incorporated authority figures that along with direct feedback, provoke feelings of being judged, provided more attention to group members of higher authority and created a reluctance to share honest reflection. This represents a significant difference in the peer led asynchronous environment, whereby participants clearly indicated they were more comfortable reflecting among true peers, enhancing comfort of sharing and honesty of reflection, versus a facilitator providing direct feedback, which was regarded as being told what to do, leading to appropriation of knowledge and short term growth. Direct knowledge acquisition or task learning are not the focus of reflective learning. Participants do not require being told directly how to solve their reflections, rather, seek to construct meaning from experience they deem as important. Authentic reflective feedback is the catalyst for growth through reflection. This provides direct challenge to the claim that reflective practice should aim to bridge the theory to practice gap often described in non-researched nursing literature. Bridging the theory to practice gap should not be considered a direct mechanism of reflective practice, rather, may be better referred to as the practice to practice gap, implying that clinical experiences should be the focus of reflection during clinical placement rather than

theory from coursework, to which little room for refute or development of individual meaning is encouraged or required.

Boud et al. (1985) described the reflective cycle with the important addition of attending to feelings in relation to an experience being a requirement to learn from experience. Individual reflective journals have displayed a propensity to reflect upon negative experiences and provide the opportunity to document these, but do not always provide a mechanism to address them. According to Boud's model, this may prevent the learner from moving forward, and as described by Asselin and Fain (2013) for nurses, that this may represent the opportunity to harbour uncertainties about such experiences for years into their professional career if they are not exposed and dealt with. This study was similar to others, in that it displayed a propensity for participants to initially reflect upon a negative experience. A major finding of this study however, was that the asynchronous environment provided the means of addressing the perceived negatives. Through validation of experience, participants were able to recognise their perceived negative experience was shared amongst the group. This understanding changed the perception of the negative experience to that of a shared experience. Differing from the individual journal model, participants did not view these experiences as negative when validation occurred through authentic experience sharing, changing the perspective of negative experiences from an individual horror to understanding that their peers shared these trials, enabling co-construction of meaning and clarity of outcomes through reflective discourse. Participants indicated that they felt supported and less isolated as a result. The ability to address negative experience in prior research was dependent upon the reflective and writing ability of the nursing student. The asynchronous

reflective environment creates an alternative pathway to address negative feelings toward experience and a means for moving forward.

Boud et al. (1985) described the unresolved reflection upon negative experience as being a barrier to learning, providing a false interpretation of events and undermining the will to persist. This study provided the means for this resolution through peer validation, though this did not always occur. Participants self-disclosed reflections of experiences that presented their role or thoughts related to the experience in a negative light. Peer reflective feedback was sought as a means to validate these experiences, though feedback was not guaranteed. Lack of feedback displayed potential for the participant to withdrawal from the reflective process. This was clear upon analysis of initial reflections related to death and dying, of which none received response from peers. These significant reflections, in which the participant stepped out on a limb but received no validation, led to withdrawal from the reflective process. The participants did not post reflections the following week and displayed some evidence of negative feelings towards peers and the reflective process in general afterwards. Participants indicated that these experiences could best be discussed with those colleagues that shared similar experiences, though as first year nursing students, their peers would have a low likelihood of sharing such experience. Withdrawal from the reflective process related to lack of validation highlights the important role and intrinsic need for authentic peer feedback. This provides explanation for the descriptive and less honest reflections described in the research literature related to individual reflective journals along with a path to address these deficits in reflection.

Engagement in the asynchronous environment proved to be not only the means of receiving and providing validation and consensus, but was the determining

factor related to depth of reflection. Depth of reflection in this study was observed through a three level scheme based on the work of Mezirow (1991), coding posts as non-reflector, reflector and critical reflector. All participants except one were able to reach the level of reflector. Participants who read more reflections, responded to more peers and truly engaged, displayed higher levels of overall reflection than those who did not. Nursing research literature has established that nursing students request to be provided with both good and bad exemplars of reflections in order to improve their understanding of reflective learning (Bowman & Addyman, 2014; Chirema, 2007). Participants were provided with an unprecedented number of exemplars through the asynchronous environment and were able to discern reflective from non-reflective posts, evidenced by the much higher likelihood of response to reflector level initial posts versus non-reflector level posts described in section 4.4.2. The reflective depth of the asynchronous environment was compounded by the propensity for participants to respond at the same reflective level as the original post, displaying learning from peers and a scaffold for reaching their zone of proximal development (Vygotsky, 1978).

Wood et al. (1976) made clear, that in relation to scaffolding, learner comprehension of the solution presented must be available to the learner before feedback is effective. The comprehension of solution was evidenced by all but one participant reaching the level of reflector. The asynchronous reflections themselves may be considered a dynamic scaffold based upon student need, being that participants could discern reflective versus non-reflective posts, improving reflective levels and bridging their zone of proximal development. Interestingly, initial posts displayed improvement over the three week period, identifying that participants were able to reach their zone of proximal development through peer scaffolding, being the

ability to read numerous reflections, decipher which reflections were of an appropriate nature and through the challenge of constructing and receive validating feedback. Reflective levels in responses to peers started out relatively high, dropped, and plateaued over the time period, while during the same time period, expertise in initial reflection levels steadily improved. This aligns with the assertion that the need for scaffolding diminishes as expertise grows and provides evidence that peer led scaffolding is an achievable outcome for adult learners (Yelland & Masters, 2007). Participants received feedback relatable to their own experience, through authentic peer reflections of similar experience, often detailing how they were able to overcome similar trials. This provoked the co-creation of meaning when the participants were open to engagement that was pertinent on an individual and collective level. The feedback mechanism not only encouraged participants receiving feedback to create higher level reflections themselves, but in providing feedback to peers, challenged participants to alter their perspectives by recognising the learning from the initial post. Some participants in the study however did not actively engage in the reflective discussion, limiting their ability to improve reflections.

As this was a unique, exploratory study, the role of scaffolds was not established except in past recommendations found in the limited research literature prior to commencement of the study. The asynchronous environment provided participants with dynamic scaffolds of a strong affective and cognitive nature through feedback mechanisms, exposure to peers of higher reflective levels and the intrinsic need for peers to resolve and validate feelings related to experience.

Recommendations derived from this study focus on improving engagement and motivation in the asynchronous environment and are intended to provide



scaffolding supports for future studies through reference to technical, affective and cognitive scaffolding (Yelland & Masters, 2007).

The asynchronous reflective environment improves upon other models of reflective practice in nursing practicum, particularly in trust, willingness to share and honesty of reflection. This was enhanced by the similarities of group makeup, experience, and uniquely and the removal of authority from the environment. It was clear that participants preferred this environment to remain peer led, though it was evident that participants were confused as to the role of the clinical facilitator in the reflective process. The facilitator was still seen as a person that should be able to provide some guidance on reflection and also the utilisation of the asynchronous environment. This may prove complex, as we think how to share information without creating a context for the negative feelings of being judged, or feeling the need to write to what it is that is believed that the facilitator expects, which poses a real concern for the quality of reflection.

The facilitator role would benefit from greater technological awareness of the new environment. Participants were unsure of how to utilise the environment, particularly during the first week and despite an instruction guide being provided. Facilitators were the first point of call for this form of scaffolding, and therefore, provided training of how to troubleshoot in the asynchronous environment. This study included two clinical groups in the same 'shell', which would have benefitted by creating individual group shells and remain broken into weeks to reduce the number of posts students need to peruse each week. Facilitators should also be clear on the function and merits of reflection during clinical placement and be provided a clear instruction of the reflective model utilised through the university in order to succinctly and consistently describe and discuss expectations. Further technical scaffolds

should include the arrangement of time and access on site to ensure each student actively engages in the asynchronous environment and to negate the perception of time consumption. The removal of visible names from the asynchronous environment may also enhance willingness to share and reduce the potential of feeling judged.

Facilitators are well suited to provide affective and cognitive scaffolding separate from their actual involvement in the asynchronous reflective environment. This may take the form of assisting participants to discern appropriate topics for reflection through discussion and prompting. Typically, nursing students debrief on topics of merit at the end of the clinical day. This provides an excellent avenue for the facilitator to discern and encourage further exploration of unresolved experiences through reflection.

Motivation to engage in the asynchronous environment was largely determined by responses received. Many participants posted their responses to chains of posts, leaving some participants with no feedback and others with multiple responses. The facilitator may recommend that students respond to reflections that have not received feedback, while still allowing the chain responses, ensuring each participant receives validation, with the continuation of consensus building through chain posts.

The larger than expected groups were described in chapter three, in that groups of eight were planned for but ended up being larger. Participants described reading many reflections in the beginning, though large numbers of reflections added up and became too time consuming to read. Smaller groups, pertaining to single

clinical groups of six to eight participants would possibly reduce the perceived time constraints in future studies.

Recognition of student writing ability by the facilitator should act as an early warning that further intervention may be warranted, as the study provided some evidence that limited writing ability negatively effects reflective outcomes and motivation to engage with peers. Experience related to death and dying received no response from peers in the study and was related to peers not sharing a similar experience. Facilitators could provide discussion in person related to these topics rather than with the reflective group to ensure the experience is shared with someone who has lived through a similar experience to create authenticity of feedback and reduce the chance of withdrawal.

The study utilised coding by separating reflections into the categories of non-reflector, reflector and critical reflector, as an essential element for deriving meaning in the process. Participants were unable to reflect at the critical reflector. Mezirow (1990) made clear that critical-reflection (premise reflection) involves challenging and transforming established and habitual patterns or perspectives. The study pertained to reflections related to the experiences of first year nursing students on their first clinical placement. It may be surmised that the critical reflector level is not an appropriate goal for this phase, as the participants did not have established patterns or perspectives to challenge, and rather, were creating initial informed perspectives that were open to change through peer input. The absence of critical reflectors provides insight and validity to the use of the three level model for assessing the extent of reflection. Drawing from the experience of this research, the use of levels in reflection in assessment of reflection would not be recommended. Levels of reflection are however highly useful as a measurement for research purposes.

Due to the small scale exploration in this study, future research would benefit from investigation on a larger scale with the potential to include a comparative study of reflective levels and participant perspectives related to individual journal versus the asynchronous reflective environment in order to highlight disparities and develop more representative data.

The three level coding is recommended for accurate coding in future studies, though the portions of text examined may require amendment. Individual posts were coded utilising the levels of reflection, though development of perspective change was shown to occur over a number of reflective entries, implying critical reflection. This was explored through section 4.2.4.2 whereby one participant's reflections were analysed over three posts, and after exposure to the viewpoint of a peer, was able to significantly alter their understanding of patient interaction from being dismissive of the patient concerns, to displaying empathy for her patients. Future studies may benefit from analysis and coding over a number of weeks rather than a post by post basis.

The questionnaire utilised provided information that significantly contributed to the findings of the research work, though results may have been stronger if scope to identify the following were provided: familiarity with online discussion, identification of writing ability and English as a second language participants. The focus group provided some direction, indicating that participants were familiar with online learning, finding this method easier than writing in a physical journal. The reflections themselves provided an indication that poor writing ability reduced reflective levels and the willingness to engage in the asynchronous environment, though mechanism for deep exploration was not provisioned in this study.

The asynchronous reflective environment provides a new and dynamic method for conducting reflective learning during nursing clinical practicum. This study provides clear description of how this method addresses many of the negative aspects associated with other models of reflection, particularly the individual journal. This method provides a wider scope of reflection, authenticity of reflection and feedback, reduces feelings of being judged and provides an avenue for validation and consensus of experience. Further study and implementation of this reflective model is recommended, though limitations in the methodology were evident and may be improved upon through implementation of recommendations put forth in this chapter.

## References

- Asselin, M. E., & Fain, J. A. (2013). Effect of reflective practice education on self-reflection, insight, and reflective thinking among experienced nurses: A pilot study. *Journal for Nurses in Professional Development*, 29(3), 111-119. doi: 10.1097/NND.0b013e318291c0cc
- Australian Bureau of Statistics. (2011). *Census of population and housing: SA3* Retrieved from <http://www.abs.gov.au/>.
- Barbour, J. F. (2013). The making of a butterfly: Reflective practice in nursing education. *International Journal for Human Caring*, 17(3), 7-12.
- Barbour, R. S. (2008). *Introducing Qualitative Research: A Student's Guide to the Craft of Doing Qualitative Research*. London: Sage.
- Blaikie, N. (2009). *Designing Social Research* (2 ed.). United Kingdom: Policy Press.
- Bloor, M., Frankland, J., Thomas, M., & Robson, K. (2001). *Focus Groups in Social Research*. London: Sage.
- Boud, D., Keogh, R., & Walker, D. (1985). *Reflection: Turning Experience Into Learning*. London: Kogan Page.
- Bowman, M., & Addyman, B. (2014). Academic reflective writing: a study to examine its usefulness. *British Journal of Nursing*, 23(6), 304-309.
- Boyd, E. M., & Fales, A. W. (1983). Reflective learning key to learning from experience. *Journal of Humanistic Psychology*, 23(2), 99-117.
- Brandon, A. F., & All, A. C. (2010). Constructivism theory analysis and application to curricula. *Nursing Education Perspectives*, 31(2), 89-92.
- Bristol, T. J., & Kyarsgaard, V. (2012). Asynchronous discussion: a comparison of larger and smaller discussion group size. *Nursing Education Perspectives (National League for Nursing)*, 33(6), 386-390.
- Brownie, S., Scott, R., & Rossiter, R. (2016). Therapeutic communication and relationships in chronic and complex care. *Nursing Standard*, 31(6), 54-63. doi: 10.7748/ns.2016.e9847
- Bryman, A. (2012). *Social Research Methods* (4 ed.). Oxford: Oxford University Press.
- Burton, A. (2000). Reflection: nursing's practice and education panacea? *Journal of Advanced Nursing*, 31(5), 1009-1017.
- Carroll, M., Curtis, L., Higgins, A., Nicholl, H., Redmond, R., & Timmins, F. (2002). Is there a place for reflective practice in the nursing curriculum? *Nurse Education in Practice*, 2(1), 13-20. doi: <http://dx.doi.org/10.1054/nepr.2002.0050>
- Cavanagh, S. J., Hogan, K., & Ramgopal, T. (1995). The assessment of student nurse learning styles using the Kolb Learning Styles Inventory. *Nurse Education Today*, 15(3), 177-183. doi: [https://doi.org/10.1016/S0260-6917\(95\)80103-0](https://doi.org/10.1016/S0260-6917(95)80103-0)
- Chacko, B., & Sreerenjini, B. (2012). Reflective practice in nursing. *International Journal of Nursing Education*, 4(2), 43-45.
- Chirema, K. D. (2007). The use of reflective journals in the promotion of reflection and learning in post-registration nursing students. *Nurse Education Today*, 27(3), 192-202. doi: <http://dx.doi.org/10.1016/j.nedt.2006.04.007>
- Chong, M. C. (2009). Is reflective practice a useful task for student nurses? *Asian Nursing Research*, 3(3), 111-120. doi: [http://dx.doi.org/10.1016/S1976-1317\(09\)60022-0](http://dx.doi.org/10.1016/S1976-1317(09)60022-0)
- Clegg, S., Tan, J., & Saeidi, S. (2002). Reflecting or acting? Reflective practice and continuing professional development in higher education. *Reflective Practice*, 3(1), 131-146.
- Cotton, A. H. (2001). Private thoughts in public spheres: issues in reflection and reflective practices in nursing. *Journal of Advanced Nursing*, 36(4), 512-519.

- Curtis, J. N. (2006). Using online discussion forums to promote critical reflection among pre and in-service HIV/AIDS educators and service providers. *International Electronic Journal of Health Education*, 9, 166-179.
- Desmedt, E., & Valcke, M. (2004). Mapping the learning styles "jungle": an overview of the literature based on citation analysis. *Educational Psychology*, 24(4), 445-464. doi: 10.1080/0144341042000228843
- Doherty, M., & Thompson, H. (2014). Enhancing person-centred care through the development of a therapeutic relationship. *British Journal of Community Nursing*, 19(10), 502-507.
- Duff, A., & Duffy, T. (2002). Psychometric properties of Honey & Mumford's Learning Styles Questionnaire (LSQ). *Personality and Individual Differences*, 33(1), 147-163. doi: 10.1016/S0191-8869(01)00141-6
- Duffy, A. (2007). A concept analysis of reflective practice: determining its value to nurses. *British Journal of Nursing*, 16(22), 1400-1407.
- Duffy, A. (2009). Guiding students through reflective practice – The preceptors experiences. A qualitative descriptive study. *Nurse Education in Practice*, 9(3), 166-175. doi: <http://dx.doi.org/10.1016/j.nepr.2008.07.002>
- Duke, S., & Appleton, J. (2000). The use of reflection in a palliative care programme: a quantitative study of the development of reflective skills over an academic year. *Journal of Advanced Nursing*, 32(6), 1557-1568. doi: 10.1046/j.1365-2648.2000.01604.x
- Dyment, J. E., & O'Connell, T. S. (2011). Assessing the quality of reflection in student journals: a review of the research. *Teaching in Higher Education*, 16(1), 81-97. doi: 10.1080/13562517.2010.507308
- Ekmekci, O. (2013). Being there: Establishing instructor presence in an online learning environment. *Higher Education Studies*, 3(1), 29-38.
- Epp, S. (2008). The value of reflective journaling in undergraduate nursing education: A literature review. *International Journal of Nursing Studies*, 45(9), 1379-1388. doi: <http://dx.doi.org/10.1016/j.ijnurstu.2008.01.006>
- Flick, U. (2009). *An Introduction to Qualitative Research* (4 ed.). London: Sage.
- Forrest, S. P., & Peterson, T. (2006). It's Called Andragogy. *Academy of Management Learning & Education*, 5(1), 113-122. doi: 10.5465/AMLE.2006.20388390
- Garmston, R., & Wellman, B. (1994). Insights from constructivist learning theory. *Educational Leadership*, 51(7), 84.
- Gehring, T. (2000). A compendium of material on the pedagogy-andragogy issue. *Journal of Correctional Education*, 51(1), 151.
- Gibbert, M., Ruigrok, W., & Wicki, B. (2008). What passes as a rigorous case study? *Strategic Management Journal*, 29(13), 1465-1474.
- Gillham, B. (2008). *Developing a Questionnaire* (2 ed.). London: Continuum International Publishing Group.
- Grace, A. P. (1996). Striking a critical pose: andragogy -- missing links, missing values. *International Journal of Lifelong Education*, 15(5), 382-392. doi: 10.1080/0260137960150506
- Hampton, D., Pearce, P. F., & Moser, D. K. (2017). Preferred methods of learning for nursing students in an on-line degree program. *Journal of Professional Nursing*, 33(1), 27-37. doi: 10.1016/j.profnurs.2016.08.004
- Hansen, D. E. (2008). Knowledge transfer in online learning environments. *Journal of Marketing Education*, 30(2), 93-105. doi: 10.1177/0273475308317702
- Hargreaves, J. (2004). So how do you feel about that? Assessing reflective practice. *Nurse Education Today*, 24(3), 196-201. doi: <http://dx.doi.org/10.1016/j.nedt.2003.11.008>
- Hatlevik, I. K. R. (2012). The theory-practice relationship: reflective skills and theoretical knowledge as key factors in bridging the gap between theory and practice in initial nursing education. *Journal of Advanced Nursing*, 68(4), 868-877. doi: 10.1111/j.1365-2648.2011.05789.x

- Hays, D. G., & Singh, A. A. (2012). *Qualitative Inquiry in Clinical and Educational Settings*. New York: The Guilford Press.
- Hewitt, E. (2017). Building bridges: the use of reflective oral diaries as a qualitative research tool. *International Journal of Research & Method in Education*, 40(4), 345-359. doi: 10.1080/1743727X.2015.1114601
- Hollander, J. A. (2004). The social contexts of focus groups. *Journal of Contemporary Ethnography*, 33(5), 602-637.
- Howe, C. (2013). Scaffolding in context: Peer interaction and abstract learning. *Learning, Culture and Social Interaction*, 2(1), 3-10. doi: <https://doi.org/10.1016/j.lcsi.2012.12.005>
- Ian, C., Nakamura-Florez, E., & Lee, Y.-M. (2016). Registered nurses' experiences with caring for non-English speaking patients. *Applied Nursing Research*, 30, 257-260. doi: <http://dx.doi.org/10.1016/j.apnr.2015.11.009>
- Jensen, S. K., & Joy, C. (2005). Exploring a model to evaluate levels of reflection in baccalaureate nursing students' journals. *Journal of Nursing Education*, 44(3), 139-142.
- Jonassen, D. H. (2008). *Meaningful Learning With Technology*. Upper Saddle River, NJ: Pearson Education.
- Josephsen, J. M. (2013). Evidence-based reflective teaching practice: A preceptorship course example. *Nursing Education Perspectives (National League for Nursing)*, 34(1), 8-11.
- Jyi-yeon, Y. (2008). The use of diaries as a qualitative research method to investigate teachers' perception and use of rating schemes. *Journal of Pan-Pacific Association of Applied Linguistics*, 12(1), 1-10.
- Kember, D., Jones, A., Loke, A., McKay, J., Sinclair, K., Tse, H., . . . Yeung, E. (1999). Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow. *International Journal of Lifelong Education*, 18(1), 18-30. doi: 10.1080/026013799293928
- Kim, H. S., Clabo, L. M., Burbank, P., Leveillee, M., & Martins, D. (2010). Application of critical reflective inquiry in nursing education. In N. Lyons (Ed.), *Handbook of Reflection and Reflective Inquiry: Mapping a Way of Knowing for Professional Reflective Inquiry* (pp. 159-172). New York: Springer.
- Kok, J., & Chabeli, M. M. (2002). Reflective journal writing: How it promotes reflective thinking in clinical nursing education: A students' perspective. *Curations*, 25(3), 35-42.
- Legare, T. L., & Armstrong, D. K. (2017). Critical reflective teaching practice for novice nurse educators. *Teaching and Learning in Nursing*, 12(4), 312-315. doi: <https://doi.org/10.1016/j.teln.2017.05.004>
- Levett-Jones, T. L. (2007). Facilitating reflective practice and self-assessment of competence through the use of narratives. *Nurse Education in Practice*, 7(2), 112-119. doi: <http://dx.doi.org/10.1016/j.nepr.2006.10.002>
- Liddiard, K., & Sullivan, J. (2017). Nurses' views on reflective practice sessions in a medium secure unit. *Mental Health Practice*, 20(10), 19-24. doi: 10.7748/mhp.2017.e1173
- Lin, S. S. P., & Samuel, M. (2013). Scaffolding during peer response sessions. *Procedia - Social and Behavioral Sciences*, 90, 737-744. doi: <https://doi.org/10.1016/j.sbspro.2013.07.147>
- Litoselliti, L. (2003). *Using Focus Groups in Research*. London: Continuum.
- Mackrill, T. (2008). Solicited diary studies of psychotherapy in qualitative research—pros and cons. *European Journal of Psychotherapy and Counselling*, 10(1), 5-18.
- Mantzoukas, S. (2008). A review of evidence-based practice, nursing research and reflection: levelling the hierarchy. *Journal of Clinical Nursing*, 17(2), 214-223.
- Mantzoukas, S., & Jasper, M. A. (2004). Reflective practice and daily ward reality: a covert power game. *Journal of Clinical Nursing*, 13(8), 925-933. doi: 10.1111/j.1365-2702.2004.01008.x
- McMullan, M. (2006). Students' perceptions on the use of portfolios in pre-registration nursing education: A questionnaire survey. *International Journal of Nursing Studies*, 43(3), 333-343. doi: <http://dx.doi.org/10.1016/j.ijnurstu.2005.05.005>



- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education*, 32(1), 3-24. doi: 10.1177/074171368103200101
- Mezirow, J. (1990). *Fostering Critical Reflection in Adulthood. A Guide to Transformative and Emancipatory Learning*. San Francisco: Jossey-Bass Publishers.
- Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. Retrieved from amazon.com.au database
- Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly*, 48(3), 185-198.
- Mirhaghi, A., Sharafi, S., Bazzi, A., & Hasanzadeh, F. (2017). Therapeutic relationship: Is it still heart of nursing? *Nursing Reports*, 7(1), 4-9. doi: 10.4081/nursrep.2017.6129
- Mirkin, B. (2011). *Core Concepts in Data Analysis: Summarization, Correlation and Visualization*. London: Springer Science & Business Media.
- Murphy, J. I. (2004). Using focused reflection and articulation to promote clinical reasoning: An evidence-based teaching strategy. *Nursing Education Perspectives*, 25(5), 226-231. doi: 10.1043/1094-2831(2004)025<0226:UFRAAT>2.0.CO;2
- O'Connell, T. S., & Dymont, J. E. (2011). The case of reflective journals: is the jury still out? *Reflective Practice*, 12(1), 47-59. doi: 10.1080/14623943.2011.541093
- O'Connor, A. (2008). The use of reflective practice on critical incidents, in a neonatal setting, to enhance nursing practice. *Journal of Neonatal Nursing*, 14(3), 87-93. doi: <http://dx.doi.org/10.1016/j.jnn.2007.12.014>
- Piaget, J. (1932). *The Moral Judgement of the Child*. London: Routledge & Kegan Paul.
- Piaget, J. (1972). *The Psychology of the Child*. New York: Basic Books.
- Piaget, J. (1985). *The Equilibration of Cognitive Structures*. Chicago: University of Chicago Press.
- Rassool, G. H., & Rawaf, S. (2007). Learning style preferences of undergraduate nursing students. *Nursing standard (Royal College of Nursing (Great Britain) : 1987)*, 21(32), 35.
- Reinard, J. C. (2006). *Communication Research Statistics*. Thousand Oaks, Calif: Sage.
- Richardson, C., Percy, M., & Hughes, J. (2015). Nursing therapeutics: Teaching student nurses care, compassion and empathy. *Nurse Education Today*, 35(5), e1-e5. doi: <https://doi.org/10.1016/j.nedt.2015.01.016>
- Richardson, G., & Maltby, H. (1995). Reflection-on-practice: enhancing student learning. *Journal of Advanced Nursing*, 22(2), 235-242. doi: 10.1046/j.1365-2648.1995.22020235.x
- Rosenshine, B., & Meister, C. (1992). The use of scaffolds for teaching higher-level cognitive strategies. *Educational Leadership*, 49(7), 26.
- Ross, C., Mahal, K., Chinnapen, Y., Kolar, M., & Woodman, K. (2014). Evaluation of nursing students' work experience through the use of reflective journals. *Mental Health Practice*, 17(6), 21-27.
- Ruth-Sahd, L. A. (2003). Reflective practice: A critical analysis of data-based studies and implications for nursing education. *Journal of Nursing Education*, 42(11), 488-497.
- Rutherford-Hemming, T. (2012). Simulation methodology in nursing education and adult learning theory. *Adult Learning*, 23(3), 129-137.
- Schenker, Y., Pérez-Stable, E. J., Nickleach, D., & Karliner, L. S. (2011). Patterns of interpreter use for hospitalized patients with limited English proficiency. *Journal of General Internal Medicine*, 26(7), 712-717. doi: 10.1007/s11606-010-1619-z
- Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. Aldershot, England: Ashgate Publishing Limited.
- Schön, D. A. (1987). *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass.
- Siles-González, J., & Solano-Ruiz, C. (2016). Self-assessment, reflection on practice and critical thinking in nursing students. *Nurse Education Today*, 45(Supplement C), 132-137. doi: <https://doi.org/10.1016/j.nedt.2016.07.005>
- Smith, A., & Jack, K. (2005). Reflective practice: a meaningful task for students. *Nursing Standard*, 19(26), 33-37.
- Smith, E. (2011). Teaching critical reflection. *Teaching in Higher Education*, 16(2), 211-223. doi: 10.1080/13562517.2010.515022

- Stonehouse, D. (2015). Reflective practice: Ensuring quality care. *British Journal of Healthcare Management*, 21(5), 237-240.
- Taylor, B., Kermode, S., & Roberts, K. (2006). *Research in Nursing and Healthcare: Evidence for Practice* (3 ed.). Victoria, Australia: Thomson.
- Taylor, B., & Kroth, M. (2009). Andragogy's transition into the future: Meta-analysis of Andragogy and its search for a measurable instrument. *Journal of Adult Education*, 38(1), 1-11.
- Thompson, N., & Pascal, J. (2011). Reflective practice: An existentialist perspective. *Reflective practice*, 12(1), 15-26.
- Thompson, N., & Pascal, J. (2012). Developing critically reflective practice. *Reflective Practice*, 13(2), 311-325. doi: 10.1080/14623943.2012.657795
- Thorpe, K. (2004). Reflective learning journals: From concept to practice. *Reflective Practice*, 5(3), 327-343. doi: 10.1080/1462394042000270655
- Tobias, S., & Duffy, T. M. (2009). *Constructivist Instruction: Success or Failure?* New York: Routledge.
- Tumele, S. (2015). Case study research. *International Journal of Sales, Retailing & Marketing*, 4(9), 68-78.
- Van Horn, R., & Freed, S. (2008). Journaling and dialogue pairs to promote reflection in clinical nursing education. *Nursing Education Perspectives*, 29(4), 220-225.
- Villarreal Larrinaga, O. (2017). Is it desirable, necessary and possible to perform research using case studies? *Cuadernos De Gestión*, 17(1), 147-171. doi: 10.5295/cdg.140516ov
- Vince, R. (1998). Behind and beyond Kolb's Learning Cycle. *Journal of Management Education*, 22(3), 304-319. doi: 10.1177/105256299802200304
- Volkova, S., & Bachrach, Y. (2015). On predicting sociodemographic traits and emotions from communications in social networks and their implications to online self-disclosure. *Cyberpsychology, Behavior, and Social Networking*, 18(12), 726-736.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Massachusetts: Harvard University Press.
- Wadsworth, B. (1971). *Piaget's Theory of Cognitive Development*. New York: David McKay Company INC.
- Wang, Q. (2009). Designing a web-based constructivist learning environment. *Interactive Learning Environments*, 17(1), 1-13. doi: 10.1080/10494820701424577
- Waters, J. (2012). Thought-leaders in asynchronous online learning environments. *Journal of Asynchronous Learning Networks*, 16(1), 19-34.
- Wilhelm, S., Rodehorst, T. K., Young, S., Jensen, L., & Stepan, M. B. (2003). Students' perspective of the effectiveness of an asynchronous on-line seminar. *Journal of Professional Nursing*, 19, 313-319. doi: 10.1016/S8755-7223(03)00102-9
- Wong, F. K., Kember, D., Chung, L. Y., & Yan, L. (1995). Assessing the level of student reflection from reflective journals. *Journal of Advanced Nursing*, 22(1), 48-57.
- Wong, F. K., Loke, A. Y., Wong, M., Tse, H., Kan, E., & Kember, D. (1997). An action research study into the development of nurses as reflective practitioners. *The Journal of nursing education*, 36(10), 476-481.
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal Of Child Psychology And Psychiatry, And Allied Disciplines*, 17(2), 89-100.
- Woodside, A. G. (2010). *Case Study Research: Theory, Methods, Practice*. Bingley, United Kingdom: Emerald Group Publishing.
- Yelland, N., & Masters, J. (2007). Rethinking scaffolding in the information age. *Computers & Education*, 48(3), 362-382. doi: <https://doi.org/10.1016/j.compedu.2005.01.010>
- Yin, R. K. (2009). *Case study research: Design and methods*. Retrieved from amazon.com.au database
- Young, L., & Paterson, B. (2007). *Teaching Nursing: Developing a Student-Centered Learning Environment*. Philadelphia: Lippincott Williams & Wilkins.

- Youssef, L. S. (2011). Using student reflections in the formative evaluation of instruction: a course-integrated approach. *Reflective Practice, 13*(2), 237-254. doi: 10.1080/14623943.2011.626031
- Yu, J., Hu, P. J.-H., & Cheng, T.-H. (2015). Role of affect in self-disclosure on social network websites: A test of two competing models. *Journal of Management Information Systems, 32*(2), 239-277. doi: 10.1080/07421222.2015.1063305

# Appendices

## Appendix 1: Levels of reflectivity (Mezirow, 1981)

### *Level 1: Reflectivity*

Aware of a specific perception, meaning or behaviour of our own or of habits we have of seeing, thinking or acting.

### *Level 2: Affective Reflectivity*

Aware of how we feel about the way we are perceiving, thinking or acting or about our habits of doing so.

### *Level 3: Discriminant Reflectivity*

Assess the efficacy of our perceptions, thoughts, actions and habits of doing things; identify immediate causes; recognize reality contexts (a play, game, dream, or religious, musical or drug experience, etc.) in which we are functioning and identify our relationships in the situation.

### *Level 4: Judgemental Reflectivity*

Making and becoming aware of our value judgments about our perceptions, thoughts, actions and habits in terms of their being liked or disliked, beautiful or ugly, positive or negative.

### *Level 5: Conceptual Reflectivity*

The act of self-reflection which might lead one to question whether one's own concepts are adequate for understanding or judging.

### *Level 6: Psychic Reflectivity*

Recognize in oneself the habit of making precipitant judgments about people, events or ideas on the basis of limited information about them (as well as recognizing the interests and anticipations which influence the way we perceive, think or act.)

### *Level 7: Theoretical Reflectivity*

Aware that the reason for this habit of precipitant judgment or for conceptual inadequacy is a set of taken-for-granted cultural or psychological assumptions which explain personal experience less satisfactorily than another perspective with more functional criteria for seeing, thinking and acting.

## Appendix 2: Levels of reflection

### Three Levels of Reflection

1. Non-Reflectors (Habitual action, thoughtful action, introspection)
2. Reflectors (Content reflection, process reflection, content and process reflection)
3. Critical Reflectors (Premise reflection)

(Kember et al., 1999; Thorpe, 2004; Wong et al., 1995)

### Further Clarification of Sub-Categories

*Habitual Action* – An activity that is performed automatically with little conscious thought.

*Thoughtful Action* – Existing knowledge or experience identified with no attempt to appraise that knowledge or experience.

*Introspection* – Identify feelings or thoughts towards the self or others without attempt to examine why these exist.

*Content Reflection* – Reflection on *what* we perceive, think, feel or act upon.

*Process Reflection* – Examines *how* one performs the functions of perceiving, thinking, feeling or acting and an assessment of efficacy in performing them.

*Premise Reflection* – Critically reviewing presuppositions, why we perceive, think, feel or act as we do. Challenging presuppositions that are not viable in response to premise reflection leads to perspective transformation.

### Appendix 3: Reflective data

P1

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1 - Late	X Introspection & Thoughtful Action		
Week 1 Responses to Others	0			
Week 1 Responses From Others	0			
Week 2 Reflections	1	X Introspection		
Week 2 Responses to Others	1		X Content Reflection (P4)	
Week 2 Responses From Others	0			
Week 3 Reflections	1		X Content Reflection & Process Reflection	
Week 3 Responses to Others	1		X Content Reflection (P10)	
Week 3 Responses From Others	1		X Process Reflection (P7)	
Total Read Reflections	25			
Total Participant posts		2	3	

P2

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	0			

Week 1 Responses to Others	0			
Week 1 Responses From Others	0			
Week 2 Reflections	1		X Content Reflection	
Week 2 Responses to Others	0			
Week 2 Responses From Others	0			
Week 3 Reflections	1	X Introspection		
Week 3 Responses to Others	0			
Week 3 Responses From Others	0			
Total Read Reflections	6			
Total Participant posts		1	1	

P3

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1 - Late		X Content Reflection	
Week 1 Responses to Others	0			
Week 1 Responses From Others	1		X Content Reflection (P5)	

Week 2 Reflections	1 - Late		X Content Reflection	
Week 2 Responses to Others	2	X Thoughtful Action (P11) Content (unchanged)	X Content Reflection (p13)	
Week 2 Responses From Others	1	X Thoughtful Action (P5)		
Week 3 Reflections	1		X Process Reflection	
Week 3 Responses to Others	0			
Week 3 Responses From Others	2	X Thoughtful Action (P4) ( Content Changed)	X Process Reflection (P11)	
Total Read Reflections	19			
Total Participant posts		1	4	

P4

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1		X Content Reflection X Thoughtful (Changed)	
Week 1 Responses to Others	1		X Content Reflection (P8)	
Week 1 Responses From Others	0			
Week 2 Reflections	1		X Content Reflection	
Week 2 Responses to Others	1	X Thoughtful Action (P7) Changed from content		



Week 2 Responses From Others	2	X Thoughtful Action (P7)	X Content Reflection (P1) Thoughtful (unchanged)	
Week 3 Reflections	1		X Content Reflection	
Week 3 Responses to Others	1	X Thoughtful Action(P3) ( Content Changed)		
Week 3 Responses From Others	0			
Total Read Reflections	33			
Total Participant posts		2	4	

P5

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1 - Late	X Introspection and Thoughtful Action (Unchanged Content)		
Week 1 Responses to Others	1		X Content Reflection (P3) (unchanged intro)	
Week 1 Responses From Others	0			
Week 2 Reflections	1 - Late	X Thoughtful Action		

Week 2 Responses to Others	1	X Thoughtful Action (P3)		
Week 2 Responses From Others	0			
Week 3 Reflections	1		X Content Reflection Unchanged (thoughtful/intro)	
Week 3 Responses to Others	0			
Week 3 Responses From Others	0			
Total Read Reflections	19			
Total Participant posts		3	2	

P6

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1 – Late	X Thoughtful Action		
Week 1 Responses to Others	0			
Week 1 Responses From Others	0			
Week 2 Reflections	1	X Thoughtful Action		
Week 2 Responses to Others	0			
Week 2 Responses From Others	0			
Week 3 Reflections	1	X Thoughtful Action		

Week 3 Responses to Others	0			
Week 3 Responses From Others	0			
Total Read Reflections	4			
Total Participant posts		3		

P7

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1	X Introspection and thoughtful action		
Week 1 Responses to Others	1		X Content Reflection (p11)	
Week 1 Responses From Others	1		X Content Reflection (P8)	
Week 2 Reflections	1		X Content Reflection	
Week 2 Responses to Others	1	X Thoughtful Action (P4)		
Week 2 Responses From Others	1	X Thoughtful Action (P4) Changed from content		
Week 3 Reflections	1		X Content Reflection	
Week 3 Responses to Others	1		X Process Reflection (P1)	
Week 3 Responses From Others	0			
Total Read Reflections	28			

Total Participant posts		2	4	
-------------------------	--	---	---	--

P8

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1		X Content Reflection (Unchanged Intro)	
Week 1 Responses to Others	1		X Content Reflection (P7)	
Week 1 Responses From Others	1		X Content Reflection (P11) (unchanged intro)  X Content Reflection (P4)  X Content Reflection (P12)	
Week 2 Reflections	1		X Content Reflection	
Week 2 Responses to Others	1		X Content Reflection (P11)	
Week 2 Responses From Others	0			
Week 3 Reflections	1		X Content Reflection (unchanged Intro)	
Week 3 Responses to Others	1	X Introspection (P11)		
Week 3 Responses From Others	0			
Total Read Reflections	32			
Total Participant posts		1	5	

P9

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1	X Introspection Changed from Content)		
Week 1 Responses to Others	1	X Introspection (P12)		
Week 1 Responses From Others	0			
Week 2 Reflections	1	X Thoughtful Action		
Week 2 Responses to Others	1		X Content Reflection (P13) Unchanged intro	
Week 2 Responses From Others	0			
Week 3 Reflections	0			
Week 3 Responses to Others	0			
Week 3 Responses From Others	0			
Total Read Reflections	18			
Total Participant posts		3	1	

P10

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1 - late	X Introspection		
Week 1 Responses to Others	0			
Week 1 Responses From Others	0			

Week 2 Reflections	1 – Same date as week 1	X Thoughtful Action		
Week 2 Responses to Others	0			
Week 2 Responses From Others	0			
Week 3 Reflections	1		X Content Reflection	
Week 3 Responses to Others	0			
Week 3 Responses From Others	2		X Content Reflection (P1) X Content Reflection (P11)	
Total Read Reflections	23			
Total Participant posts		2	1	

P11

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1		X Process Reflection (Unchanged thoughtful & intro)	
Week 1 Responses to Others	1		X Content Reflection (P8)	
Week 1 Responses From Others	1		X Content Reflection (P7)	
Week 2 Reflections	1		X Process Reflection	
Week 2 Responses to Others	0			

Week 2 Responses From Others	2	X Thoughtful Action (P3) (Unchanged content)	X Content Reflection (P8) (unchanged intro)	
Week 3 Reflections	1		X Content Reflection	
Week 3 Responses to Others	2		X Content Reflection (P10) X Process Reflection (P3)	
Week 3 Responses From Others	1	X Introspection (P8)		
Total Read Reflections	20			
Total Participant posts			6	

P12

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1	X Introspection and Thoughtful Action		
Week 1 Responses to Others	1		X Content Reflection (P8)	
Week 1 Responses From Others		X Introspection (P9)		
Week 2 Reflections	1	X Introspection & Thoughtful Action		
Week 2 Responses to Others	1		X Content Reflection (P13) (unchanged intro)	
Week 2 Responses From Others	0			
Week 3 Reflections	0			
Week 3 Responses to Others	0			

Week 3 Responses From Others	0			
Total Read Reflections	9			
Total Participant posts		2	2	

P13

	Number	Non-Reflector	Reflector	Critical Reflector
Week 1 Reflections	1	X Thoughtful Action		
Week 1 Responses to Others	0			
Week 1 Responses From Others	0			
Week 2 Reflections	1		X Content Reflection	
Week 2 Responses to Others	0			
Week 2 Responses From Others	3		X Content Reflection (P12) (Unchanged intro)  X Content Reflection (P3)  X Content Reflection (P9 to P12)) (Unchanged intro)	
Week 3 Reflections	1	X Introspection (Unchanged content)		
Week 3 Responses to Others				
Week 3 Responses From Others				



Total Read Reflections	14			
Total Participant posts		2	1	

Appendix 4: Questionnaire to examine the perceptions of student nurses in their clinical practice (Chong, 2009)

<b>1.1</b>	<b>Usefulness of Reflective Practice</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>
1.1.1	It encourages me to make a conscious attempt to identify and learn from what is happening	4 (4%)	15 (15.3%)	79 (84.7%)
1.1.2	It allows me to view clinical situations from different perspectives	5 (5.1%)	21 (21.4%)	72 (73.4%)
1.1.3	It motivates me to be a more self-directed learner	6 (6.1%)	32(32.6%)	60(61.2%)
1.1.4	It enables me to identify my own learning needs	5 (5.1%)	26 (26.5%)	67 (68.3%)
1.1.5	It fosters responsibility and accountability	5 (5.1%)	11 (11.2%)	82 (83.6%)
1.1.6	It allows me to apply appropriate theory into nursing practice	2 (2.0%)	25 (25.5%)	71 (72.4%)
1.1.7	It helps me to improve decision making	4 (4.0%)	19 (19.3%)	71 (72.4%)
1.1.8	It helps me review both positive and negative experiences	2 (2.0%)	18 (18.3%)	78 (79.5%)
1.1.9	It encourages critical thinking	8 (8.1%)	19 (19.3%)	71 (72.4%)
1.1.10	With experience, the reflective practice develops from a descriptive to a more critical and analytical practice	3 (3.0%)	51 (52.0%)	44 (44.8%)
<b>1.2</b>	<b>Undesirable effects of reflective practice</b>			
1.2.1	The process can be manipulated to meet the expected outcomes of the practice	6 (6.1%)	32 (32.6%)	60 (61.2%)
1.2.2	Reflective practice may cause psychological stress	3 (3.0%)	65 (66.3%)	30 (30.6%)
1.2.3	I usually reflect on negative issues	6 (6.1%)	31 (31.6%)	61 (62.2%)
1.2.4	I feel frustrated when I am not able to solve problems that were identified during reflection	5 (5.1%)	28 (28.5%)	65 (66.3%)
<b>1.3</b>	<b>Barriers to good reflection</b>			
1.3.1	Uncertainty of using an unfamiliar learning approach	7 (7.1%)	38 (38.7%)	55 (56.1%)
1.3.2	The briefing of reflective practice was not adequate	20 (20.4%)	22 (22.4%)	56 (57.1%)
1.3.3	Lack of supportive environment	14 (14.2%)	26 (26.5%)	58 (59.1%)
1.3.4	Time constrains	13 (13.2%)	9 (9.1%)	76 (77.5%)
1.3.5	Unable to identify learning issues to reflect upon	11 (11.2%)	16 (16.3%)	71 (72.4%)
<b>1.4</b>	<b>Mentors in reflective practice</b>			
1.4.1	Supervision by mentor for the introduction of reflection is essential	29 (29.5%)	31 (31.6%)	38 (38.7%)
1.4.2	I need assistance from the tutor to help me to identify issues for reflection	31 (31.6%)	16 (16.3%)	51 (52.0%)
1.4.3	I need assistance from the tutor to help me to achieve a more critical level of reflection	8 (8.1%)	17 (17.3%)	73 (74.4%)

1.4.4	The different tutors should be consistent in giving advice on reflection, to avoid confusion	4 (4.0%)	9 (9.1%)	85 (86.7%)
1.4.5	Tutors should be equipped with knowledge on reflective practice	1 (1.0%)	3 (3.0%)	94 (95.9%)
<b>2.1</b>	<b>The appropriateness of reflective practices as a tool to assess learning outcomes.</b>			
2.1.1	The result of assessment correlates with the actual competency of students in nursing practice	14 (14.2%)	49 (50.0%)	35 (35.7%)
2.1.2	A good reflective practitioner does not necessarily mean a good practitioner	5 (5.1%)	9 (9.1%)	84 (85.7%)
2.1.3	The guidelines on reflective practice assessment given to students are clear and do not required further clarification	40 (40.8%)	34 (34.6%)	24 (24.4%)
2.1.4	The time given to complete the reflective report is sufficient	36 (36.7%)	22 (22.4%)	40 (40.8%)
2.1.5	I need more feedback on my reflective practice	4 (4.0%)	6 (6.4%)	84 (85.7%)
2.1.6	Feedback on the reflection assessment is inconsistent with the grade given	14 (14.2%)	33 (33.6%)	50 (51.0%)
2.1.7	I write reflection on what is expected rather than what was truly felt	20 (20.4%)	19 (19.3%)	58 (59.1%)
<b>3</b>	<b>The appropriateness of reflective practices as a tool to assess learning outcomes.</b>	<b>Frequency</b>		
3.1	Learning about oneself	35 (35.7%)		
3.2	Acting Professionally/ nursing skills	50 (51.0%)		
3.3	Nursing action/ decision making	50 (51%)		
3.4	Death & dying	15 (15.3%)		
3.5	Emotional reactions	45 (45.9%)		
3.6	Coping mechanisms	8 (8.1%)		
3.7	Organisation of care	13 (13.2%)		
3.8	Relationships with other health care workers	23 (23.4%)		
3.9	Learning approach	7 (7.1%)		
3.10	Communication with patient	42 (42.8%)		

## Appendix 5: Questionnaire data

1.1	Usefulness of Reflective Practice	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1.1.1	It encourages me to make a conscious attempt to identify and learn from my clinical experience				9 75%	3 25%
1.1.2	It allows me to view clinical situations from different perspectives			1 8.3%	7 58.3%	4 33.3%
1.1.3	It motivates me to be a more self-directed learner			5 41.7%	5 41.7%	2 16.7%
1.1.4	It enables me to identify my own learning needs			4 33.3%	6 50%	2 16.7%
1.1.5	It fosters responsibility and accountability in my nursing practice			6 50%	3 25%	3 25%
1.1.6	It allows me to apply theory into nursing practice			4 33.3%	7 58.3%	1 8.3%
1.1.7	It helps me review both positive and negative experiences				8 66.7%	4 33.3%
1.1.8	It encourages critical thinking			2 16.7%	7 58.3%	3 25%
1.1.9	With experience, reflective practice develops from descriptive to a more critical and analytical practice			3 25%	8 66.7%	1 8.3%
<b>Additional Comments</b>  - <i>"I found reflective practice useful as it enables you to think about an experience &amp; think about what you can improve on in the future eps as we are 1<sup>st</sup> year students."</i>						
1.2	Undesirable effects of reflective practice					
1.2.1	The process can be manipulated to meet the expected outcomes of the practice		1 8.3%	6 50%	5 41.7%	
1.2.2	Reflective practice may cause psychological stress	2 16.7%	4 33.3%	5 41.7%	1 8.3%	
1.2.3	Reflection focuses on negative issues	4 33.3%	5 41.7%	2 16.7%	1 8.3%	
1.2.4	Reflection can be frustrating when unable to solve problems identified during reflection	1 8.3%	3 25%	4 33.3%	4 33.3%	
<b>Additional Comments</b>						

<b>1.3</b>	<b>Barriers to good reflection</b>					
1.3.1	Uncertainty of using an unfamiliar learning approach		2 16.7%	6 50%	4 33.3%	
1.3.2	The explanation of reflective practice was not adequate	1 8.3%	7 58.3%	1 8.3%	3 25%	
1.3.3	Lack of supportive environment	3 25%	6 50%	1 8.3%	2 16.7%	
1.3.4	Time constraints	1 8.3%	4 33.3%		5 41.7%	2 16.7%
1.3.5	Unable to identify learning issues to reflect upon	2 16.7%	6 50%	1 8.3%	3 25%	
<b>Additional Comments</b>						
<b>1.4</b>	<b>Mentors in reflective practice</b>					
1.4.1	Supervision by tutors for the introduction of reflection is essential	1 8.3%		2 16.7%	8 66.7%	1 8.3%
1.4.2	Assistance from the tutors is required to help identify issues for reflection		2 16.7%	2 16.7%	8 66.7%	
1.4.3	Assistance from the tutors is required to help achieve a more critical level of reflection			2 16.7%	9 75%	1 8.3%
1.4.4	The different tutors should be consistent in giving advice on reflection, to avoid confusion				12 100%	
1.4.5	Tutors should be equipped with knowledge on reflective practice			1 8.3%	9 75%	2 16.7%
<b>Additional Comments</b>						

<b>2.1</b>	<b>The appropriateness of reflective practices as a tool to assess learning outcomes.</b>					
2.1.1	A good reflective practitioner does not necessarily mean a good practitioner		1 8.3%	3 25%	6 50%	2 16.7%
2.1.2	The guidelines on reflective practice assessment given to students are clear and do not require further clarification		1 8.3%	3 25%	6 50%	2 16.7%
2.1.3	More feedback on my reflective practice is required		3 25%	2 16.7%	6 50%	1 8.3%
2.1.4	Feedback on the reflection is inconsistent	1 8.3%	3 25%	3 25%	5 41.7%	
2.1.5	I write reflection on what is expected rather than what was truly felt	1 8.3%	9 75%	1 8.3%	1 8.3%	

#### **Additional Comments**

- *"I did not receive much feedback on my reflections."*

<b>3.1</b>	<b>Collaborative Reflection</b>					
3.1.1	Feedback from peers was useful		2 16.7%	1 8.3%	7 58.3%	2 16.7%
3.1.2	Feedback from peers encouraged me to reflect deeper on my experience		2 16.7%	2 16.7%	7 58.3%	1 8.3%
3.1.3	Feedback from peers was inappropriate	6 50%	5 41.7%		1 8.3%	
3.1.4	I reflected on the experience of others				12 100%	
3.1.5	I felt isolated in my group	6 50%	4 33.3%	1 8.3%	1 8.3%	
3.1.6	I was comfortable using group discussion as a medium for reflection			3 25%	8 66.7%	1 8.3%
3.1.7	Reviewing peer reflections enabled me to write at a deeper level	1 8.3%	1 8.3%	2 16.7%	7 58.3%	1 8.3%
3.1.8	Reflecting in a group prevented me from being honest	3 25%	5 41.7%	1 8.3%	3 25%	
3.1.9	Reflecting in a group is a valid learning experience			1 8.3%	8 66.7%	3 25%

#### **Additional Comments**

- *"I found reflecting in a group helpful as other students had similar experiences. However I don't feel that enough people took the reflections seriously. The more people who get involved, the better the reflection experience is."*

- *“Sometimes when writing my reflections I felt like when others read it, I was being judged or criticised. It might sound pessimistic, but I truly felt others were feeling that way towards me, especially since they could see my name, I was the one who posted it.*

## Appendix 6: Focus group data

I: What I really wanted to talk about was the experience in general from the reflective discussion and how you found it. Any comments you might like to add straight off the bat?

P: It was good to know that with some of my experiences I wasn't the only one who had that, others would say 'oh I had the same experience or I did this to improve what I did, so yeah that was nice, I felt like I wasn't isolated from everyone else.

I: Did you feel that everyone had very similar experiences? Did anyone else find that?

P: Yep.

I: Do you know everyone now?

P: Sort of.

I: OK, does anyone want to add to..

P: It made you think of your day and what you did when you reflected through it made you go through oh this is might what I need to do next time or this is what happened and sort of offloaded some of your emotions or feelings that you had through the day

I: So offloading or stuff. Did many people read your responses?

P: I ah.

I: From my view I could see how many responses and how many times read.

P: Yeah we could see that.

I: It looks like many of you are reading the responses did many of you read through a lot of them?

P: Some yeah.

I: What did you find when reading through these?

P: (silence)

I: (Specific to one participant) How many did you read?



P: I probably read, I don't know around five, six, that was it (\*actually read 15\*), but I saw some views on my thread, a lot of people actually read it, so that was a little bit embarrassing, but it was alright.

I: *A bit embarrassing?*

P: Yeah cause I get to tell what happened today little bits like, not really good like.

I: Do you think it would be better if you wrote it in a journal and no one read it?

P: Not really cause I don't like writing in books, I prefer it if I just do it online, it's easier and takes actually not a long time, but less time to do it.

I: (Specific to one participant) How did you feel with people reading your reflections?

P: It was alright. Everyone wrote the same kind of things so It's not like someone on the outside reading it, we are all first year nursing so it was alright, I didn't mind them reading.

I: Did you feel that you were all writing similar things how did that feel?

P: Alright I guess. \*Laughter\*

I: If people were writing completely different things to you do you think that would make it different?

P: No because I've been counting it. In the future that kind of prepares me for like what I would expect.

I: (Specific to one participant) Did anyone comment on your posts?

P: yeah.

I: (Specific to one participant) Was it constructive? The responses?

P: No not really, they didn't really help me.

I: What kind of responses did people give you?

P: P13 gave me one, but I don't think he knew how to use it at first, didn't really reply to me but posted his own experience.

P: I posted in the wrong thread. \*Laughter\* Cause there is no sections you had to just put everything in there

I: (Specific to one participant) Next time I will change the format. Did anyone else respond to you besides P13?

P: Yeah but I don't really remember.

I: Did you (general) check if people were responding to your posts?

P: \*Murmur, yes/no\* At first I did but then there was a long list so I didn't have a lot of time to go through and read every persons responses.

I: (Specific to one participant) You did respond to other people's posts, what made you respond to specific reflections over the others?

P: I think similar experiences, you can relate more to them, say how, say your side of it, and evaluate it through that.

P: A lot of it was more similar experiences rather than helping, so it's good to know everyone had similar experiences but it was more that, by the time everyone had similar experiences or wanted help we would have asked someone else on the shift.

I: What encouraged you to respond to specific reflections?

P: If a just to give the other side of the story or I learned from nurses that I could share.

P: Yeah that was the same thing. \*Murmur of agreement\*

I: Did anyone feel they developed a new insight from reading other responses or reflections? Did you feel like your learned anything from the others?

P: Not really from other peoples but probably from my own because you don't usually sit there and reflect like we had to do for this, so you had actually to sit there and write about the experience so your kind of evaluating it all in your head and thinking about it and how you can improve and everything like that, so I found me writing it for myself was beneficial for myself, not really other people's posts though.

P: Yeah I think it's a valid learning experience, but it's good a few girls did different topics otherwise I didn't just pause depending, we all can.

I: Do you think you need more structure?

P: Yeah first week.

I: Do you think you need a moderator in the reflective discussions? A moderator is maybe one of your tutors or teachers, who may come in and add responses. Or do you think its ok with just students?

P: (consensus) yeah students.

P: We're the ones in the experience so its.

P: If they pose a question to make you think about it, yeah

P: You get so much from the lecturers already and the tutors sort of telling you this, this this, it's nice to have a forum where you are with your peers and you're able to feel relaxed about saying things, but if you have a lecturer or moderator or someone looking in 'oh what's that person saying,' it makes you feel uncomfortable, yeah.

I: Did you think a lot of students on placement feel they don't have a link with the university? Do you think that would maybe provide a link to the university, so you are still in the course?

P: Probably cause our placements like ten months after we actually finished school. I felt like I only went to school for six months, well me personally don't really care. Because our placement is so far out anyway, probably didn't really matter. The university can't really do anything for us now anyway. That's just me, I don't know.

P: It's kind of linked to the university and placement what you learn from the university is what you apply on placement and that kind of helped a lot. Pretty much that's it. We don't get paid for this, imagine if we got paid. \*Laughter\* At least pay for our parking, \$8 a day.

I: Ok. As a group, did you discuss anything from the reflective practice with each other?

P: We debriefed anyway with our people (group)

I: Did the same similar topics crop up?

- P: If questions were asked I suppose but as I said a lot of it was reflecting on your day, are you alright with what you did.
- P: Seeing someone pass away, stuff like that. The stuff that we really needed that it's better to talk face to face than online, I found after I had to help bag up a patient I found it easier to talk to my group in person rather than go online and like 'oh yeah this is what happened.' I always prefer face to face than online learning anyway.
- I: That was a pretty significant experience, maybe a very emotional one, so you wouldn't feel comfortable posting that?
- P: I posted it as well, I just find it easier to talk in person. You, just because people are there that may have the same experience and it's easier if you see their expressions, how they're feeling, than looking at a computer screen and saying 'yeah I did that too.' I don't know I just really didn't like doing it online, that just me.
- I: Did anyone else have things they didn't really want to post online on this placement?
- P: \*Silence\*
- I: Did anyone feel that they changed their practice had new insights that they used in their practice from the discussions or reflections? A new way of thinking about it or did you change even the way you felt about doing certain things?
- P: It's sort of more like a diary, that's just how I looked at it. So you sort of just like, like it was said before how if someone did die and stuff like that, it was sort of just like oh, well everyone takes it differently I suppose and if they're really emotional they wanna talk about it face to face, but it was more like, cause you can't really help in that situation even though a lot of people had the same experiences it doesn't necessarily help you, and that's not saying that just doing it online doesn't help, writing it down doesn't help either, some people get emotionally effected by it, other people saying, 'oh same,' so I suppose it just depends on the sort of person.
- I: So what sort of comments would be useful do you think in those situations?
- P: I don't really think there is any, like, you just I don't know, comments like, if you go through something like that, like I'm really I don't call it lucky but I witnessed my grandma die, I was there

when she did, so you know I was sort of de-sensitised to a stranger dying like, seeing them, but when there are other people that may not be like that they may be really traumatised by that and writing it online and someone going 'oh I had the same experience, or are you ok.' Something like that online you can't really get across that type of sympathy, whereas in person you can show that you really are sympathetic to that person and what they have been through and stuff like that like I found it was helpful to just sit in the room and just sit through that and everyone go are you ok, do you need to talk about it and all that sort of stuff, like, that helped, so.

P: I think it was good to have the debrief session with our educator, cause that's when we were able to do that, but I thought it was really good to also write online because it helped you to think analytically for the next time you did something or, you know, gave patient care, or to read other student's experiences. It just all came together for you to be able to give the patient care and communicate with the patient as well.

I: What sort of experiences do you think would be best shared on the reflective discussion?

P: Patient experiences, you know things that the patient did that you're not aware of how to handle, those sort of things.

I: How would the other people help you with that do you think?

P: They may have other ways of doing it. You could say 'I did it this way' and they could say 'oh there is this way as well that you could handle it and then you start thinking oh maybe you could, you could do it differently.

## Appendix 7: Student instructions

### INSTRUCTION GUIDE FOR REFLECTIVE DISCUSSION GROUP PLACEMENT

1. Visit the Victoria University Website at [www.vu.edu.au](http://www.vu.edu.au)
2. Select MYVU (Student Portal)

Home About us Courses Campuses & services Careers Alumni Student tools Library For staff News & events Contact us

**VICTORIA UNIVERSITY**  
MELBOURNE AUSTRALIA

Search the VU site

Study with us Student life Research Industry & community Success stories

**Find a course**

I am... ☒ an Australian resident ☐ a non-resident

Course name or type **Find**

**Browse for courses**

Arts Business Computers and IT Education Engineering and Science Health and Biomedicine Law and Justice Sports and Exercise Trades

Studying TAFE? Level up to a bachelors degree with VU's flexible study pathways

**Apply now to start your study in 2015**

Applications for semester 1 are still open. Find the best course for you.

Find out more >

**Future students**

VCE & high school students  
Postgraduate study  
Why choose VU  
Returning to study  
Scholarships  
Fees & assistance  
Continue your online application

**International students**

International students  
English language courses  
Entry requirements  
International applications  
Create a course e-brochure  
Visa requirements  
New to VU  
VU in your country

**Current students**

MYVU (student portal)  
Re-enrolment steps  
Timetables & calendars  
Exam timetable  
VU Collaborate  
Student email  
Student jobs & placements  
ASKVU (What's this?)

3. Log in using your student number and password, remember to add an s before the student number

# MYVU Portal

## Login

Information marked with an asterisk (\*) is required:

### Student or Staff ID \*

e.g. s1234567, or e1234567 for staff

### Password \*

Login

[Forgot your password?](#)

### Need some help ?

Call us on **+61 3 99192777**, or  
find answers online at [ASKVU](#)

## New to MYVU Portal?

### Students

Login with your student ID number.  
Add 's' at the beginning, e.g. **s1234567**.

Use your current portal or default password.

If it is your **first time here** then use the password birthdate format 'Tempddmmyy' (Temp + date + month + year of birth),  
e.g 12 May 1983 will be **Temp12051983** as password.  
After login you will be prompted to change your password.

### Staff

Login with your staff ID number. This must be 7 digits long.  
If your staff number is not seven digits long, then  
add 0's after the 'e', e.g. **e0000123**.

Use your current portal password.

If it is your **first time here** then use the password birthdate format 'Tempddmm' (Temp + date + month of birth),  
e.g 22 August will be **Temp2208** as password.  
After login you will be prompted to change your password.

Remember to set up your **password reset methods** i.e. provide mobile

4. Select the 'Click Here' link



Welcome

My details

My learning

Learning support

My Account

Help

# MYVU Portal

Tip #11: The Student Contact Centre, the Library and the ITS Service Desk can reset your password

[MyVU Portal Home](#) > [My learning](#) >

## My VU Collaborate

Click [here](#) to open VU Collaborate.

From Winter Term and Semester 2 onwards, most students should be using VU Collaborate instead of Blackboard(WebCT) for access to online studies. You can still log in to Blackboard.

Welcome

Student updates

My details

Change password

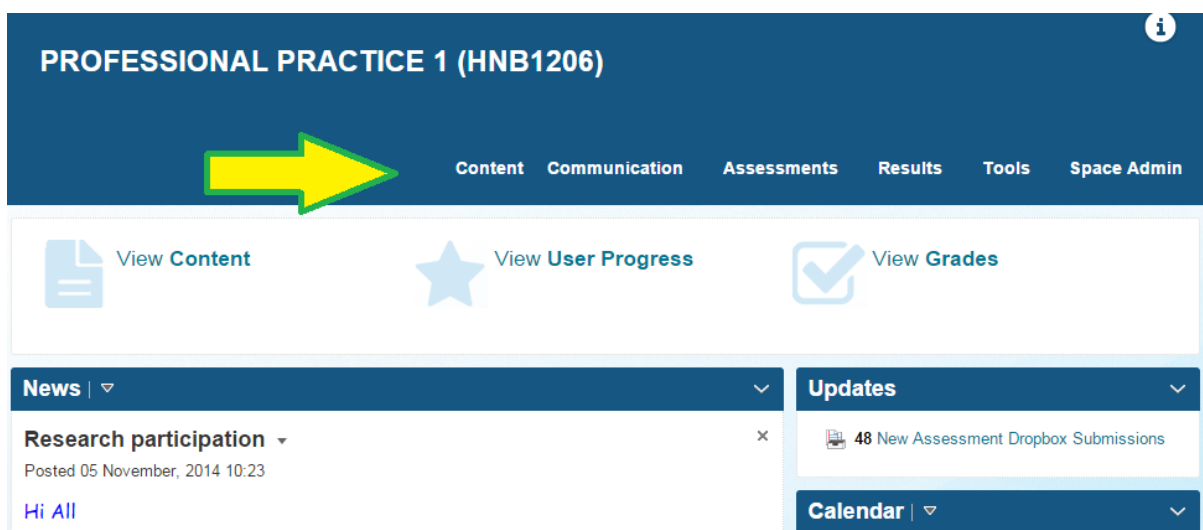
My learning

My Blackboard units

5. Select the unit 'PROFESSIONAL PRACTICE (HNB1206)'



6. Select the 'Content' link



7. Scroll down and select the topic 'Reflective Practice Group 1and 2 Only'



# Profile of a 1st year nursing student

## Reflective Practice Group 1 and 2 Only

8. Select the group you have been assigned to

Search Topics

Content Communication Assessments Results Tools

Reflective Practice Group 1 and 2 Only

Bookmarks

Upcoming Events

Table of Contents 18

Week 1

Week 3

Week 5

Reflective Discussion - Group 1

Please use this space to create reflective posts during your current placement. Remember to post at least one reflection weekly and add to the reflections of your group.

Reflective Discussion - Group 2

Please use this space to create reflective posts during your current placement. Remember to post at least one reflection weekly and add to the reflections of your group.

9. Select 'Start a new thread' to create your first post

PROFESSIONAL PRACTICE 1 (HNBT206)

Content Communication Assessments

Table of Contents > Reflective Practice Group 1 and 2 Only > Reflective Discussion - Group 1

Reflective Discussion - Group 1

Hide Description

Please use this space to create reflective posts during your current placement. Remember to post at least one reflection weekly and add to the reflections of your group.

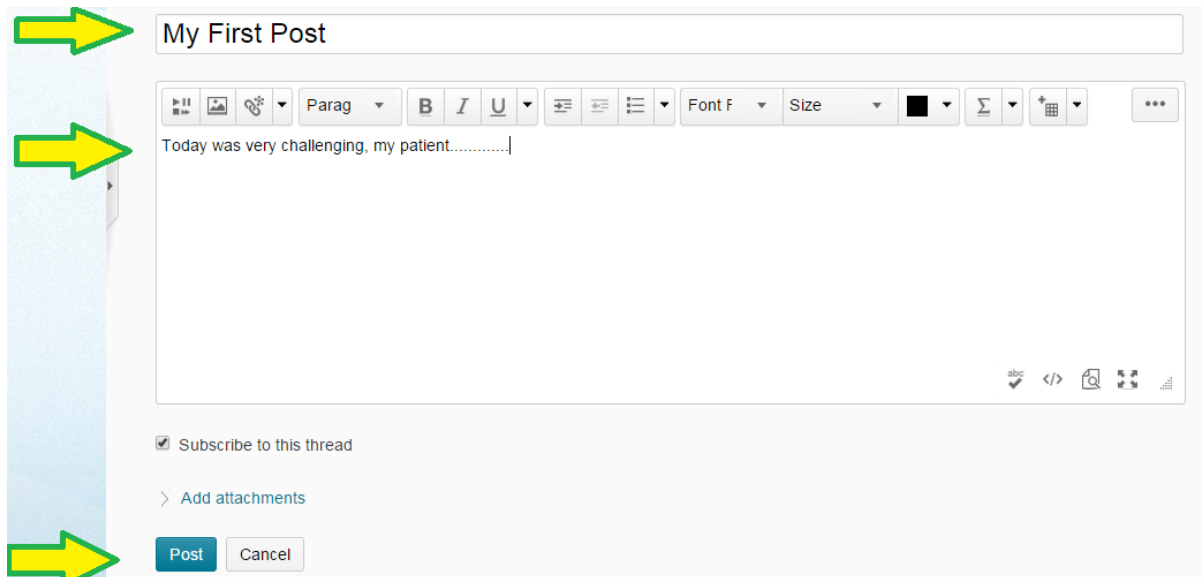
Start a New Thread

Filter by: Unread Flagged

Sort by: Most Recent

Welcome to the reflective discussion!

10. Add a title, create a message and click 'post'



**My First Post**

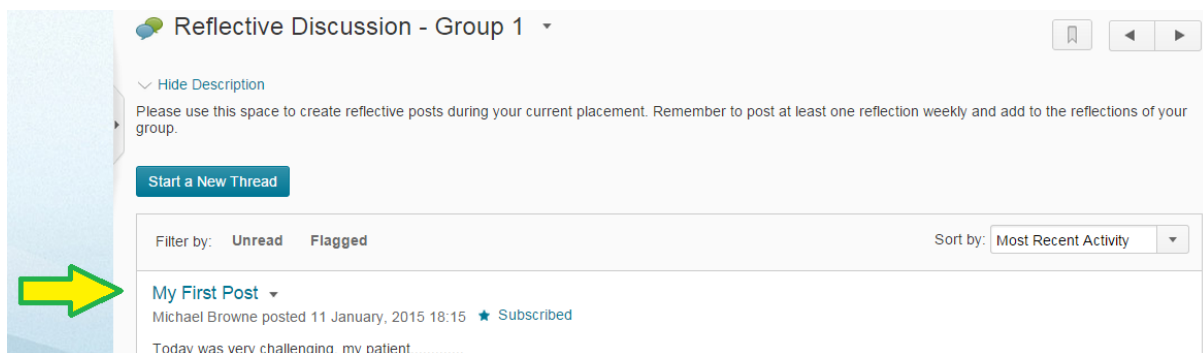
Today was very challenging, my patient.....

☒ Subscribe to this thread

[Add attachments](#)

**Post** Cancel

11. You can continue to add future posts under the same heading. You may also read and provide feedback to members within your own group by clicking on the title of the post.



**Reflective Discussion - Group 1**

[Hide Description](#)

Please use this space to create reflective posts during your current placement. Remember to post at least one reflection weekly and add to the reflections of your group.

**Start a New Thread**

Filter by: **Unread** **Flagged** Sort by: **Most Recent Activity**

**My First Post**

Michael Browne posted 11 January, 2015 18:15 ★ **Subscribed**

Today was very challenging, my patient.....

12. To provide feedback and shared experiences, select 'reply to thread'



[Table of Contents](#) > [Reflective Practice Group 1 and 2 Only](#) > [Reflective Discussion - Group 1](#)

**Reflective Discussion - Group 1**

[Back to Topic](#)

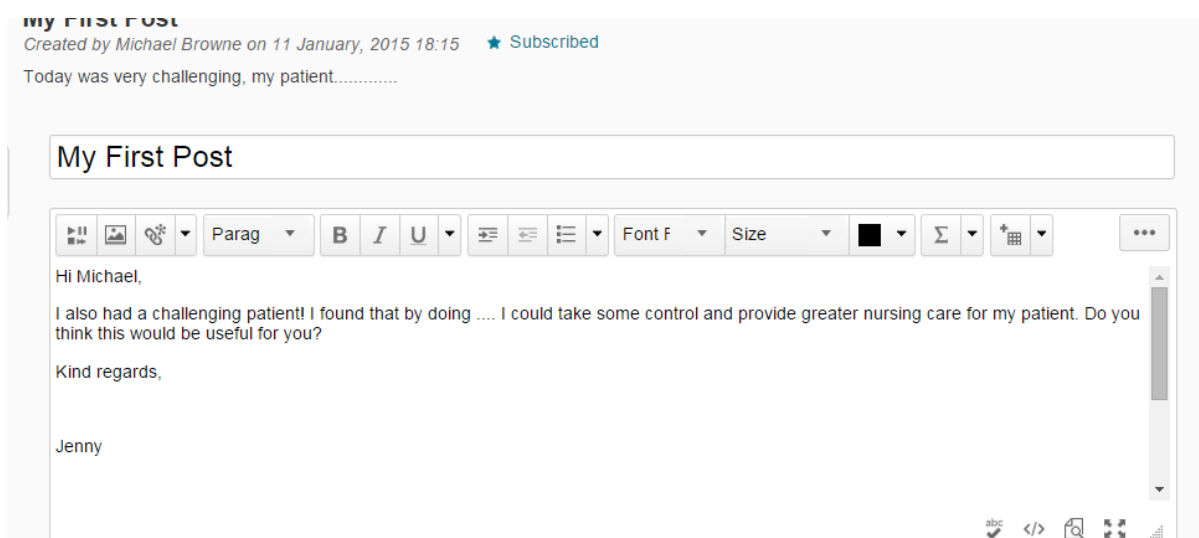
**My First Post**

Created by Michael Browne on 11 January, 2015 18:15 ★ **Subscribed**

Today was very challenging, my patient.....

**Reply to Thread**

13. Compose a thoughtful message and don't forget to click post!



Thanks again for participating in this research. Please remember to provide thoughtful discussion and maintain the privacy of your fellow student's reflections. This discussion forum is designed to not only pose problems or experiences, but assist each other in creating meaning and improved nursing management for future similar encounters.

We all live through different experiences, though it is what you learn from them that counts!

Please continue to use the DIEP model from class when reflecting:

**D:** Describe what happened in detail

**I:** Interpret what happened, discussing new insights, feelings, thoughts, links with other experiences or class learning.

**E:** Evaluate the experience. Could I have achieved a more effective or different result? How would this be achieved? How was the experience useful or valuable and why do I think this?

**P:** Plan. How do I change my future nursing or perceptions in relation to the experience? Has my perspective changed?

## Appendix 8: Topic guide for focus group

	TOPIC FOR DISCUSSION	EXAMPLE LINES OF INQUIRY	TIMING
1	Introduction and general experience	- How you found the experience	5-10 minutes
2	Group interaction	- Did the environment create real life associations -	5-10 minutes
3	Comfort of sharing	- Did you receive responses from peers - Did you read reflections from peers - Feelings related to sharing	5-10 minutes
4	Usefulness in reflecting in the asynchronous environment	- Type of responses received - Were you reviewing responses posted by peers to your reflections - Learning achieved from reading peer reflections or responses	10 minutes
5	Catalysts for responding to specific reflections	- What encouraged you to respond to certain reflections - Particular experiences prompted you to reflect	5 minutes
6	Structure and need for faculty involvement	- Peer vs faculty feedback or review - Link to university during placement	5 minutes
7	Reflecting in the asynchronous environment versus real life	- Did you discuss any reflections with each other in real life - Did you find similar reflective topics in the asynchronous environments as you did in group debriefing - Changing practice from reflections	5-10 minutes
8	Experiences best shared in asynchronous reflection	- Describe the type of reflections you believe would be of most value in the asynchronous environment	10 minutes

# INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

## You are invited to participate

---

You are invited to participate in a research project entitled “The role of collaborative reflections in clinical practice: Using an asynchronous online learning environment to promote higher order thinking in nursing education.”

This project is being conducted by a student researcher, Mr Michael Browne, as part of a Master of Education at Victoria University, under the supervision of Professor Nicola Yelland from the College of Education.

## Project explanation

---

Reflections by student nurses typically take the form of an individual journal log maintained in your clinical placement book. This study will provide participants the chance to explore their social reflection in the form of a private online discussion forum hosted on VU Collaborate. This discussion format will replace the requirement to journal in your placement book.

## What will I be asked to do?

---

Your clinical placement group will be asked to journal together in a private discussion forum, providing feedback, insights, comments and support for your classmates’ reflections. You will NOT be required to maintain both a physical and online journal should you participate in this research.

This will be followed up at the end of placement with a group debriefing interview in the Western Centre for Health Research and Education at Sunshine Hospital, a Victoria University collaborative research facility. A questionnaire to provide feedback about the experience will also be provided.

## What will I gain from participating?

---

This research is aimed at creating innovative methods to improve student nurses learning from reflection during clinical practice. Many students find this practice tiresome, time consuming and perceive it as lacking a clear

goal. Lack of feedback has also been a large concern of nursing students. As a participant, you have the opportunity to advance nursing education, providing future students a greater reflective learning experience.

As a participant, you may gain deep insight into your own nursing practice and the experiences of your clinical group. You will also gain feedback related to your experiences from members in your clinical group. This forum has the potential for students to create greater relationships with members of their clinical group.

### **How will the information I give be used?**

---

The information will be used to assess levels of reflection among your group, with the intention of understanding themes that may arise in the process.

All information will be kept private. The discussion board is only accessible by the students in your clinical group that consent to participate, the researcher, unit coordinator and your clinical teacher.

The information will be deleted from VU Collaborate at the end of placement, de-identified and stored separately in a secure locked space at the university.

Information without identities will be used to complete a Master of Education research thesis. Information may also be used for future publications.

### **What are the potential risks of participating in this project?**

---

Potential risks include privacy breaches by participants and troubling experiences or stories being shared. Please note that Victoria University counselling services are available for participants. Each student will be asked to sign a confidentiality agreement to ensure privacy and to abide by nursing legal and ethical standards in deliberation on the reflections.

### **How will this project be conducted?**

---

Student reflections and responses will be examined to determine their depth. Themes will be analysed and a follow up group debrief at the end of placement in the Western Centre for Health Research and Education at Sunshine Hospital will provide opportunity to understand the experience from your perspective. A short questionnaire will also be provided to understand perceptions of reflection.

### **Who is conducting the study?**

---

This study will be conducted via the Victoria University College of Education in collaboration with the College of Health and Biomedicine.

Chief Investigator: Professor Nicola Yelland

Email: [Nicola.Yelland@vu.edu.au](mailto:Nicola.Yelland@vu.edu.au)

Phone: 9919 4904

Student Researcher: Mr Michael Browne

Email: [Michael.Browne@vu.edu.au](mailto:Michael.Browne@vu.edu.au)

Phone: 99192949

Mobile: 0481005541

Any queries about your participation in this project may be directed to the Chief Investigator listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email [researchethics@vu.edu.au](mailto:researchethics@vu.edu.au) or phone (03) 9919 4781 or 4461.

# **CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH**

## **INFORMATION TO PARTICIPANTS:**

We would like to invite you to be a part of a study into Online Reflective Practice.

The aims of this study are to implement innovative methods which improve the learning outcome of reflective practice during clinical placement.

Reflections typically take the form of an individual journal log maintained in your clinical placement book. This study will provide participants the chance to explore social reflection in the form of an online discussion forum hosted on VU Collaborate. Your clinical placement group will be asked to journal together, providing feedback, insights, comments and support for your classmates' reflections. This will be followed up at the end of placement with a group debrief interview in Victoria University's collaborative research centre, the Western Centre for Health Research and Education at Sunshine Hospital. A questionnaire to provide feedback about the experience will also be provided.

## **CERTIFICATION BY SUBJECT**

I, "[Click here & type participant's name]"  
of "[Click here & type participant's suburb]"

certify that I am at least 18 years old\* and that I am voluntarily giving my consent to participate in the study:

“The role of collaborative reflections in clinical practice: Using an asynchronous online learning environment to promote higher order thinking in nursing education” being conducted at Victoria University by: Professor Nicola Yelland

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by:



Mr Michael Browne

and that I freely consent to participation involving the below mentioned procedures:

- Documenting my reflections and responses on the private discussion board hosted on VU Collaborate.
- Attending a group debriefing interview at the end of clinical placement to provide feedback on the experience.
- Participate in a survey related to reflective practice and the experience.
- To abide by Nursing code of ethics and confidential deliberation on these reflections.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

Any queries about your participation in this project may be directed to the researcher

Professor Nicola Yelland

Telephone: 99194904

Email: Nicola.Yelland@vu.edu.au

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

# CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

## INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study into Online Reflective Practice.

The aims of this study are to implement innovative methods which improve the learning outcome of reflective practice during clinical placement.

Reflections typically take the form of an individual journal log maintained in your clinical placement book. This study will provide participants the chance to explore social reflection in the form of an online discussion forum hosted on VU Collaborate. Your student groups will be asked to journal together, providing feedback, insights, comments and support for your classmates' reflections. This will be followed up at the end of placement with a group debrief interview in Victoria University's collaborative research centre, the Western Centre for Health Research and Education at Sunshine Hospital. A questionnaire to provide feedback about the experience will also be provided.

## CERTIFICATION BY SUBJECT

I, "[Click here & type participant's name]"  
of "[Click here & type participant's suburb]"

certify that I am at least 18 years old\* and that I am voluntarily giving my consent to participate in the study:

"The role of collaborative reflections in clinical practice: Using an asynchronous online learning environment to promote higher order thinking in nursing education" being conducted at Victoria University by: Professor Nicola Yelland

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by:

Mr Michael Browne

and that I freely consent to participation involving the below mentioned procedures:

- To abide by Nursing code of legal and ethical standards related to patient or student information, ensuring confidential deliberation on these reflections.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

Any queries about your participation in this project may be directed to the researcher

Professor Nicola Yelland

Telephone: 99194904

Email: Nicola.Yelland@vu.edu.au

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.