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The Impact of Reflection on the Development of Critical Thinking for Novice Nurses

Katherine D. Taylor

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THE IMPACT OF REFLECTION ON THE DEVELOPMENT OF CRITICAL THINKING
FOR NOVICE NURSES

An Evidence-Synthesizing Capstone Project

Submitted to the Faculty of the

Graduate Program in Nursing

In Partial Fulfillment

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Master of Science in Nursing

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Messiah College

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Abstract

This capstone project explores the use of intentional reflection as an educational intervention during the orientation process and the development of critical thinking skills in new graduate nurses. Nurse educators in the clinical practice setting could potentially impact one aspect of the transition to practice for the novice nurse through the development of critical thinking through by facilitating the incorporation of reflection during the onboarding of a novice nurse. Further investigation in the form of an evidence synthesis specifically related to the impact of reflection on the development of critical thinking in the new graduate nurse was necessary. The results of the evidence synthesis pointed to the suggestion that the incorporation of reflection educational interventions contributes to the expedited development of critical thinking abilities in novice nurses' development of critical thinking skills leading to a potential impact on practice change and patient outcomes. Although at this time research specifically related to reflection during orientation is limited implications of the results include the need for educators to pursue the incorporation of reflective strategies into the orientation of novice nurses.

Key words: Reflection, employee orientation, new graduate nurses, novice nurses, professional development, critical thinking, nurse professional development, staff development, clinical competence, and self-efficacy.

DEDICATION

I would like to thank my family for all their love and support through the process of this capstone project. I would like to especially thank my husband Zach for his continuous support and encouragement and his constant faith in my ability to complete this project.

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CHAPTER I

INTRODUCTION

Upon graduation, a novice nurse has had extensive preparation from nursing school with the background knowledge needed to get them ready to transition into professionally practicing nurses at the bedside (Shinners, Africa, & Hawkens, 2016). Despite all the preparation from nursing school, the orientation process and transition to practice for a new graduate nurse can be complex and overwhelming leading to an increase in stress and anxiety for the new graduate nurse. The challenge for novice nurses is to be able to translate background knowledge gained from education and apply such knowledge to the uncertainties that arise in nursing practice (Forneris & Peden-McAlpine, 2006). Challenges that a graduate nurse may face include reality shock, juggling numerous responsibilities, multi-role challenges, culture shock, and minimal exposure to independent decision making during nursing school (Sewel, 2008). Additional stressors encountered by a novice nurse include feelings of incompetence, high patient acuity rates, short lengths of patient stay, and fear of peer acceptance (Sewel, 2008). Furthermore the new graduate nurse is expected to quickly become a clinically competent part of a healthcare team and make clinical decisions using their knowledge and clinical thinking skills ultimately affecting patient outcomes (Lepianka, 2008; Shinners et. Al., 2016).

Benner (1984) described the development of clinical competence and transition to practice through the passage of five stages: novice, advanced beginner, competent, proficient, and the expert. Every new practitioner or nurse begins as a novice with little to no experience or practice. In the novice stage the background knowledge may be present but the experience to base decisions upon is limited until they develop more experiential practical knowledge (Brenner, 1984). As a new nurse continues to gain experience they will move through the stages

of clinical competence Benner (1984) described. The goal is for a new nurse to reach the advanced beginner stage by the time they are finished with orientation and by two years reach the competent stage (Brenner, 1984). Nurse educators can potentially play a key role in the support of the transition of a new nurse from novice to expert through the inclusion of innovative educational interventions to foster the development of the skills required to advance along the continuum of clinical competence, which leads to novice nurses developing higher levels of thinking and advancement of their practice (Paterson & Chapman, 2013).

Recently there has been an increase in acknowledgment that reflection may have an impact on professional nursing practice as an educational strategy to enhance knowledge and learning in the practice setting while building on prior knowledge and experiences leading to higher levels of thinking (Miraglia Asselin, 2015). Reflection is a strategy that can potentially assist with the translation of knowledge into critical thinking skills and solid clinical decisions (Shinners et. al., 2016). Guided individual reflection gives the novice nurse the opportunity to discuss their experiences with an NPDS and trigger questions and initiate connections to expand existing knowledge formulate new knowledge (Forneris & Peden-McAlpine, 2006). By incorporating reflection educators can help novice nurses improve their critical thinking skills and narrow the theory-practice gap (Forneris & Peden-McAlpine, 2006).

Statement of the Problem

Many factors can have an influence on a novice nurses transition to practice therefore it is essential to assist new graduate nurses to process the overwhelming amount of information and translate it to practice. While tracking a new graduate nurses' progress during orientation a Nurse Professional Development Specialist (NPDS) may find that the orientee has trouble

expressing their progress or voicing concerns without specific guided\ questioning from an NDPS.

Often times there is a high emphasis on the development of critical thinking skills in the academic student nurse but when they get to practice the attention shifts and becomes more about acquiring skills and knowledge in order to accomplish task driven goals. It is possible for a new nurse to be checking off their skills list and passing medications correctly but continue to struggle to critically think resulting in a difficulty in clinical decision making and increased stress. The focus of an orientation can easily become about assuring the orientee gains experience in performing skills or completes tasks in a timely manner. The challenge is to push past a task driven orientation and place more emphasis on educational interventions that develop critical thinking skills to accompany their clinical skills and knowledge.

An educational strategy that can potentially improve critical thinking and relieve the stress of the role transition is the use of reflection (Lepianka, 2008; Sewel, 2008). The process of structured reflection facilitated by nurse educators can have the potential to decrease stress, increased engagement in learning, improve overall competence, and increase retention of new graduate nurses (Lepianka, 2008; Shinnars, Africa, & Hawkens, 2016). It would seem that it would be in the best interest of a NPDS to continue to cultivate and measure the development of critical thinking in the novice nurse. The need to facilitate critical thinking development in novice nurses warrants further exploration of the impact of reflection during the onboarding of graduate nurses especially in light of the well-known nursing shortage (Sewel, 2008; Miraglia Asselin, 2015).

Background and Need

Reflection has been historically defined in several different ways in the literature. John Dewey's (1933) seminal introduction of the term reflection as a learning strategy that improves thinking skills through reflecting on experience. Dewey's interpretation of reflection is based on a constructivist approach to learning and knowledge development (Goulet, Larue & Alderson, 2016). The constructivism learning theory describes the formation of knowledge through personal experiences and reflection on experiences leading to new meanings and understandings (Oermann, 2015). A learning model reflecting the constructivist theory was developed by Kolb (1984). Kolb's experiential learning model depicts a cycle of learning consisting of four elements: concrete experience, observation of and reflection on an experience, formation of abstract concepts based on a reflection of the experience, and testing new concepts (Oermann, 2015).

Schon (1991) was noted as the first to use the phrase "reflective practice" and further separated the term into two different types: reflection-in action and reflection-on action. Specifically, Schon's (1991) reflection-in-action is defined as thinking and adjusting actions according to existing knowledge while an experience is occurring, and reflection-on-action is defined as thinking about an experience in the past and gaining insight from reflecting on the experience. Rogers (2001) defined reflection by separating it into the four different elements of active engagement, a triggering event, a cognitive review and integration. These four different elements described by Rogers (2001) began to define the formal process of reflection through thinking about a situation in a systematic way can lead to gaining new understanding, insights and knowledge.

Many definitions and strategies to reflection exist within the literature making it difficult at times to identify specific outcomes of reflection. A concept analysis of the definition of reflection practice was completed by Goulet et al., (2016), and their summation of the definition stated that most definitions include two components: A deliberate, guided process and a goal of transformation of learning. Miraglia and Asselin (2015) also described reflection as a deliberate thinking process that can lead to the development of insight and lead to practice changes. Paterson and Chapman (2013) explained the purpose of reflection as a critical component of the learning experience and the development of clinical competency. Furthermore Paterson and Chapman (2013) expanded their own interpretation of reflection as thinking through emotions and responses to experiences and interpreting them in order to discover new meanings and higher levels of understanding.

Several authors have theorized that reflection can potentially impact the transition to practice by giving the novice nurse the opportunity to learn from day to day experiences by incorporating past knowledge into the examination of experiences (Forneris & Peden-McAlpine, 2006; Shinnars, Africa, & Hawkens, 2016; Paterson & Chapman, 2013, Goulet et al., 2016; Modic, 2014). As a result of the reflection on experiences there is the potential benefit to construct new knowledge, improve understandings, develop autonomous thinking and critical thinking skills, and bridge the theory-practice gap (Forneris & Peden-McAlpine, 2006; Shinnars, Africa, & Hawkens, 2016; Paterson & Chapman, 2013, Goulet et al., 2016). This type of knowledge growth is described by Forneris & Peden-McAlpine (2006) as contextual learning and can be achieved through reflective learning interventions. Despite the consensus that reflective practice can be a tool used to enhance learning the majority of the literature regarding reflective practice in the clinical practice setting is limited especially research of quantitative

design resulting in the majority of the information regarding reflection being anecdotal in nature (Dube & Ducharme, 2015).

Purpose Statement

Although there are many proclaimed benefits to reflection, this evidence synthesis is focused on reflection and the potential to help a novice nurse further develop their critical thinking skills. Nurse educators in the clinical practice setting could potentially impact one aspect of the transition to practice for the novice nurse through the development of critical thinking through the facilitation of reflection during the onboarding of a novice nurse. Further investigation specifically related to the impact of reflection on the development of critical thinking in the new graduate nurse was necessary.

In search to find a more meaningful format for tracking a novice nurses progress during orientation the purpose of this evidence synthesis aims to search the literature to evaluate the impact of using structured reflection during the orientation phase and the development of critical thinking skills. The evaluation was completed by conducting comprehensive literature review with a critical appraisal and synthesis of the evidence related to reflection and its impact on a new graduate nurses' development of critical thinking abilities.

Evidence-based Practice Question

The need to improve the onboarding process and to support the continued growth of novice nurse's critical thinking skills has led to the following research question: In new graduate nurses does the use of reflection during the orientation process impact the development of critical thinking versus an orientation process without the use of reflection?

Significance to Nursing Education

NPDS's or nurse educators in the clinical practice setting act as a partner and guide to nurses' professional growth. The partnership starts with an active participation in the orientation of a novice nurse and continues through to professional role development throughout the nurses' careers (Shinners, Africa, & Hawkens, 2016). It is a NPDS's priority to make the transition to practice as seamless as possible for the novice nurse. The goal of a smoother transition can be accomplished by incorporating creative educational strategies to, decrease stress, promote knowledge and skill development enhance and track the orientees progress towards becoming a competent nurse. How do nurse educators know the novice nurse is putting it all together to lessen the wide theory-practice-gap they start out with? Are they learning from their experiences or are they just trying to survive the shift and accomplish the next task and fill out their skill checklist? Reflection would give the overwhelmed busy novice nurse an opportunity to stop and think about their experiences and develop deeper knowledge as opposed to being so busy and never taking the moment to stop to think and learn. Often times leadership in charge of staffing puts pressure on nurse educators to get nurses through orientation as quickly as possible. Instead, what if educators and leaders took the time to ensure that the novice nurse is able to reflect throughout their orientation experience and develop more meaningful learning and cultivate their critical thinking skills?

The focus of this evidence synthesis is specifically related to the incorporation of reflection as an innovative educational strategy during the orientation process to improve the transition of the new graduate nurse to practice by the development of critical thinking skills. There are many different types of reflection strategies are discussed in the literature. Reflection in the nursing practice setting can be informal and occur naturally through the engagement of

other practitioners in conversation to gain insight, different perspectives, and to confirm or disconfirm thinking (Mobic, 2014). Reflection occurring naturally consists of nurse-to-nurse deliberation of clinical situations, event debriefing, sharing clinical narratives, and self-reflective activities such as asking themselves questions or free style journaling (Modic, 2014).

Modic (2014) discussed the importance of the experienced nurse modeling reflective practice for the novice nurse. Modic (2014) explained that the experienced nurse has formed a natural habit of reflecting on experiences and learning from them. The experienced nurse needs to pass this strategy onto the novice nurse through deliberately guiding the novice nurse through the process of reflection so that the novice nurse can develop a habit of reflection and as a result enhance their performance and knowledge development (Mobic, 2014). In addition to guiding the novice nurse through reflection on practice the expert nurse can set an example through modeling reflective behavior during their daily practice (Mobic, 2014).

Not every preceptor is skilled in reflective practices or in the ability to teach a novice nurse how to reflect. Some nurses may develop reflective skills at different rates than others depending on how much support they receive from preceptors or educators (Kuiper, 2002). A way to facilitate the development of reflection skills is to provide structured reflection strategies, questions and guidance (Miraglia & Asselin, 2015). An incorporation of a structured reflection educational strategy during the transition to practice has the potential to enhance individual reflection, critical thinking and relieve the stress of the role transition (Forneris & Peden-McAlpine, 2006; Lepianka, 2008; Sewel, 2008). By providing structure to reflection it gives the facilitator a more meaningful process to link reflection to experiences and develop higher levels of thinking and knowledge acquisition (Kuiper, 2002). The various structured reflective strategies that can be used by educators include, written strategies such as reflective papers,

questionnaires and prompted narrative journals or verbal interactions in the form of individual interviews, preceptor coaching and leader facilitated discussion groups (Kuiper, 2002; Dube & Ducharme, 2015; Forneris and Peden-McAlpine, 2006).

Forneris and Peden-McAlpine (2006) offered guidance when structuring reflection for a novice nurse. The first suggestion offered by Forneris and Peden-McAlpine (2006) included allowing time between discussions so the learner can incorporate their gained knowledge into their practice. The second suggestion discussed by Forneris and Peden-McAlpine (2006) indicated that novice nurses should be asked to do a reflective journal entry prior to meeting the facilitator for a discussion. By having the entry written ahead of time the novice nurse can produce more meaningful journals and dialogue with the educator guiding their reflections. (Forneris & Peden-McAlpine, 2006). The third insight offered by Forneris and Peden-McAlpine (2006) suggested that assistance in the form of questions was beneficial to guide reflective journaling as well as encourage reflection in the form of dialogue.

Several articles discussed the importance of guided group reflection as an opportunity to engage in dialogue with other novice nurses and gain insight from other experiences (Forneris & Peden-McAlpine, 2006; Kuiper, 2002; Miraglia & Asselin, 2015; Modic, 2014; Shinnars, Africa, & Hawkens, 2016). Reflection is a learned skill that requires structure in the form of questions provided by a facilitator (Asselin & Fain, 2016). Without the guidance of a facilitator the activity of group reflection may be difficult to gain the same amount of insight from the discussed clinical experiences alone. The incorporation of group discussion in a nurse residency program is an ideal setting for group reflections to take place with the help of a trained facilitator (Shinnars, Africa, & Hawkens, 2016).

Forneris and Peden-McAlpine (2006) discussed in an expository paper the use of contextual learning as a reflective learning strategy in a clinical practice environment based off of nursing education literature containing discussions of reflection as a pedagogy. Forneris and Peden-McAlpine (2006) described contextual learning as reflection in the form of thinking about practice experiences and how to make improvements upon practice and further develop critical thinking skills. Within Forneris and Peden-McAlpines (2006) contextual learning methodology the use of reflection is a key component to their intervention. Reflection within the context of stories or clinical experiences give the learner a better chance of retaining the knowledge learned and as a result enhance their critical thinking (Forneris & Peden-McAlpine, 2006).

Forneris and Peden-McAlpine (2006) presented well-developed implementation recommendations of reflection as an educational intervention in nursing practice and provided specific examples of how a reflection intervention can be implemented with novice nurses to increase critical thinking skills. Forneris and Peden-McAlpine (2006) used a multifaceted approach that incorporates reflection, context, time and dialogue in several settings such as, narrative reflective journaling, individual interviews, preceptor coaching and leader facilitated discussion groups. This approach incorporates reflection at all levels of the orientation and transition process and provides a continuum of reflection and learning for the novice nurse to build upon. The development and description of an educational intervention by Forneris and Peden-McAlpine (2006) was essential in laying the ground work to explore the use of reflection in the clinical practice setting. Forneris and Peden-McAlpine (2007) followed up with their development of the contextual learning reflective strategy with a qualitative research study focusing the incorporation of their reflective learning intervention and the outcome of the

improvement of critical thinking in novice nurses. This qualitative study will be further discussed in the chapter three literature review.

Despite the acknowledgement that reflection can have an impact on practice, advancement of professional practice, and critical thinking, there is very limited quantitative research on reflections impact on practice (Asselin & Fain 2016). In addition to a lack of quantitative research on reflection Asselin and Fain (2016) also acknowledged the lack quantitative instruments to measure reflection. Asselin and Fain (2016), sought to resolve the lack of quantitative instruments by the development of a tool to measure reflection and determine its content validity. The tool developed by Asselin and Fain (2016) is called the Critical Reflective Inquiry (CRI) Assessment Tool which was adapted from the Critical Reflective Inquiry (CRI) Model developed by Kim, Lauzon, Burbank, Leveille, and Martins (2010). The CRI Model Consists of a series of questions divided into three phases descriptive, reflective, and critical (Asselin & Fain, 2016). The questions are designed to help support thinking through a specific practice situation by answering guided questions intended to lead the learner to the evaluation of their knowledge, values, attitudes, and understanding of a scenario (Asselin & Fain, 2016).

Content validity is the measurement of an instrument and if it appropriately captures the full content of the concept being measured (Polit & Beck, 2014). The method preferred to measure content validity is to calculate a content validity index (CVI). The standard CVI value to determine excellence is .90 or higher (Polit & Beck, 2014). After multiple reviews and revisions of the CRI Assessment Tool Asselin and Fain (2016) tested the CVI on 10 selected clinical experts. Following the final revision of the CRI Assessment Tool the content validity

was measured for the second time yielding a CVI of 1.00 which would indicate a high level of content validity (Asselin & Fain, 2016).

Asselin and Fain (2016), suggested that the CRI assessment tool has potential to be used with new graduates in the orientation process to facilitate the development of critical thinking, priority setting and delegation skills. The tool could be implemented as a structured approach to reflective thinking in nursing professional development to assess reflection (Asselin & Fain, 2016). Overall Asselin and Fain's (2016) development of the CRI Assessment Tool adds to the growing evidence and tool development of reflection in practice. It is preliminary in its development and would need additional testing to determine the tools validity in the context of novice nurses. Further research and testing is needed in order to use this tool in a novice nurse orientation setting.

Jacob, Duffield and Jacob (2018) developed a valid critical thinking assessment tool that could be used when researching reflection and its impact on the development of critical thinking skills. The tool was developed to measure nursing-specific critical thinking skills in new graduate nurses.

Definition of Terms

Clinical judgment or clinical decision making. The ability of a nurse to make decisions based on their knowledge base and interpretation of a situation.

Competent nurse. A nurse with two years or more of experience as well as efficiency in their daily task and decision making.

Critical thinking. The ability to think through a situation by thinking about one's own thinking while considering all pertinent evidence to recognize problems, reach a conclusion or make a clinical decision.

Graduate nurse. A nurse who has recently graduated with an associate's degree or bachelor's degree in Nursing, has passed their NCLEX and is ready to begin hospital orientation.

Novice nurse. A nurse within their first year of nursing experience

NPDS. Nurse Professional Development Specialist is a Nurse educator in the clinical practice setting. This role is in charge of the coordination of orientation for graduate nurses from scheduling and tracking progress from start to finish and well after orientation.

Onboarding. The process of familiarizing and training a new nurse to the clinical practice setting of an organization.

Orientation. The process and time period of training for a newly hired nurse.

Orientee. A newly hired nurse still in training 1:1 with a preceptor.

Transition to practice. A progression of a novice nurse through orientation onto functioning independently and becoming a competent nurse. The process of moving from a graduate nurse through orientation and transitioning to functioning independently in nursing practice.

Preceptor. A staff nurses that trains a new graduate nurse for the duration of their orientation. A nurse on orientation is paired 1:1 with a preceptor and have the same patient assignment.

Reflection. A practice used for new learning by thinking about, writing, or discussing experiences in order to gain knowledge, understanding, and insight on a situation.

Self-efficacy. An individual's own judgement of themselves and their ability to succeed at tasks or obstacles they face.

Theory-practice-gap. A spectrum of a separation of an individual's knowledge of concepts and the ability to apply knowledge to practice situations.

Chapter Summary

In chapter one the topic of reflection during orientation was introduced. A problem statement was stated in order to express the need to investigate the potential impact of reflection as an educational strategy to improve critical thinking development in new graduate nurse orientation. The background and need section provided a review of the historical development of reflection and the incorporation of reflection as an educational strategy to assist new graduate nurses in their transition to practice. A purpose statement and a research question were stated to serve as a guide to the evidence synthesis topic being explored. The significance to nursing education portion explained how reflection can be used as an educational intervention and methods to assist in the facilitation of reflection. Tools were introduced that can be used to measure and further research reflection and critical thinking skill development. Although it is impossible to control every factor a novice nurse experiences during their transition to practice, nurse educators could be using a potentially beneficial intervention to set the novice nurse up for success through the development of critical thinking skills.

CHAPTER II

METHODS

The onboarding process of a new graduate nurse is a challenge due to the complexity of the nurse role and at times new graduate nurses have trouble expressing their progress or needs. This evidence-based practice synthesis project explored the incorporation of reflection as an educational strategy during the transition of a new graduate nurse into practice and its impact on critical thinking skill development. The following chapter includes the methods used to search the literature in order to answer the following research question: In new graduate nurses does the use of reflection during the orientation process impact the development of critical thinking versus an orientation process without the use of reflection?

Data Collection Procedure

The databases used to search for literature related to the PICO question included CINAHL, PubMed, and Medline. The search terms used include reflection, employee orientation, new graduate nurses, novice nurses, professional development, critical thinking, nurse professional development, staff development, clinical competence, and self-efficacy. The time span for the search included 2006 to 2018. Each database was searched starting with a general search of reflection then a more narrowed search was performed using the search terms listed. Results of the narrowed searches were reviewed for relevance by reading the title and abstracts. The total number of pieces of evidence meeting the inclusion and exclusion criteria to be included in the literature review chapter was six. A step by step breakdown of the search performed is shown in (Figure 1).

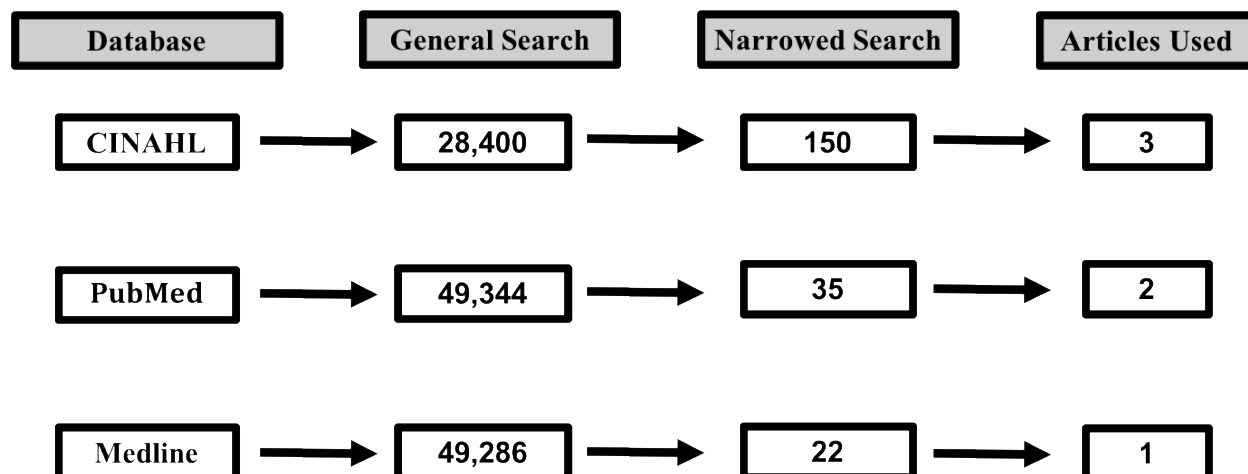


Figure 1. Data Collection Procedure

Inclusion criteria. While sorting through articles to include in the literature review the criteria for inclusion consisted of evidence related to reflection as an educational strategy used in the clinical practice setting of nursing. More specifically focused on the impact of reflection used during the orientation of new graduate nurses to the practice setting. Current evidence meeting the inclusion criteria was difficult to find due to the lack of research conducted related to reflection as an educational strategy used in the clinical practice setting. The evidence even more limited in the specific population of novice nurses. Other articles related to reflection and critical thinking were included for reference and background information.

Exclusion criteria. Although there is a vast amount of literature discussing the concept of reflection there is minimal evidence related to reflection and its impact to the novice nurse population specifically during the orientation process. The age of the articles needed to be expanded due to the lack of original research meeting the inclusion criteria within the last five years (2013-2018) on the topic. Therefore, articles were excluded if they were older than 2002. Another exclusion condition was any original studies that focused only on nursing students as the population of interest.

Data Analysis Procedure for Critical Appraisal of Evidence

After searching for relevant literature a critical appraisal was performed for the each piece of evidence that met the inclusion criteria. The pieces of evidence used were critiqued using the John's Hopkins Evidence Based Practice Model (JHEBP) (Dang & Dearholt, 2018). The critique is complete by evaluating and giving each piece of evidence a level and quality rating. The level is based on the type of evidence and is categorized as Level I through Level V. After categorizing the evidence into the appropriate level the quality is then evaluated according to the corresponding quality rating guide in the JHEBP appraisal tools (Dang & Dearholt, 2018). Qualities ratings consist of A, B, or C quality. A quality rating assignment of A is of high quality. A rating of B is Good quality and a C rating is of low quality.

The quality rating of a systematic review on the (JHEBP) tool was minimal leading to the use of an additional appraisal method for systematic reviews. The tool used to appraise the quality of systematic reviews was an adaption of the Joanna Briggs' guide for systematic review and appraisal developed by Holly, Salmond, and Saimbert, (2012) called: Critical Appraisal of a Systematic Review.

Chapter Summary

This chapter described the data collection procedure for the gathering of literature related to reflection and the onboarding of new nurse graduates. The inclusion and exclusion criteria were listed and the procedure for the critical appraisal of evidence was described.

CHAPTER III

LITERATURE REVIEW AND ANALYSIS

Fostering, tracking and assessing the progression and development of critical thinking skills in a new nurse graduate during orientation can be a challenge which is why the focus of the question is on the use of reflection during the onboarding of new graduate nurses and to explore the impact reflection has on the development of critical thinking skills. In this literature review and analysis chapter each piece of literature will be critically appraised and the relevance to the evidence practice question discussed. The following is the evidence-based practice question that will be explored in this chapter: In new graduate nurses does the use of reflection during the orientation process impact the development of critical thinking versus an orientation process without the use of reflection?

Systematic Reviews of Reflection as an Educational Intervention

Dube and Ducharme (2015) completed a systematic review on the concept of reflective practice (#2 in Table 1, located in the appendix). A literature search was conducted by Dube and Ducharme (2015) focused on articles addressing reflective practice in nursing, using CINAHL and MEDLINE. Criteria to include articles consisted of: topics related to reflective practice development, testing or evaluation; strategies for developing reflective practice; studies conducted with students in an academic environment and registered nurses in a clinical environment (Dube & Ducharme, 2015). Reflective practice studies focused on educators or researchers using reflection strategies for their own professional development were excluded (Dube & Ducharme, 2015). There were 37 studies that met the inclusion criteria therefore were included in the literature review and analyzed for common characteristics and structure (Dube & Ducharme, 2015).

Dube and Ducharme (2015) reviewed the literature and synthesized the results of each individual study into a well-organized table. Dube and Ducharme (2015) also provided a clearly written summary of the findings through discussion. Dube and Ducharme's (2015) first goal in their literature analysis was to define what reflective practice means but they found that there is no universal definition of reflection. Dube and Ducharme (2015) noted that most of the evidence they reviewed referred to Schon's theory of reflection. Schon's theory of reflection describes reflection during a clinical experience as "reflection-in-action" and reflection on a clinical experience after the fact as "reflection-on-action" (Schon, 1991). The overarching theme of the multiple definitions explored by Dube and Ducharme (2015) was that throughout the literature, reflection is recognized as a practice used for new learning.

Another aspect of reflection Dube and Ducharme (2015) investigated through the literature analysis was the approach in which reflective practice was used. Several strategies of reflective practice interventions were listed including verbal or group workshops, written or reflective journaling, or a mixture of strategies. According to Dube and Ducharme (2015) not enough evidence exists to determine if a certain approach of reflection generates greater results. The majority of the evidence related to the reflective practice approach were qualitative studies and there were minimal quantitative studies on the subject of interest (Dube & Ducharme, 2015). Another challenge in the implementation of reflective practice in nurse professional development is that there is no consensus on the definition of reflective practice making it difficult to share ideas and research (Dube & Ducharme, 2015).

Dube and Ducharme (2015) differentiated and separated the evidence pertaining to reflection in the academic environment vs. the clinical environment of practicing nurses. Most

of the studies were conducted in an academic environment and focused on bridging the theory practice gap (Dube & Ducharme, 2015).

In the academic environment some evidence indicated that written reflective strategies can help to identify areas that need improvement, identify negative attitudes, and to promote professional practice and patient centered care (Dube & Ducharme, 2015). Other benefits of reflective practice in the academic setting include an increase in self-confidence, increased use of critical thinking and the development of diverse reflective skills leading to self-awareness, a more open-minded view of others, and the ability to evaluate experienced emotions such as fear or anxiety (Dube & Ducharme, 2015). Some benefits specific to a group setting of verbal reflection identified were the promotion of emotional support, reassurance, feedback, encouragement and constructive criticism by peers (Dube & Ducharme, 2015).

There were not as many studies that focused on the clinical practice environment but there were still several potential benefits identified related to the use of reflection in the clinical practice setting (Dube & Ducharme, 2015). Dube and Ducharme (2015) found two qualitative research studies that showed improved critical thinking skills in nurses with the incorporation of reflective practice in their first 6 months of nursing practice. Overall impacts of reflection described by Dube and Ducharme (2015) included: Support from peers, development of self-awareness, awareness of others, and critical thinking skills thus leading to changes in practice.

The use of reflective practice strategies with a combination of verbal and written reflection intervention paired with coaching and feedback seemed to produce more positive outcomes and the development of reflective skills (Dube & Ducharme, 2015). Dube and Ducharme (2015) pointed out that there is a large amount of literature related to reflective practice as an educational tool, but the research remains limited, in the early stages and even

rarer when narrowing interests to the practice environment. Due to the minimal research on reflection in the practice setting reflection has little recognition in professional development as an educational intervention (Dube & Ducharme, 2015). Recommendations made by Dube and Ducharme (2015) for future research on reflection in the practice setting were particularly interested in the details of reflective practice interventions such as type of strategies implemented, duration and frequency of reflection, coaching qualifications, and reflection training complete prior to interventions.

Dube and Ducharme's (2015) systematic review was appraised to determine the level and quality of evidence. This piece of evidence met the criteria of a Level III systematic review on the (JHEBP) tool. The criteria were specifically met due to Dube and Ducharme's (2015) process of a critical appraisal in order to determine inclusion and exclusion of research evidence to be included in the review.

The Tool for Critical Appraisal of a Systematic Review developed by Holly et. al. (2012) was used to determine the quality of Dube and Ducharme's (2015) systematic review. The quality rating is considered A or high because of the ability to meet the criteria for a quality systematic review described by Holly et. al. (2012). Dube and Ducharme (2015) included a clearly stated research question, as well as a description of their search strategy, inclusion criteria and critical appraisal of evidence. Furthermore, Dube and Ducharme (2015) were able to present logical conclusions and their conclusions were based on their literature review.

Miraglia and Asselin (2015) also conducted a systematic review focused on reflection as an educational strategy in nursing professional development (Appendix A). The purpose of Miraglia and Asselin's (2015) review was to explore and analyze the literature specifically related to the outcomes in the post licensure nursing population using reflection as an educational

strategy. The literature reviewed seemed to include as much of the current literature that was available at the time. Miraglia and Asselin (2015) provided a detailed explanation on how they searched the literature as well as evaluated the literature using a quality appraisal tool. A meaningful analysis of conclusions was provided by Miraglia and Asselin (2015) and was further broken down into different themes. The two themes identified by Miraglia and Asselin (2015) were the use of reflective strategies to meet a clinical practice goal, and the enhancement of individual reflective practice through teaching nurses reflection strategies.

Through the synthesis of several articles Miraglia and Asselin (2015) suggested that reflection can build a strong knowledge base, enhance clinical skills, improve clinical judgment and critical thinking skills, promote communication and collaboration and transform practice with a result of patient care improvement.

Miraglia and Asselin (2015) discussed how reflection can be used as an educational strategy integrated into an orientation program. The ways in which reflection can be integrated in a program listed by Miraglia and Asselin (2015) include; embedding reflection into a multifaceted program, individual reflection, facilitated group reflection, and structured or unstructured reflection. The use of reflective strategies incorporated in a program can help to enhance learning (Miraglia & Asselin, 2015). Reflections can be structured with questions or ques or freestyle narratives (Miraglia & Asselin, 2015). The benefit of a structured reflection is that the structure can provide more guidance so that the individual can gain more insight from the activity (Miraglia & Asselin, 2015). Individual reflection can be used by an educator to assist an individual to expand their understanding of their own individual clinical experiences (Miraglia & Asselin, 2015). In addition, implications for professional development discussed by Miraglia and Asselin (2015) included the use of reflective practice to enhance professional

practice, promote evidence-based practice, and improve patient outcomes through enhancement of knowledge, clinical skills, clinical judgment, critical thinking skills, communication and collaboration, changed thoughts, feelings, beliefs and assumptions by the exploration of clinical experiences.

Reflection can also occur in a group setting lead by a facilitator offering guidance, direction and expansion of reflection to enhance the quality of the group discussion (Miraglia & Asselin, 2015). Miraglia and Asselin (2015) stated that group reflections enhance a culture of collaboration and the exploration of practice issues and concerns through the discussion of shared experiences and as a result empowered nurses to improve individual practice and drive practice change. When the reflection is implemented in a group setting with a supportive environment the results include the enhancement of teamwork, collaboration and communication (Miraglia & Asselin, 2015).

Miraglia and Asselin (2015) identified gaps in the literature related to reflection such as the difficulty to find research specific to reflection. Miraglia and Asselin (2015) noted that reflection is often used in conjunction with other educational strategies which makes it difficult to determine the effectiveness of reflection. Miraglia and Asselin (2015) also identified the need for a measurement tool to assess reflection in order to measure the impact of reflection as an educational tool. Miraglia and Asselin (2015) made multiple recommendations for future research mainly pertaining to studying reflection as a specific educational strategy to promote professional development in the clinical practice setting.

Miraglia and Asselin (2015) was evaluated for level of evidence using the (JHEBP) tool. The piece of evidence authored by Miraglia and Asselin (2015) met the criteria for Level III systematic review of research evidence. The purpose of the systematic review was clearly stated

as two questions. The questions explored by Miraglia and Asselin (2015) were the ways reflection is used in nursing professional development as an educational strategy and the outcomes of the reflection strategies.

The Tool for Critical Appraisal of a Systematic Review developed by Holly et. al. (2012) was used to determine the quality of evidence presented by Miraglia and Asselin's (2015). The following is a description of how Miraglia and Asselin (2015) met the A or High level quality indicators of a systematic review. Expertise in the field of nursing professional development and education were clearly evident in the introduction and background of information as well as the discussion of findings. Miraglia and Asselin (2015) included a clearly stated research question, a description of their search strategy and quality appraisal process used to rank each piece of evidence. A tool developed by Hawker, Payne, Kerr, Hardey, and Powell (2002) was used by Miraglia and Asselin (2015) to appraise the evidence and articles were sorted and classified as "high" or "low" quality. Miraglia and Asselin (2015) did provide a comprehensive table of the articles included in their review. In the table each article was listed with and the sample setting, reflective strategy, and outcome. Definitive conclusions were discussed based on the literature reviewed.

Reflection Intervention and Professional Development

Dube and Ducharme (2014) used an action research approach to conduct a single qualitative research study (Appendix A). This piece of evidence is considered a Level III on the JHEBP tool. The research conducted by Dube and Ducharme (2014) was completed using a reflective practice intervention consisting of eight themed workshops held every three weeks incorporating assigned readings and individual exercises. The workshops were designed to build on previous content and allow nurses to discuss clinical situations experienced (Dube &

Ducharme, 2014). The sample consisted of 22 experienced nurses working in a teaching hospital on three medical surgical care units in Province of Quebec, Canada.

The data were collected using focus reflection groups and written open-ended questions requiring short answers (Dube & Ducharme, 2014). The focused groups consisted of three or four nurses and were facilitated by an external nurse not involved in the project accompanied by an observer then were recorded and transcribed (Dube & Ducharme, 2014). All data were subject to thematic content analysis and coding through the input of data into word-processing software (Dube & Ducharme, 2014). Once the data were processed and coded, themes were interpreted by Dube and Ducharme (2014).

Dube and Ducharme (2014) concluded that the implementation of a reflective practice intervention assists nurses in the development of several reflective skills such as introspection, open-mindedness, communication and critical analysis (Dube & Ducharme, 2014). As a result of improved reflective skills the participants were able to develop additional knowledge and improve their professional practice. Dube and Ducharme (2014) recommended that nurse educators assist nurses to be successful in their nursing career by incorporating a reflective educational intervention to enhance the development of reflective skills and higher levels of critical thinking abilities.

Dube and Ducharme's (2014) presentation of their research meet the criteria for a A/B High/Good quality piece of evidence on the JHEBP tool. Efforts were enhanced by Dube and Ducharme (2014) by ensuring the collection of quality data by using coding software and outside sources to analyze the data. The use of multiple researchers, outside focus group facilitators, and an outside source to confirm the coding of data enhanced credibility of the data and self-reflection and self-scrutiny of the researchers (Dube & Ducharme, 2014). In order to achieve

transparency Dube and Ducharme (2014) incorporated and clearly described the technique of the action research approach used for data collection. Dependability was ensured by using co-investigators and an inter-rater agreement was completed to ensure accuracy of the code summary table (Dube & Ducharme, 2014). Data were collected and coded using a methodologic approach and multiple sources were used to corroborate the evidence ensuring verification and diligence (Dube & Ducharme, 2014). Audibility was achieved by Dube and Ducharme's (2014) clear explanation and description of data collection methods in a way that would allow another researcher to duplicate the process. The composition of journals were participant driven by allowing the participants the autonomy to evaluate, interpret and reflect on experiences in their own words (Dube & Ducharme, 2014). Trustworthiness and Fittingness were exemplified by providing examples of themes via excerpts from the participant journal transcripts (Dube & Ducharme, 2014). An insightful interpretation of findings were presented by including description of the reflective practice intervention and a frame of reference by linking the results (Dube & Ducharme, 2014)

Reflection and the New Graduate Nurse

Kim et al. (2018) completed a quantitative randomized controlled trial and this type of evidence is considered a Level I on the JHEBP tool, meaning the highest level of evidence (Appendix A). Kim et al.'s (2018) study consisted of development of the critical reflection program, training of the reflection facilitators, and quantitative analysis of the implementation of a critical reflection training program for novice nurses. The program was implemented in order to evaluate its effectiveness on novice nurses critical thinking skills (Kim et al., 2018).

The experimental group of participants completed a critical reflection program over six months (Kim et al., 2018). The program consisted of reflection training and writing activity of reflection journals based on case studies and their experiences (Kim et al., 2018).

The sample of participants consisted of forty four novice nurses in an advanced general hospital in South City Korea (Kim et al., 2018). The novice nurses were recruited after the completion of orientation (Kim et al., 2018). Kim et al. (2018) completed a sample power analysis with a power of 0.9 which meets the minimum required for adequate power of 80 (Polit & Beck, 2014), resulting in the avoidance of a type II error. The participants were randomly assigned to a control group or an experimental group who then participated in the critical reflection program (Kim et al., 2018).

The data were collected using a questionnaire related to critical thinking development called the Clinical Critical Thinking Skill test (CCTS) (Kim et al., 2018). The reliability of the instrument was measured using the Cronbach's alpha reliability index. The Chronbach's alpha of the CCTS was 0.69 at pre-testing and 0.56 at post testing (Kim et al., 2018). In the Chronbach's alpha test, the higher the coefficient the more accurate and internally consistent rating (Polit & Beck, 2014). Unfortunately the Chronbach's alpha of the CCTS did not meet the standard of > 0.70 (Polit & Beck, 2014). The data were analyzed for statistical significance. In order for a P-value to be statistically significant the level would need to be < 0.05 (Kim et al., 2018). The value of ($P = 0.003$) showed statistically significant results that critical-thinking skills were improved in the experimental group participants (Kim et al., 2018). The null-hypotheses test was rejected using the Chi-square test.

Conclusions related to the topic of the development of critical thinking skills were presented by Kim et al. (2018). Due to the positive effect of the critical reflection program on

critical-thinking ability, Kim et al. (2018) suggested that a critical reflection program should be implemented as a tool improve critical thinking in novice nurses. Kim et al. (2018) also noted that novice nurses in the experimental group had improved communication abilities and were able to adapt to the working environment more easily.

A limitation acknowledged by Kim et al. (2018) includes the limited generalizability of the results. The limited generalizability is a threat to external validity due to the fact that the study took place in a single hospital in south Korea. A suggestion for future research to be conducted using larger and more diverse sample sizes using critical reflection program was made by Kim et al. (2018). A study of the same design and intervention would need to be replicated in the population of novice nurses in multiple cultures, settings and hospital sites, in order to generalize the results. It is the only current quantitative study specific to novice nurses which lays the ground work for additional research to be complete in a similar fashion.

There were no threats to internal validity noted. Internal validity was strengthened by the biases of the researchers being addressed by using an outside expert to code themes. Randomization of control group also helped to decrease bias and rule out maturation. Therefore, the quality rating of Kim et al. (2018) based on the JHEBP tool is a B Good quality due to the threat to external validity and the low reliability of the instrument used to measure critical thinking.

Kuiper (2002) conducted a single qualitative research study using a comparative descriptive design (Appendix A). This piece of evidence is considered a Level III on the JHEBP tool. The intention of Kuiper's (2002) research study was to investigate the effect of self-regulated learning strategies on metacognitive critical thinking abilities. Kuiper (2004) provided a detailed explanation of self-regulated learning in a literature review. Kuiper (2004) described

self-regulated learning as a way to guide reflection using prompts specifically aimed to develop metacognitive insights to connect contextual learning with critical thinking abilities (Kuiper, 2004). The idea of self-regulated learning as an educational strategy is to develop the individuals reflection habits in order to promote higher levels of metacognition and critical thinking (Kuiper, 2004).

Kuiper (2002) implemented a self-regulated learning strategy by having new graduate nurses participate in reflective journaling with prompts aimed at stimulating the participant to reflect on experiences. The participants consisted of 32 new graduate nurses on clinical units over 5 area acute care institutions in the southeastern region of the USA. The new graduate nurses were a mix of 18 baccalaureate-degree (BSN) and 14 associate-degree (ADN) prepared nurses (Kuiper, 2002).

The data were collected from the reflective journals written by the participants over a time period of 8 weeks (Kuiper, 2002). The journal entries were transcribed word for word then read for general meaning and processed using a verbal protocol analysis then coded into categories (Kuiper, 2002). The data were processed to identify themes and confirm findings through 4 phases of script analysis (Kuiper, 2002). The self-regulated learning prompts used to guide the reflective journaling were developed and validated by experts in nursing education and educational psychology (Kuiper, 2002). The interrater reliability was within the range of 0.7 to 0.9 (Kuiper, 2002). The procedure for the calculation of interrater reliability was not explained, but Kuiper (2002) noted it was within an acceptable range.

Kuiper (2002) found that critical thinking skills are interconnected within the process of self-regulation, thus reflecting using self-regulation strategies promotes cognitive skill development and higher levels of thinking. The evidence presented by Kuiper (2002) suggest

that the incorporation of self-regulated learning in the form of reflective journaling promotes critical thinking skill development. Kuiper (2002) also noted that early entries of negative self-reflection evolved into more positive self-reactions as well as an increased perception of social support from preceptors and staff. Nurse educators should consider the incorporation of a self-regulated learning intervention to help new graduate nurses develop health reflective habits too lay the ground work for reflection strategies to help then transition to practice and continue on the path to developing into an expert (Kuiper, 2002).

Kuiper (2002) met the criteria for an A/B High/Good quality piece of evidence on the JHEBP tool. Efforts were made by Kuiper (2002) to ensure enhance quality of data by consulting an outside expert to code the narratives. A thorough description of the data collection, coding and development of themes were evident. Transparency and dependability were enhanced by the use of an outside expert as a second encoder(Kuiper, 2002). The intercoder reliability of the narrative coding was 80% between the research and the outside expert (Kuiper, 2002). Kuiper (2002) exhibited diligence, credibility and auditability by conducting multiple phases of analysis and clearly describing their process of data collection, coding and theme development which leaves an audit trail that can be followed for researchers to replicate the process. Verification was evident in the multiple phases of analysis were performed showing the process of checking confirming and ensuring methodologic coherence. Self-reflection and self-scrutiny was shown by Kuiper (2002) by ensuring objectivity by validating their encoding with another encoder as well as acknowledging potential limitation of their research. Kuiper (2002) made efforts to ensure that data were participant driven by instructing the participants to write freely while reflecting and responding to prompts. The participants were also informed that their entries would not affect their success in their employment (Kuiper,

2002). Fittingness and trustworthiness were displayed by the inclusion of excerpts of the data in the form of quotes were included as an example for common themes that emerged (Kuiper, 2002). An insightful interpretation of the data was presented by Kuiper (2002) through the explanation of the self-regulation learning model and its impact on critical thinking with a linked to a the conceptual framework of the constructivist paradigm.

A qualitative instrumental case study was carried out by Forneris and Peden-McAlpine (2007) exploring the improvement of critical thinking in practice by implementing a contextual learning intervention based upon reflection. The concept of a contextual learning intervention (CLI) was described in detail in another publication by Forneris and Peden-McAlpine (2006). The CLI consists of four reflection interventions: narrative reflective journaling, individual interviews, preceptor coaching, an leader facilitated discussion groups (Forneris & Peden-McAlpine, 2007). Each reflective component is designed to incorporate real life experiences to help the novice nurse practice and develop critical thinking skills with a context to reflect on and organize their thinking (Forneris & Peden-McAlpine, 2007). The focus of Forners and Peden-McAlpine's (2007) case study was to evaluate the implementation of the CLI during the orientation of new graduate nurses, with an intended outcome of the improvement of critical thinking. The study sample of participants consisted of six pairs of preceptors and baccalaureate-prepared new graduate nurse orientees. Sources used by Forneris and Peden-McAlpine (2007) recommended the sample size in a small narrative text analysis case study to be between six and ten. The data were collected via reflective journal entries written by the orientees and transcribed tape recordings of leader-facilitated discussion groups, and individual interviews (Forneris & Peden-McAlpine, 2007). After collection the data were analyzed using

Stake's phases of data analysis which is further described by Forneris and Peden-McAlpine (2007).

Forneris and Peden-McAlpine (2007) found that reflection interventions implemented on orientees in the context of practice resulted in visible changes in critical thinking development over time. Reflection specifically on practice experiences gave the orientees the platform to engage in critical questioning in order to explore their own thoughts and perspectives of others (Forneris & Peden-McAlpine, 2007). Typically a novice nurse may become competent in critical thinking within 2-3 years of practice (Brenner 1984). Forneris and Peden-McAlpine (2007) suggested that the process of going from novice to competent in critical thinking abilities could be expediated by facilitating the participation in reflective narratives and interventions. Similarly, the CLI concept of reflecting on lived experiences may assist in narrowing the theory-practice gap by assisting to link theoretical and experiential knowledge (Forneris & Peden-McAlpine, 2007). The main conclusion formed by Forneris and Peden-McAlpine (2007) was that the incorporation of the CLI into a orientation program lead to the expediated development of critical thinking in novice nurses.

This study was rated a Level III piece of evidence using the JHEBP appraisal tool for qualitative studies. The quality rating given to Forneris & Peden-McAlpine's (2007) study was: A/B High/Good quality. The High quality rating was given because each criterion of a qualitative study was met. A clear effort was made to ensure quality collection and interpretation of the data. The data were closely evaluated for repeating patterns, relationships and relevant meanings which were then coded and further analyzed (Forneris & Peden-McAlpine, 2007). The quality of the data collection was enhanced by tape recording and transcribing all conversations in order to input the data to be word analyzed (Forneris & Peden-McAlpine, 2007).

Transparency was evident due to the clear description of how the data were collected and analyzed by multiple researchers and an outside case study method expert to confirm themes and patterns. Once patterns were identified they were coded and further analyzed as the study progressed and more data were collected. Themes identified were further explained with the use of quotes from the participants. Since transparency was well documented by Forners and Peden-McAlpine (2007) it provided evidence of trustworthiness, credibility, dependability and confirmability.

Diligence was shown by using an outside consultant to assure that interpretations were congruent with themes and patterns allowing for good credibility. Verification and auditability was achieved by leaving an auditable trail of data collection consisting of a clear explanation of the research process, data collection and interpretation resulting in easily repeatable method for other researchers. Verification was also evident through the re-checking of data interpretation and theme development by multiple researchers and an outside method expert.

Self-reflection and self-scrutiny was shown by Forners and Peden-McAlpine's (2007) use of an outside expert to decrease bias in data interpretation. Forners and Peden-McAlpine's (2007) also included a discussion of limitations such as the low generalizability of their conclusions due to study taking place at a single location. Additional research would need to be conducted to increase the generalizability of the use of a contextual learning intervention to improve critical thinking skills. Forners and Peden-McAlpine's (2007) ensured that questions were participant driven and fittingness was evident by the inclusion of excerpts of data used to verify identified themes. An insightful interpretation of the data was presented by linking the conclusions of the evidence to references from relevant literature related to reflection and novice nurse development.

Chapter Summary

This chapter consisted of a literature review and critique of the evidence related to the use of reflection as an educational intervention to assist novice nurses in the development of critical thinking abilities. The review and critique of the evidence was organized with three different themes. The first theme was systematic reviews of reflection as an educational intervention. The second theme was reflection intervention and professional development. This theme discusses the evidence related to reflection used in nursing professional development as a way to further develop critical thinking in nurses. Finally, the last theme was reflection and the new graduate nurse. This theme focused on the novice nurse population and studies related to interventions that incorporated reflection during the onboarding process of a novice nurse. Refer to Appendix A for a summary of the data.

CHAPTER IV

RESULTS AND SYNTHESIS

Nurse educators in the professional practice setting are challenged with the task of coordinating the new graduate nurses' orientation to practice. Orientation schedules are planned so the novice nurse can gain as much clinical skill practice as possible. The problem with the focus of orientation being on skill development is that there is minimal facilitation of cognitive development. As a response to the need to incorporate more educational interventions the purpose to conducting a review of the literature with critique was to evaluate reflection as a strategy to facilitate the critical thinking skills of novice nurses. The following evidence-based practice question guided the projects direction: **In new graduate nurses does the use of reflection during the orientation process impact the development of critical thinking versus an orientation process without the use of reflection?**

Finding current literature on reflection posed a challenge due to the limited amount of empirical literature specific to the reflection as an educational strategy in the field of nursing professional development. The majority of the evidence that met inclusion criteria to answer the evidence based practice question was at a Level III on the JHEBP tool. A total of 5 out of 6 of the pieces of evidence were Level III piece of evidence with two of the five being systematic reviews and the remaining three were qualitative research. The overall quality of the Level III evidence ranged from A High to A/B good quality.

The systematic reviews found that reflection contributes to the enhancement development of critical thinking skills, and impact practice change and patient outcomes (Dube & Ducharme, 2015; Miraglia & Asselin (2015). The advantage of the two systematic reviews and their contributions to the investigation was that they were both recently completed and of high quality.

The qualitative studies each approached the incorporation of reflection as an educational strategy in the clinical practice setting in varying ways. Kuiper (2002) used a reflection strategy of prompted journaling in the population of new graduate nurses over the course of an 8 week orientation program. Forneris and Peden-McAlpine (2007) also incorporated reflection during the orientation of novice nurses. Instead of a single reflection strategy Forneris and Peden-McAlpine (2007) implemented a multifactorial reflective strategy called contextual learning. Both studies came to the conclusion that the incorporation of reflection educational interventions lead to the expediated development of critical thinking abilities in novice nurses (Forneris & Peden-McAlpine, 2007; Kuiper, 2002). Dube and Ducharme (2014) held reflection development workshops for experienced nurses in the clinical practice environment. Although the research conducted by Dube and Ducharme (2014) was not specifically geared towards novice nurses, it was one of the few recent studies completed related to reflection in the clinical practice setting. Dube and Ducharme (2014) also found that reflection assists in the development of critical thinking.

Only one piece of evidence was found that was a Level I quantitative randomized control trial. Clearly there has not been many quantitative research studies conducted that specifically pertained to the research question. The quality of the only Level I piece of evidence was rated at a B for good quality. The outcome of the study conducted by Kim, et. al. (2018) was that the incorporation of a critical reflection program lead to enhanced critical thinking abilities in the experimental group with statistically significant results. Although the results were significant the study was conducted after the process of orientation was completed by the participants. This study provided valuable data related to reflection and the development of critical thinking in

novice nurses. Research of similar fashion would be preferable focused specifically on the incorporation of reflection during the orientation period of a novice nurses' transition to practice.

Chapter Summary

This chapter synthesized the evidence according to the Level and quality of evidence. Although some of the Some of the evidence is out dated and not specific to the novice nurse in practice, the overall consensus of the evidence points to the conclusion that the use of a reflection educational intervention assists in the enhancement of critical thinking skills in novice nurses. A data synthesis table is listed in Appendix B.

CHAPTER V

DISCUSSION AND CONCLUSION

Many nursing programs in the academic setting include reflection in the curriculum such as clinical experiences, simulation or even the classroom setting. Nurse educators should consider continuing to incorporate reflection as an educational strategy in the clinical practice setting. This evidence synthesis project explored the incorporation of reflection in the orientation of new graduate nurses to the practice setting as a way to foster the development of critical thinking abilities. The evidence was evaluated by critical appraisal and synthesized for conclusions. The evidence-based practice question that drove the evidence synthesis is as follows: In new graduate nurses does the use of reflection during the orientation process impact the development of critical thinking versus an orientation process without the use of reflection?

Several implications of findings showed implications in answering the evidence based practice question. Reflection may help to close the theory practice gap through contextual learning critical thinking skill development. It is evident throughout the literature that reflection can have a positive impact on the development of critical thinking as well as a multitude of anecdotal benefits.

A limitation in the investigation of the evidence-based practice question was that there was very limited original research specific to the use of reflection as an educational intervention in the orientation time period of a novice nurse. Some literature was found regarding the incorporation of reflection during a nurse residency and with more experienced nurses. A question for consideration is why allow there to be a gap between reflecting during nursing school and reflecting in nursing practice. Orientation is a crucial time where a novice nurse is

bombarded with information and new experiences. It seems it should be the optimal time to be reflection on experiences and developing insights and knowledge from them.

Reflection is an intervention that nurse educators in the clinical practice setting should consider incorporating into the orientation process of novice nurses as a way ensure the continuum of the development of reflective practice as a student transitions from the learner to the novice practitioner. In some ways, reflection is a stepping stone in the process of critical thinking. In order to critically think learners need to reflect on their experiences and knowledge. If educators facilitate the development of reflection then learners can use the reflective skills to synthesize their knowledge into critical thinking leading to solid clinical decisions. Developing reflective strategies and improving critical thinking could help the novice nurse put the pieces together sooner and close the theory-practice-gap. Ultimately retention of nurses is the goal of any nurse educator. If improving one factor in the orientation process could lead to and improved transition to practice and improved retention rates than the education intervention would be worth a try.

Recommendations for Further Research

There is a compelling case that reflection has a multitude of benefits including the assistance in the development of critical thinking skills. Unfortunately, the evidence is limited on reflection in the clinical practice setting and even more limited in the novice nurse population within the orientation time period. Although reflection has a potential to develop critical thinking skills, more rigorous research is needed to explore the design, type of reflection in the context of nursing professional development and its impact on critical thinking (Miraglia & Asselin, 2015). Several suggestions related to reflection need further investigation. Research needed includes exploring reflection in practice, exploring the impact of reflection on individual

practice, ways to enhance reflective practice, and organization and patient outcomes affected using reflection (Asselin & Fain, 2016). Additional original research is needed on specific tools to assess reflection so that quantitative research can be conducted (Asselin & Fain, 2016; Miragliana & Asselin, 2015). Additional studies should be performed specifically including new graduate nurses that assess the CRI assessment tool developed and studied by Asselin and Fain (2016). The focus of future research related to NPD should focus on developing rigorous studies related to reflection and the development of a novice nurse (Miragliana & Asselin, 2015). It is clear in the literature that reflection is a valuable tool in the development of novice nurses, but more original research is needed to develop reflection tools and evaluate strategies to incorporate reflection in the early orientation process of new graduate nurses.

Chapter Summary

In this chapter the implications of the evidence synthesis findings related to the posed evidence based practice question were discussed. The primary limitation of the project revealed to be the lack of research related to reflection in the population and setting of interest. However, based on the level and quality of the reviewed evidence, a practice change recommendation was made to encourage nurse educators in charge of nurse professional development to incorporate reflective interventions as an educational strategy to enhance the development of critical thinking skills in novice nurses.

Summary of Project

This evidence synthesis project consisted of the introduction to the need to investigate the impact of reflection and the development of critical thinking in novice nurses. The evidence-based practice question was explored by conducting a literature review with analysis and synthesis of findings.

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Appendix A

Table 1

Data Summary Table

#	Author & date	Evidence Type	Sample, Sample Size & Setting	Study Findings That Help Answer the Research Question	Limitations	Evidence	
						Level	Quality
1	Dube & Ducharme, (2014)	Single qualitative research study	22 experienced nursing working in a teaching hospital	Reflection development workshops lead to the development of self-awareness, critical analysis.	Limited transferability due to small sample size and specific context of the intervention. Not specific to novice nurses.	III	A/B
2	Dube & Ducharme (2015)	Systematic review	Reviewed 37 articles on the concept of reflective practice	Reflection contributes to the development of critical thinking leading to changes in practice.	Limited evidence: there is not enough existing evidence to determine if a certain approach of reflection generates greater results. The majority of the evidence related to a reflective practice approach were qualitative studies.	III	A
3	Fornieris & Peden-McAlpine, (2007)	Single qualitative case study	6 orientee/preceptor pairs in an acute care facility in a major metropolitan area in the north-western USA. Completed during orientation of novice nurses.	The implementation of a contextual learning intervention (a multifactorial reflective strategy) lead to the expediated development of critical thinking in novice nurses.	Limited generalizability. Case study was done in only one facility on a very specific population of novice nurses. Not recent research.	III	A/B

#	Author & date	Evidence Type	Sample, Sample Size & Setting	Study Findings That Help Answer the Research Question	Limitations	Evidence	
						Level	Quality
4	Kim, Kim, & Shin, S. (2018)	Quasi experimental quantitative research study	44 novice nurses who have completed orientation in advanced general hospital in South city Korea. 24 experimental participants and 20 control participants.	The critical reflection program had a positive effect on critical thinking ability development. The value of ($P = 0.003$) showed statistically significant results that critical-thinking skills were improved in the experimental group participants	Limited generalizability due to study setting. Inability to fully control and monitor the fidelity of the reflective practice facilitators despite training.	I	B
5	Kuiper (2002)	Single qualitative research study	32 new graduate nurses reflected during an 8-week program. 5 area acute care institutions in the southeastern region of the USA	New graduate nurses participated in guided reflective journaling responding to self-regulated learning prompts. Critical thinking skills are interconnected within the process of self-regulation, thus reflecting using self-regulation strategies promotes critical thinking.	Not recent research.	III	A/B
6	Miraglia & Asselin (2015)	Systematic review	Reviewed 25 articles on the concept of reflective practice	Reflection can build a strong knowledge base, enhance clinical skills, improve clinical judgment and critical thinking skills, promote communication and collaboration and transform practice with a result of patient care improvement.	Gaps in the literature related to reflection: Difficulty to find research specific to reflection. Reflection is often used in conjunction with other educational strategies which makes it difficult to determine the effectiveness of reflection.	III	A

Appendix B

Table 2

Data Synthesis Table

Levels	Number of pieces of evidence	Quality
Level I	1	B
Level II	0	
Level III	5	A and A/B
Level IV	0	
Level V	0	