

International Journal of Nursing Education Scholarship

Volume 3, Issue 1

2006

Article 17

Contextual Learning: A Reflective Learning Intervention for Nursing Education

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Abstract

Nursing educators need to continue to explore ways that new pedagogies such as narrative pedagogy and reflective practice inform and extend students' thinking in classroom and clinical situations. The goal of instruction becomes creating an opportunity for learning that integrates content knowledge with knowledge of the context. Educational methodologies that incorporate the use of context in a reflective, dialogical approach over time hold much promise in developing a dynamic process of thinking in practice. Contextual learning is a reflective learning intervention that offers new possibilities for nurse educators to prepare nurses to think critically in practice. In this expository paper the design and instructional methodology of contextual learning is discussed, beginning with a brief overview of the nature of critical thinking and the use of narrative as major underpinnings in the development of this intervention. Examples of how the intervention was implemented with novice nurses in practice is provided. Finally, reflections on how the intervention could be refined for nursing students is offered.

KEYWORDS: critical thinking, reflective practice, educational interventions, nursing education, narrative

*The authors thank with sincere gratitude the support of Dr. Joanne Disch, Dr. Melissa Avery, and Dr. Robert Tennyson in the design and implementation of this educational intervention.

Many of the teaching and learning processes in nursing education, while seemingly effective at enhancing students' critical thinking abilities in structured learning situations, do not prepare them to manage the uncertainties that actually exist in practice. Schon (1983, 1987) contends that "thinking in practice provides a unique complexity as the problems of real-world practice do not present themselves to practitioners as well-formed structures" (p.4). The challenge for nurse educators is to continue to study and implement teaching methodologies that prepare novice nurses to think in practice. Educational methodologies that incorporate the use of context in a reflective, dialogical approach over time hold much promise in developing a dynamic process of thinking in practice.

The nursing education literature contains many studies that discuss the nature of reflective pedagogy (Andrews et al., 2001; Aranda & Street, 2001; Baker, 1996; Baker & Diekelmann, 1994; Bowles, 1995; Cameron & Mitchell, 1993; Diekelmann, Ironside, & Harlow, 2003; Heinrich, 1992; Ironside, 2003; Johns, 1994; Liimatainen, Poskiparta, Karhila, & Sjogren, 2001; Oermann, 1997; Paterson, 1995; Sandelowski, 1991, 1994; Tomlinson, Thomlinson, Peden-McAlpine, & Kirschbaum, 2002). However, there is a paucity of studies in the nursing literature using reflective pedagogy as an educational intervention to actually enhance thinking in nursing practice. Schon (1983, 1987) advocates the use of reflective practicums as a way to operationalize this process of thinking. Contextual learning is an educational intervention designed as a reflective practicum such as Schon describes.

In this expository paper, contextual learning is explored as an educational reflective learning intervention. A detailed description of the intervention, components, examples of how the components were used and application to nursing education are provided. The groundwork for understanding the nature of critical thinking and the use of narrative as major underpinnings in the development of contextual learning is presented first, followed by a discussion of the instructional methodology (e.g., specific components of contextual learning). How contextual learning was implemented as a reflective practicum to operationalize critical thinking in nursing practice is exemplified. Reflections on the development of contextual learning are discussed in light of revisions for curriculum in nursing education.

BACKGROUND: THE ATTRIBUTES OF CRITICAL THINKING

Contextual learning is derived from the philosophical and theoretical work of educational theorists Paulo Freire, Donald Schon, Chris Argyris, Jack Mezirow, Stephen Brookfield, and Robert Tennyson. These theorists all share

similar perspectives on thinking in practice. Their perspectives were analyzed and reviewed in a previous publication (Forneris, 2004). These theorists advocate developing learners' ability to discern what is relevant and meaningful given the context of the situation, therefore moving beyond the simple application of facts and rules to achieve situational understanding (Argyris, 1992; Argyris & Schon, 1974; Brookfield, 1986, 1995, 2000; Freire, 1970; Mezirow, 1978, 1990, 2000; Schon, 1983, 1987; Tennyson, 1990, 1992; Tennyson & Breuer, 1997; Tennyson & Rasch, 1988).

Following analysis of the work of these theorists, common themes were generated demonstrating four core attributes of critical thinking in practice (Forneris, 2004). Evident in the work of each theorist, reflection, context, dialogue and time, are key attributes to a framework that operationalizes a critical thinking process in practice (see Figure 1).

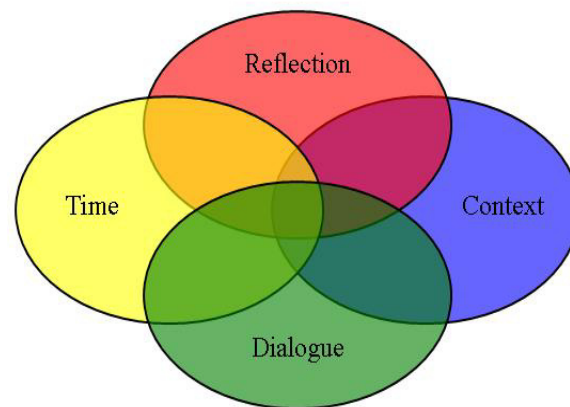


Figure 1. Critical Thinking in Practice

As illustrated in Figure 1, critical thinking in practice is a dynamic process that incorporates each attribute. *Context* is the foundation upon which knowledge is built. Context is defined as the nature of the world in a given moment and includes culture, knowledge, underlying assumptions, facts, rules and principles shaping how knowledge is constructed. Making relevant connections to meaning within the context of a situation requires reflection. *Reflection*, as a key mechanism in the process of being critical, illuminates the why and reason for what is done and how to critically discriminate what is relevant. Through reflection, what is sought within context is not only necessary facts, but also underlying assumptions. Reflection requires dialogue, a reflective interactive

conversation that is never an end in, and of itself. Rather, it is an interactive process of evaluating perspectives and assumptions within context, in order to achieve situational understanding. Through *dialogue* the context of the situation is shaped. Through dialogue and reflection, *time* is also revealed, a temporal process of coming to know and understand one's past, present and future. Operationalizing time as part of a critical thinking process involves recalling prior learning experiences and how these may affect our interpretation and understanding of the context of the present situation, which will impact future action. These attributes provide the foundation for the contextual learning intervention model whereby reflection, context, dialogue and time are used in real life practice situations to operationalize this dynamic nature of critical thinking in practice.

CONTEXTUAL LEARNING METHODOLOGY: THE USE OF NARRATIVE

Contextual Learning encompasses four interrelated components: narrative reflective journaling; individual interviews; preceptor coaching; and leader-facilitated discussion groups. The components incorporate the attributes of critical thinking in the context of real life practice through the use of stories (see Figure 2). Contextual learning shifts learning from a sequential means-end approach in structured learning situations, to a dynamic context-based process of critical thinking in practice. This educational shift requires coaching the learner to construct knowledge through reflection on context (stories), in order to create new knowledge and new action.

The contextual learning methodology is derived from the philosophical and theoretical notions of narrative or story. In a paper on narrative, Eberhart and Pieper (1994) discussed the use of narrative as an interpretive research strategy. Multiple research studies have adapted the use of narrative over the last decade as a mechanism to illuminate meaning. These authors relay Ricoeur's (1991a, 1991b) philosophical stance on narrative as a type of human reasoning that integrates actions and events into a plot or theme of a story. Narrative captures the experience by organizing human actions and events within a composite or real-life experience. Better understanding of these experiences and actions occurs through the active process of reading narrative. Through reflection on the context of these stories the implicit meanings can be understood. Narrative creates understanding by illuminating causal thinking, that is, temporal aspects of the human experience as it changes over time. Temporal understanding of an event cannot be explained unless one reflects on justification for action. Therefore, narrative understanding is the form through which life experiences are organized

and meaning can be interpreted. Stories as narrative provide the mechanism for understanding as they can be reflected on, reanalyzed and understood.

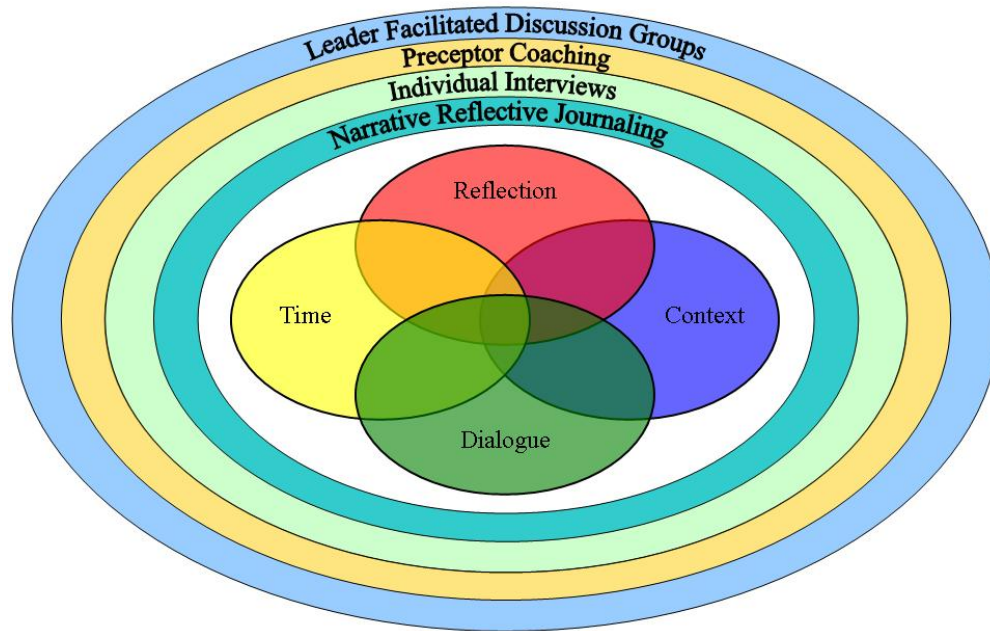


Figure 2. Contextual Learning Intervention

Instructional theorist Roger Shank uses stories in his instructional methodology of case-based teaching (Riesbeck & Schank, 1989; Schank, Berman, & Macperson, 1999). Stories (narratives) are easily remembered because they are stored in memory via the sights, sounds and smells of one's experiences and are then retrieved by the cues in the environment. Therefore, learning that occurs within the context of a story will be important to the learner and has a greater chance of being recalled and transferred to other learning situations (Schank et al., 1999). Teaching through stories emphasizes the 'how to' of learning as opposed to the 'know that', as learning is focused on a 'process of thinking' as opposed to learning factual knowledge; emphasizes achieving goals that are relevant and important to the learner given the context of an experience; and emphasizes teaching within context, providing the experience to avoid learning in a decontextualized setting.

The use of narratives or stories combined with dialogue (e.g., narrative pedagogy) has recently been addressed in the nursing education literature (Andrews, et al. 2001; Diekelmann, 2001; Ironside, 2003). Narrative pedagogy involves dialogue through the sharing and interpretation of narratives. These studies focus on conversations between students and teachers, sharing and discussing their reflections on their practice experiences in the context of nursing education. Narrative pedagogy facilitates a critical dialogue (i.e., encouraging students to challenge perceptions, asking questions beyond expository or declarative knowledge) and makes visible the nature of thinking to broaden perspectives and reframe thoughts and insights.

Similarly, in contextual learning, narratives provide the context. Each of the four components (i.e., narrative reflective journaling, individual interviews, leader facilitated discussion groups, and preceptor coaching) uses a form of story. By using real life nursing stories, learners are coached through a critically reflective thinking process to incorporate all of the attributes (i.e., dialogue, reflection, context and time) into their thinking, to connect past experiences to their current practice situations. As a reflective pedagogy, contextual learning is a process of critical reflection whereby the contextual realities of real-life situations are unveiled through reflection on narrative. Through reflection on the stories within the context of real-life practice situations, learners have a better chance of being able to recall what was learned and transfer this learning to new patient care situations, enhancing their critical thinking in practice (Schank et al., 1999). Understanding past experiences as stories helps learners to problem solve. In the discipline of nursing, as experts encounter problems in practice, they compare the current problem to past practice experiences. Experts in practice transfer past experiences or stories from memory to inform new situations (Peden-McAlpine, 2000).

CONTEXTUAL LEARNING COMPONENTS

Overview

Contextual learning was implemented over the course of a 6-month period as part of a new nursing graduate orientation program to operationalize critical thinking in practice. During the course of the intervention, novice nurses underwent three individual interviews, 11 leader-facilitated discussion group sessions, ongoing narrative reflective journaling and preceptor coaching. Contextual learning focused on improving the novice nurses' critical thinking in practice (e.g., use of the attributes of reflection, context, dialogue and time). An

overview of how contextual learning was incorporated into a novice nursing orientation program is presented in Table 1.

Table 1
Contextual Learning Intervention Overview

Description: Contextual learning was incorporated into a 6-month standard nursing orientation program. Through the dynamic interaction of four educational components, novice nurses engaged in contextual learning to understand and develop critical thinking in practice.		
Educational Components	Time Frame	Description
Narrative Reflective Journaling	Ongoing 6 months	Mechanism to engage the novice nurse in a reflective thinking process as s/he recall and document own narrative stories.
Individual Interviews	Prior to intervention, at 3 months and again at 6 months	Mechanism to individually coach the novice nurse supporting critical thinking process.
Preceptor Coaching	Ongoing for first 3 months	Use of preceptors to engage the novice nurse in contextual learning on a daily basis to help the novice nurse incorporate critical thinking into daily practice experiences.
Leader Facilitated Discussion Groups	Biweekly X 3 months; monthly X 3 months	Use of stories as narrative in small groups to coach the novice nurse to understand what is encompassed in critical thinking in practice and understand how it is incorporated into practice.

DESCRIPTION AND PRACTICAL APPLICATION OF CONTEXTUAL LEARNING COMPONENTS

Narrative Reflective Journaling

The overall objective of narrative reflective journaling is to provide a mechanism to engage in a reflective thinking process as learners recall and document narratives from practice. Narrative reflective journaling is guided by specific instructions (see Table 2), adapted from Brookfield's (1990) critical incident technique, and reflective pedagogies discussed in recent nursing education literature whereby learners reflect on an experience and answer questions about the event (Andrews et al., 2001; Aranda & Street, 2001; Baker, 1996; Baker & Diekelmann, 1994; Bowles, 1995; Cameron & Mitchell, 1993; Diekelmann et al., 2003; Heinrich, 1992; Ironside, 2003; Johns, 1994; Liimatainen et al., 2001; Oermann, 1997; Paterson, 1995; Sandelowski, 1991, 1994; Tomlinson et al., 2002). Questions posed act as a guide for learners to recall the factual description of an event and assist them to reflect on the event. Short, clear instructions on how to describe the event are included, to result in a coherent narrative story that illustrates the event from the learner's perspective. Reflective prompts are used to elicit ideas on the significant background factors that contributed to the experience; feelings about the experience; factors that may have influenced thinking; and sources of knowledge that either influenced or should have influenced thinking. This technique is able to capture the learner's own reality and fosters *critical* reflection (Brookfield).

As part of the contextual learning intervention, novice nurses used narrative reflective journaling to relay their experiences as a new graduate nurse. These novice nurses were asked to recall an aspect of their work in the past week that resulted in a feeling of accomplishment, satisfaction, and/or resulted in feelings of discouragement or frustration. They were asked to describe this experience in the form of a story with a beginning, middle and end being specific as to when, where, what, and who was involved. They were also asked to reflect on their stories using guided questions to write about their reflection.

Table 2
Guided Narrative Reflection Process©

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1. Describe a story (narrative)
 - Recall an aspect of your work in the past week that resulted in a feeling of accomplishment, satisfaction, and/or resulted in feelings of discouragement, frustration. Describe this experience in the form of a story with a beginning, middle and end being specific as to when, where, what, and who was involved (do not include names).

 2. Guide critical reflection
 - How did this make you feel?
 - How did the patient feel about it? How do you know how the patient felt about it? How did the patient make you feel?
 - What are the significant background factors that contributed to this experience?
 - What factors influenced your thinking?
 - What sources of knowledge influenced/should have influenced your thinking?
 - How have past experiences helped you make sense of the current situation?
 - Do you think your feelings clouded the issue?

 3. Consider alternative perspectives
 - Describe what you were thinking about, as you were involved in the experience.
 - What personal values or beliefs influenced the perspectives in this situation?
 - What may have been taken for granted?
 - What assumptions are being made?
 - What rationale is being used to justify the assumption?
 - Are the assumptions correct? How do you know?

 5. Integrate learning into future practice experiences
 - What things stand out for you as you reflect on this experience?
 - What aspects of context impacted you and will help you to remember this experience?
 - What were the consequences of the action? How could you have better dealt with the experience? What other choices did you have?
 - How has this had an impact on you? How will this experience impact your future practice?
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Note: Adapted from John's (1994)) model of structured reflection (p. 112) and Brookfield's (1995) Critical Incident technique

Preceptor Coaching

The literature suggests that coaching is integral to a process of thinking critically. Coaches have an opportunity to engage learners to see themselves through others' eyes (Brookfield, 1995; Schon, 1983, 1987). Coaches can provide different perspectives that create new understanding and assure understanding within context. Through dialogue, the learner and coach together construct meaning through awareness of actions and underlying assumptions.

Engaging learners in critical dialogue also emphasizes the use of questions that challenge information (see Table 3). These types of questions focus on problem solving by helping learners ignore unnecessary and irrelevant information and to focus on cues that highlight main patterns of the situation. They help learners determine aspects of the care situation that are significant in helping identify problem. They are also divergent and assist learners to defend an action, hypothesize or predict an expected consequence, infer meaning, attitude, perception; judge appropriateness, justify action, reconstruct the situation, and identify value, etc. (Ironsides, 2003; Myrick & Yonge, 2002).

As part of contextual learning, each novice nurse in this study worked with a nurse preceptor. Nurse preceptors were taught how to coach novice nurses in their dialogue, reflection, and use of time as past experiences and past knowledge, to understand the context of care situations and enhance critical thinking in practice. Through an intentional, guided, reflective, coaching process of dialogue and questioning, preceptors challenged the context of the nurses' framework. It was proposed that novice nurses would construct meaning as a result of these interactions (Brookfield, 1995; Schon, 1987), that reflective expertise would develop, and that critical thinking would be synthesized into practice. These would be exemplified by performing new tasks and solving novel problems based on automatic and reflective skills (Merriënboer & Dijkstra, 1997).

Table 3
Coaching Questions to Engage Critical Thinking Attributes©

• Ask Why	• Why did you do that? Why would you do that?
• Ask about the patient	• What's happening with the patient? How do you know?
• Use imagination to explore possible options for change in action	• If you could do anything to change the situation, what would that be?

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- | | |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Evaluate the timing of questions • Use divergent questions | <ul style="list-style-type: none"> • Is the question being asked at the appropriate time and level? • What do you think is happening? • What do you predict will happen if you do this? • Tell me if what happened was appropriate? Why or why not? • Tell me how you think the actions accomplished the goals or met the patient's needs |
| <ul style="list-style-type: none"> • Avoid memory questions | <ul style="list-style-type: none"> • Don't ask for fact questions or questions phrased to give either a right answer or wrong answer; INSTEAD guide questions so that multiple answers can be given |
| <ul style="list-style-type: none"> • Focus on problem solving questions | <ul style="list-style-type: none"> • What are you paying attention to that is bringing your care to a stop? • What data will need to be collected? • To what information should you pay attention? • What information is not helpful? • Are there any patterns that you should pay attention to? |
| <ul style="list-style-type: none"> • Focus on cues | <ul style="list-style-type: none"> • Which cues are leading you to draw a conclusion • What prior learning experiences do you have? • What aspects of the situation were significant? |
| <ul style="list-style-type: none"> • Help novice nurse to draw conclusion | <ul style="list-style-type: none"> • What are the data saying? • What are the necessary nursing interventions to support this medical approach? • What was your rationale for the action you chose? • Is this experience similar to other care situations? |
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Note: Adapted from (Ironside, 2003b; Myrick & Yonge, 2002)

Individual Interviews

Similar to preceptor coaching, individual interviews as an educational strategy provide an additional opportunity for coaching by an instructor to support the critical thinking process. The instructor guides the learner in a reflective thinking process through questions that incorporate critical dialogue and “back-talk” (questioning one’s thinking) (Schon, 1987). Individual interviews specifically engage narrative pedagogy whereby learners share and discuss their reflections on their practice experiences. The interview discussion facilitates a critical dialogue through the learners’ reframing of thinking and insights around individual practice experiences. The interview also helps make visible the nature of the learners’ critical thinking development by providing examples of how they incorporate the attributes into their thinking.

In this study, the individual interview with novice nurses provided an opportunity to incorporate the attributes of reflection, context, dialogue, and importantly, the attribute of time. Prior to each interview, the novice nurse was asked to think about practice experiences over a specific period of time and provide examples in the form of stories. Using the guided narrative journaling reflection process, the novice nurse then reflected on her story. During the interview, the instructor dialogued with the novice nurse about the story and the reflections. Stories provided an opportunity for the novice nurse and instructor to reflect in and on past and present actions for planning future action (Schon, 1983, 1987). In other words, past learning that has taken place in well-defined situations may be recalled, given the context of the present, and this informs future action. Using real life practice situations to achieve understanding of the past, present and future, allows the learner to analyze thinking over time, draw on past knowledge, reflect on assumptions, elaborate on that knowledge, and through coaching during the interview, construct new knowledge.

Leader facilitated discussion groups

Leader-facilitated discussion groups are very similar in format to the individual interview. However, used in contextual learning, they are adapted from a focus group model in research. Focus groups include participants with a shared experience or concern identified in advance by a researcher (Morgan, 1997). Learners involved in the educational intervention share the same experience. For example, the contextual learning intervention used with novice nurses provided the common experience of being a novice nurse. Their involvement together as a group provided an opportunity to engage in dialogue and share similar experiences and stories. Using the strategy of narrative

pedagogy, novice nurses shared and discussed their reflections on their practice experiences of being new nurses. The discussion group facilitated critical dialogue through sharing and challenging perceptions and broadening multiple perspectives.

The leader-facilitated discussion group not only provides an opportunity to understand learners' experiences, but also allows for coaching the intervention's overall learning goals. The overall learning goals for the leader-facilitated discussion group component of the contextual learning intervention are adapted from Schank's case-based reasoning instructional methodology (Riesbeck & Schank, 1989; Schank et al., 1999). The group goals focus on understanding what critical thinking in practice looks like (i.e., the attributes of reflection, context, dialogue, and time) and demonstrating how to engage in critical thinking in practice. Therefore, the learner is coached to understand the elements encompassed in a critically reflective thinking process as well as how to operationalize thinking in practice.

Narrative stories from novice nurses' experience in real-life practice situations in this study provided the reality-based context for discussion during each discussion group meeting. As with the individual interview component, novice nurses were asked in advance to think about their experiences over a specific period of time and to provide examples in the form of stories using reflection guidelines. The narratives of their practice experiences were then shared through storytelling (e.g., narrative pedagogy) during the leader-facilitated discussion group sessions. After the stories were shared, novice nurses were guided in a reflective dialogue to illuminate critical thinking or the barriers to critical thinking development. Unlike the individual interview, the dialogue around a story incorporated perspectives of their colleagues as opposed to instructor only. For example, as part of the dialogue, novice nurses relayed stories that highlighted their insecurities around practice experiences. The following exemplar was shared by a novice nurse.

I find that just being out of school my view of pain seems to be different than some of the [experienced] nurses that I'm working with...in the sense that I'm kind of more ready to treat it...I had this patient who had just had abdominal surgery. My patient, the last couple of days for the most part, rated her pain at 9.5, ...and so I was giving her just little, 0.5 of Dilaudid every so often when she complained of pain and no more because this is the patient whose BP went down. But at one point, it had been probably about four hours since she'd had anything for pain. I said to my

preceptor, "I'm kind of tempted to give her just a little bump of Dilaudid because we learned it's easier to keep on track with pain that is under control than to try and get it under control once it's out and she does seem to be resting better'. And she's [preceptor] like, "No, don't give her any Dilaudid if she's not asking". So, I didn't, but, later again the patient did have to ask for it. I understand the reasons to be conservative, but she had abdominal surgery...like that's supposed to really hurt...and that was all she was getting for pain were those little 0.5's."

Using their own stories, novice nurses were coached in their reflection to consider past experiences that might have been similar, so to connect to past knowledge, develop their knowledge base and illuminate critical thinking. By challenging their actions and allowing for sharing multiple perspectives, the nature of the dialogue progressed to a critical dialogue. Using the above exemplar, novice nurses were coached in their dialogue around this story to talk about assumptions they (as well as their preceptors) might have had about their practice, their anxiety, insecurities, and the hospital culture. Coaching also centered on important dialogue that might have been missing from the story as a way to facilitate critical thinking and questioning. These discussions opened the door to dialogue around constructive ways they could question their own thinking, their preceptors' thinking and the overall hospital culture. As contextual learning progressed, novice nurses were asked to reflect on their own personal reflective thinking process as a result of their involvement in the intervention and how it might impact their future practice.

DISCUSSION

Reflecting on Implementing Contextual Learning: Considerations for Nursing Education

After reflecting on experiences using contextual learning, a number of key factors were noted that could be refined to enhance the intervention in nursing education. First, the amount of time between discussion groups should assist learners to incorporate developing skills. For example, novice nurses in this study were involved in new experiences as they began their nursing practice. When discussion group sessions were scheduled too close together (one week), they did not have enough time or opportunity to explore how to work with and incorporate critical thinking. In subsequent discussion groups and interviews, they had difficulty recalling or sharing their stories. Without sharing new experiences, the discussion sessions had a 'classroom-like' atmosphere, the dialogue was not as

rich, and seemed to be a 'means to an end' rather than an enriching and enhancing experience. When novice nurses were given more time to explore how to incorporate critical thinking attributes, the stories were rich, the dialogue centered on uncovering knowledge and critical thinking in their stories and how the learning could impact their future practice experiences. Similarly, nursing students need time to process their experiences to create new learning, as well as an opportunity to focus on their overall learning experiences and the thinking that guides their nursing actions. Scheduling of post-clinical conferences or meetings with students following their clinical experiences should include time for students to prepare their thinking about their learning, as well as give educators insight into students' thinking about their experiences (i.e., what guided their thinking and their personal learning accomplishments. Group and individual student meetings would provide opportunities to gain multiple perspectives.

The second consideration relates to timing of narrative reflective journaling. In this study, novice nurse reflective journaling was changed from a weekly entry to an entry prior to a discussion group or interview. By reflecting on the narratives before the discussion group/interview sessions, novice nurses were more prepared to discuss their practice experiences. The stories they wrote specifically in preparation for dialogue triggered some initial connections and questions that were facilitated through dialogue during the actual discussion group/interview. Reflective journaling used too frequently for nursing students can have the same effect. Students' journaling activities often become an evaluation of their clinical experience with limited discussion about the nature of their thinking surrounding the experience. Journaling often is a means to an end to meet a course requirement. Reducing the frequency of journaling so students can prepare for dialogue, may create more meaningful journals, and help nurse educators guide them in more reflective dialogue.

A third consideration involves the nature of guidelines used to help with reflection. In the sharing of novice nurse stories, it became apparent they needed more guidance in their reflective discussions. They had received written guidelines to use in their reflection process, but the guidelines incorporated many questions and became overwhelming. They were asked to focus on three reflection questions: what were they thinking about while involved with the situation; what influenced their thinking and actions; and what they learned. This helped them focus on reflection efforts and enhance dialogue. For students, providing specific guided reflection questions should also help to guide their thinking and reflection as they write about their experiences.

Finally, consideration is given to a refinement that will foster the nature of dialogue, especially as it relates to discussions individually, in groups and with preceptors. Dialogue in the form of critical questioning (e.g., verbalizing and questioning sources of knowledge, past experience, assumptions, biases, plans for action), is key to operationalizing critical thinking in practice. A refinement to the contextual learning intervention that helped facilitate critical questioning was asking novice nurses to ‘think out loud’ (Lee & Ryan-Wenger, 1997). In this way, critical thinking in practice centered on what the novice nurse was thinking as a form of critical questioning versus the novice nurse articulating facts or content knowledge. Thinking out loud fosters questioning that makes comparisons or interrelates different types of information, and/or outline conclusions, (e.g. I’m thinking this...the reason might be...and I am considering this...would this be in line with what you might be thinking?). For nursing students, encouraging them to ask questions in a reflective and critical manner will not only uncover hidden realities in a situation, but also provide opportunity to dialogue about these realities. Dialogue then becomes a critical conversation. Critical conversations help students integrate their prior learning and practical experiences. They move from telling what they know to why they know. Dialogue opens the door for students to integrate multiple perspectives into their thinking. Nurse educators can help students interpret their knowledge and achieve understanding of their actions. The outcome is a process of critical thinking that achieves situational understanding.

CONCLUSION

Contextual learning envisions new possibilities for nursing curricula to prepare nurses to critically think in practice. Nurse educators should do more than foster development of knowledge, skills, dispositions and attitudes inherent in critical thinking. Competent practice requires more than content knowledge and applying that knowledge in clinical situations. In nursing education, an environment should be created where students begin to operationalize a process of thinking that is derived from classroom learning, from practice experiences, and from what they think about when they care for patients. Nurse educators should continue to explore ways that new pedagogies such as narrative pedagogy and reflective practice inform and extend students’ thinking both in the classroom and practical clinical situation. The goal of instruction becomes creating an opportunity for learning that integrates content knowledge with knowledge of the context. Contextual learning uses real life experiences as a foundation for novice nurses to integrate knowledge, skills, and attitudes within context in order to create new knowledge. Contextual learning as a reflective educational intervention is a way of teaching that focuses on achievement of answers, and

achievement of a coherence of understanding in the context of care. As an educational intervention, it could assist care providers and educators to collaboratively operationalize an effective and efficient model of critical thinking in nursing practice and nursing education, thereby narrowing the theory-practice gap and increase quality nursing care for patients.

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