นักศึกษาพยาบาลระดับปริญญาตรีพัฒนาความรู้และทักษะการพยาบาลในคลินิกอย่างไร: การวิจัยแบบวิธีวิทยาการสร้างทฤษฎีฐานราก

How Thai Undergraduate Nursing Students Learned to Develop Their Knowledge and Skills in Clinical Practice: A Grounded Theory Research Study

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บทคัดย่อ

การวิจัยแบบวิธีวิทยาการสร้างทฤษฎีฐานรากแบบสเตราส์ (Straussian grounded theory) นี้ มีวัตถุประสงค์ เพื่อศึกษามุมมองของนักศึกษาพยาบาลที่เรียนในระดับปริญญาตรีต่อวิธีการพัฒนาทักษะการพยาบาลเพื่อการดูแลผู้ใช้บริการในคลินิก จากกลุ่มตัวอย่างที่มีประสบการณ์การฝึกปฏิบัติงานในคลินิก จำนวน 32 คน เก็บรวบรวมข้อมูลโดย การสัมภาษณ์เชิงลึกพร้อมบันทึกเทป ร่วมกับการสังเกตแบบไม่มีส่วนร่วม และการบันทึกภาคสนาม เพื่อให้เกิดการตรวจสอบแบบสามเส้า

ผลจากการวิเคราะห์ข้อมูลด้วยเทคนิคการกำหนดรหัส พบ หมวดข้อมูลการพัฒนาทักษะการพยาบาลของกลุ่มตัวอย่างใน 2 ระยะ ดังนี้ ระยะแรก คือ หมวดข้อมูล พัฒนาทักษะพื้นฐานเพื่อต่อยอดการฝึกปฏิบัติ ซึ่งมี ความกลัวและความวิตกกังวลต่อการฝึกปฏิบัติงาน และความกลัวเกี่ยวกับการไม่เข้าใจปัญหาผู้ใช้บริการ เป็นปัจจัยสำคัญในการผลักดันให้เกิดการเรียนรู้ ระยะต่อมา คือ หมวดข้อมูล ทุ่มเทเรียนรู้วิธีการดูแล ซึ่งมี ความคาดหวังของผู้นิเทศภายใต้วัฒนธรรมไทย เป็นปัจจัยสำคัญในการจูงใจให้เกิดการเรียนรู้ อย่างไรก็ตาม กลุ่มตัวอย่างบางรายที่มีปัจจัยภายใน คือ ความปรารถนาในการเรียนรู้เป็นแรงจูงใจในระยะหลังร่วมด้วย สามารถประสบความสำเร็จในการเรียนรู้ที่นำไปสู่การบรรลุกระบวนการเรียนรู้ตามทฤษฎี (core category) การพัฒนาทักษะการพยาบาลเพื่อการดูแลที่มีประสิทธิภาพ ผลการวิจัยนี้ เป็นแนวทางให้อาจารย์พยาบาลส่งเสริมการบูรณาการความรู้เชิงทฤษฎีสู่การปฏิบัติการพยาบาลเพื่อการดูแลผู้ใช้บริการในคลินิกของนักศึกษาพยาบาลได้อย่างมีประสิทธิภาพ

คำสำคัญ: นักศึกษาพยาบาลระดับปริญญาตรี แรงจูงใจการเรียนรู้ วิธีการเรียนรู้ วัฒนธรรมไทย
การวิจัยแบบวิธีวิทยาการสร้างทฤษฎีฐานราก

Abstract

This study used a Straussian grounded theory approach to explore the perspectives of 32 Thai undergraduate nursing students from all levels on the topic of how they developed their nursing skills in the process of caring for clients. Data were collected by using in-depth audio-taped interviews, as well as observations and field notes that enabled concurrent data validation with methodological triangulation.

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Following coding analysis of the data, an early emerging category related to the issue of **continuing practical studies** where being worried and afraid about practicing and being concerned about not understanding case problems were significant conditions that motivated the students' learning. A second category emerged later in the analysis, namely **learning how to provide nursing care**, where supervisors' expectations of students as learners within the hierarchical culture of Thai nursing was identified as the most powerful condition to motivate student learning. In some participants, an internal motivation, i.e. a desire to learn, marked them as successful learners. This enabled them to accomplish the full process of **Developing Effective Strategies for Nursing Care**, which emerged as the core category. The findings could be used to guide nursing instructors about how to enable the students to successfully integrate theory into clinical practice.

Keywords: Undergraduate nursing students, Learning motivation, Learning strategies, Thai hierarchical culture, Grounded theory

1. Introduction

In Thailand, passing the licence test is important for both graduating nurses, to be licensed as professional nurses; and their institute, as the pass rate accredits its operation. However, during the period 2002-2010, none of the nursing colleges affiliated to the Praboromarajchanok Institute for Health Workforce Development (PBRI), met the Thailand Nursing and Midwifery Council accreditation criterion of a 70% first attempt pass rate averaged retrospectively over three years (Thailand Nursing and Midwifery Council, 2010a). This situation raised a critical question as to why many of their students could not integrate theoretical knowledge into clinical nursing care, on which the licence test items were focused (Thailand Nursing and Midwifery Council, 2010b).

This study would be an original contribution to knowledge about how students learn in clinical settings to enable successful integration of theory and practice. In this study, we therefore sought to investigate how Thai nursing students develop their nursing skills in the process of caring for clients during their practical studies.

2. Literature review

On review of suitable literature, it was found that a number of significant studies reported that clinical teaching situations and the practical environment were not optimal for facilitating nursing students' learning. In particular, in a Thai study, Arkal & Chutchavarat (2004) found only 52% of Thai undergraduate nursing students thought their clinical study management was effective. Even though they gave the highest rating, i.e. 93%, to their instructors as persons who were very important for the success of their placement, the effectiveness of their instructors was rated the lowest effectiveness score of the programme, namely 56.5%. In another study, it was found that some Taiwanese nursing instructors primarily emphasised routine work and took only a few opportunities to stimulate and develop students' critical thinking skills (Hsu, 2006). It became clear from these and other examples from research that differing contexts of practical teaching and learning environments impacted on the students' development of their nursing skills.

Furthermore, the examined literature revealed that low learning competencies, critical thinking ability (Glynara et al., 2008; Suliman & Halabi, 2007; Treesaranuwatana, Sirinapadol, Sothipoolmas, & Wongsalar, 2007; Zhang & Lambert, 2008) and assertiveness skills (Begley & Glacken, 2004; Çelebioğlu, Akpinar, Küçükoğlu, & Engin, 2010), as well as challenging learning facilities and management issues (Glynara et al., 2008; Sottipolanun, Chitthathairatt, & Chaisup, 2007) made it more difficult for nursing students to learn. However, several studies indicated that both Thai and international nursing students developed several strategies to overcome these problems and achieve competency in their nursing skills, for example by asking for more explanations from their teachers (Ariyanon, Krongrawa, & Leesuwan, 2008; Thepworachai, Saratawanpad, & Meeboon, 2008), and seeking help from their friends (Roberts, 2009). Meanwhile, it also became apparent from the literature that successful nursing students benefitted when their instructors/preceptors applied different teaching and learning techniques that focused on facilitating the needs of their students to reach academic goals such as problem based learning (Lounekaew, Siriphan, & Kongsuwan, 2004), concept-based learning (Hicks-Moore, 2005; Nielsen, 2009), and simulation based learning (Lapkin, Levett-Jones, Bellchambers, & Fernandez, 2010).

However, these strategies did not necessarily provide in-depth information for educational administrators that would assist their students with the right conditions and specific learning strategies that could be implemented, and when during the students' educational period this should occur. Subsequently, the significant issue about which conditions facilitated Thai nursing students when studying in the college programme to enable them to understand their patients' care, and how this might be achieved under their somewhat low learning capabilities, needed more investigation, and hence the design and performance of this study.

3. Study design

Purposive sampling was focused initially on participants who had experienced practical studies from Boromarajonani College of Nursing, in Southern of Thailand, where the average pass rate for the college ranged from 31 to 59% throughout 2002-2010 (Thailand Nursing and Midwifery Council, 2010a). Two groups of five from the fourth and third years were recruited to generate as many categories as possible. The initial hypotheses (statements about how concepts seem to relate) were generated by comparing concepts and their properties for similarities and differences. This was followed by theoretical sampling of a further 22 participants—10 from the fourth year, five from the third year, and seven from the second year. The third and second year students' experiences were needed to confirm how learning strategies change when the students' competencies/knowledge base were developing over time. The aim of this sampling was to clarify the initial hypotheses and generate theory until theoretical saturation was achieved. Consequently, in this stage, we tried to look for different data that could increase the broadness of concepts and scope of the theory that we were developing. This yielded additional material such as differences in grade point average scores (GPAs), and a considerable difference in student achievement levels that depended on the students' current year of study. Data were collected from the second week of October, 2010 to the third week of

May, 2011. We applied individual in-depth interviews, in conjunction with observations and theoretical field notes to enable concurrent data validation with methodological triangulation. Two main questions were addressed: 1) What is going on in participants' practical studies? 2) During their practical placements, how do participants learn about and deal with their clients' problems? The interviews were audio-taped, ranging from 45-90 minutes, and transcribed verbatim. With the permission of participants and the institute, the licence examination results for each cohort of participants were also tracked.

3.1 Participants

Thirty-two participants were recruited into the study—15 from the fourth year, 10 from the third year, and seven from the second year of the programme, a total of three cohorts. The participants' ages ranged from 20-31 years (mean = 22.81 years). They were divided into three group ranges of GPAs of their class—high, moderate, and low GPA. Twenty-one participants, seven from each cohort, passed the licence test on their first time when attempted. Those with high and moderate GPAs gained 100% (11 out of 11) and 64% (7 out of 11) pass rates respectively; whereas only 30% (3 out of 10) of participants with low GPA passed the licence test on their first attempt.

3.2 Data analysis

Data analysis proceeded concurrently with data collection using the techniques of open, axial and selective coding moving back and forth within the data until the substantive theory was developed. Relevant sections were translated into English, then coded and compared through the constant comparative method, so that categories could emerge. To do this, we scrutinised each Thai interview transcript and underlined key words, phrases, or sentences. Each category was further differentiated into sub-categories using the paradigm model to clarify and specify a more precise category. All major categories were integrated and refined through many analytical techniques, including use of formative diagrams, discussions with project supervisors and colleagues, and review of the findings with 25 of the 32 participants, to ensure the theory developed could competently explain the learning process of the nursing students.

4. Ethical considerations

This study received ethical approval from the Massey University Human Ethics Committee (HEC: Southern A; Application—10/63) in September 2010. Informed consent was obtained, assuring that the informants' participation was both voluntary and confidential. Participants were able to review and validate their information throughout the process of data collection and could withdraw from the study at any time. To maintain confidentiality, pseudonyms are used in data extracts included in this article.

5. Findings

The learning experiences of Thai undergraduate nursing students studying in the college programme are illustrated in Figure 1, where the core category is identified as the process of **Developing Effective Strategies for Nursing Care.** The process incorporates four overlapping stages (sub-categories) of learning strategy improvement. The main early emerging category (phase) in the study was **continuing practical studies,**

which was based on two sub-categories: namely *attending to procedure training, and seeking case problems and how to provide nursing care*. The second main category, learning how to provide nursing care, emerged later, and supplied another two sub-categories: *modifying the strategies for case learning,* and *discovering how to understand case conditions*. Student learning was both facilitated by stimulating factors, but also interrupted by negative influences throughout their course of learning (noted in Figure 1 by the chevron and rectangles above and below the process). All of the conditions influenced each other in varying ways and degrees, and their impact had greater power on the students' learning development when combined with other powerful conditions of each particular stage. They made use of their previous learning experiences as bases to build up their learning strategies for the next stage(s). When influenced by positive factors, students were able to further enhance their skills, while the students who faced negative factors were not able to advance their skills, resorting to less sophisticated learning strategies rather than using more evolved ones. Some students remained in the procedure training stage, delaying the stage of seeking out case problems and how to provide appropriate nursing care. Others further developed their nursing skills, but only some participants accomplished the last stage of the process whereas the majority were found to be in the stage of *modifying the strategies for case learning*.

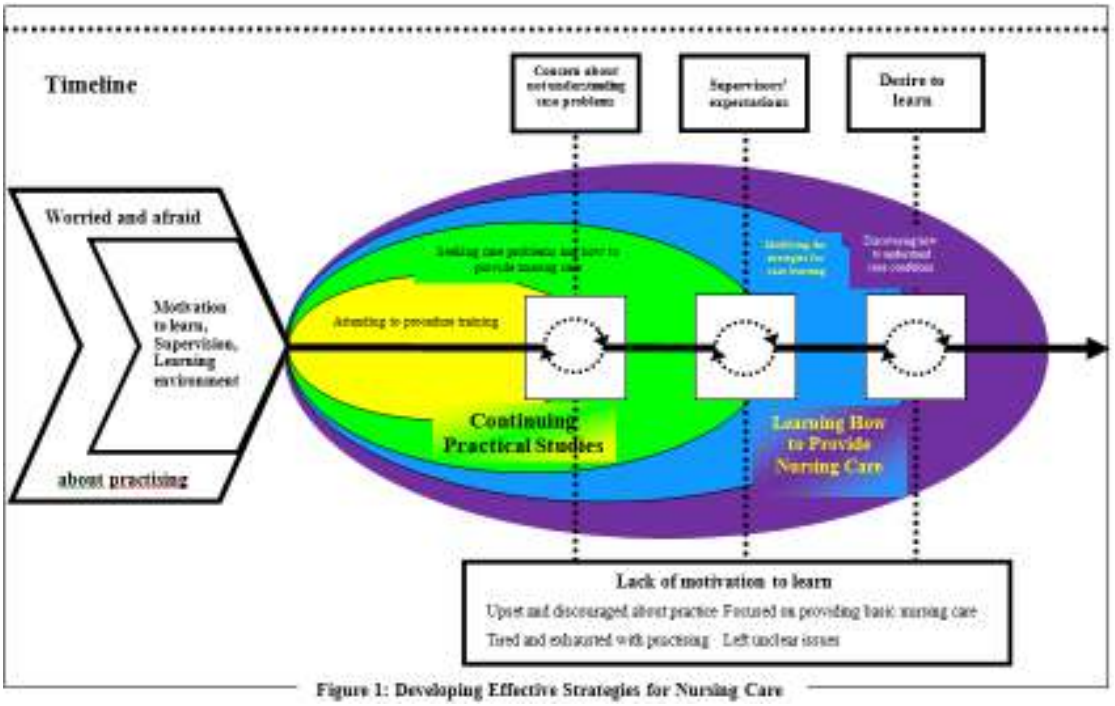

Figure 1: Developing Effective Strategies for Nursing Care

5.1 Continuing practical studies

During the early phase, *being worried and afraid about practising and concern about not understanding case problems* were powerful conditions that facilitated the students to improve their nursing skills during each particular stage.

5.1.1 Worried and afraid about practising

In the stage of *attending to procedure training,* the participants were stressed and worried about a great number of things before practising in the clinical arena. This feeling of anxiety about their abilities to cope in the clinical arena was described together with the fear that they did not having enough skill and other interrelated factors that they might face. Yet, they were very nervous and worried to try procedures, afraid and worried about doing something wrong, causing harm to patients, being blamed/reprimanded/punished, not being trusted by their clients, and fearing of new experience in settings. Subsequently, many students started their clinical practice by being really nervous as they had no idea how to commence their work in a new and unknown setting. Being intensely concerned about the impacts of their performance on both their patients and themselves made the students also learn under pressure. One third- year participant described these feelings as follows:

...The preceptor allowed me to try an iv injection. ...I did a demonstration, it was not on a live person. ..., but that one was a patient and she also had relatives who were looking at me. ... I was very nervous! Everyone was looking at my performance, especially the patient who hoped I could do it for the first time. ... These forced me to feel that I was doing the most difficult thing...

Another powerful influence that facilitates the students' learning in this early stage was willing supervision. The participants perceived that their instructors and preceptors had taught them within a very caring ethos, but in real circumstances it was much harder to perform nursing skills. For instance, their supervisors tried to provide them with opportunities to try some nursing procedures, even though they were new trainees. If patients and/or their relatives were not happy about allowing the students to carry out the care, they explained why they could be confident in the students' competence and asked for opportunities for the students to do procedures. As a result, the help and encouragement of supervisors were important in building up students' confidence which then furthered their practice in this stage.

As novices who were very *worried and afraid about practising*, these student participants began to develop their nursing skills by *building up self-confidence*. A fourth- year participant confirmed:

[slight laugh] I did deep breathing and expiration and then told myself about what I was doing now. ... I tried to think about it. Mmm! What I had to do next, and next! If didn't do it like that, I felt in a blur. I couldn't hear what my instructor said, ... I was nervous!

The participants also applied the technique of *beginning procedures with help and support* from different sources to facilitate their performing. They sought a lot of help and support from friends, supervisors and other experienced persons such as seniors, staff nurses, and medical students/internship physicians. After going through this period, the participants attempted to become skilful in basic nursing skills by applying the strategy of *becoming familiar through performing procedures*. They tried to make full use of the time they had at settings to gain experience at performing procedures as much as they could.

Having opportunities to practise for a period of time enabled the participants to develop their skills to a certain degree. That is, they developed more skills in doing procedures and felt increasingly more confident to further their practice. Over time, they gained more trust from their supervisors and/or staff nurses, and this too helped to reduce feelings of being worried or afraid.

5.1.2 Concern about not understanding case problems

When moving from the procedural learning stage to the early stage of case learning (a stage characterised by *seeking case problems and how to provide nursing care*), student nurses deepen their understandings about their assigned patients' problems and how to care for them. In this stage, the participants indicated that they were significantly motivated to learn by being *concerned about not understanding case problems*. Not understanding the health problems of their patients created incredible stress for them when doing pre-conferences (conferences about nursing care planning before starting day shifts) with instructors because they were very nervous that they might not be able to respond to their supervisors' questions. They were also concerned that they might cause harm to patients and their clients and/or the relatives might not trust in their competence and thus not allow them to give care. A third-year participant illustrated this anxiety as follows:

Fear! Patients might...[paused]. Sometimes, I felt tense too, about a conference within patients' sight...[paused]. If my instructor asked and I couldn't respond, turning to see the patients, they might not...[paused]. ... They might not be confident to allow me to care for them ...

Willing supervision continued to be another influencing condition that facilitated the students' developing understanding in this early stage of case learning. Those supervisors who made more effort to train their students to assess and diagnose case problems were more appreciated than those who did not. The helpful supervisors enabled the students to understand what nursing care activities they had to provide with greater attention to changing patient conditions. For instance, instructors pointed out that the students first had to know about the diseases that could affect the health of their cases.

After that they guided their students to find data that supported those problems that were associated with these diseases, before linking this to how to more accurately specify the diagnoses and design the nursing care for each individual patient. If their students were still not clear about some parts of the applied pathologies, instructors/preceptors gave the students more explanation and/or guided them to search for more information.

Starting case learning in situations where there was not enough knowledge of typical case problems led the participants to develop learning strategies to improve their understanding. They focused on building up their self-confidence first by preparing how to care for their cases before going to practice, and then taking part in the pre-conferences. As novice case learners, they also applied a variety of other strategies. For example, they started by examining specific basic case information as their current abilities allowed. Being rather nervous and puzzled by some of the material and unable to analyse how the diseases of their cases

affected them, they searched for their patients' problems by taking as much information from the charts and asking the patients as many questions as they could. However, they did not know whether the data they took were related to their cases' problems or which information was important for understanding and responding to these problems. Occasionally, they also performed physical examinations and observations of the conditions/contexts of their patients. However in the main, they only focused on the present problems their cases told them about or the conditions/contexts they could observe at that time. A fourth-year participant recalled:

In the early stage, [in my second and third years], I read a patient's history and then looked at her/his general appearance first, and then talked to her/him. ...Saw whether a patient had any tube/line or not. And then asked about ah! "Do you have any pain?" "How do you feel now?" "Can you eat or not?".

To further find out what problems their patients might have and the nursing care they needed, the students also sought help from the persons they thought experienced and could help them (such as seniors, friends, supervisors, and some nurses). After that, they tried to find the accurate nursing diagnoses for the problems shown, and sought out more complex problems their cases might have, and how to care for them from any accessible resource they thought could help them. A fourth-year participant recalled:

..., in some texts something like if a patient had this/that symptom, a nursing diagnosis was specified for her/him there. Anyway, I had to know what symptoms my case had. ... I had to choose the one that corresponded to her/him too.

Subsequently, applying various and sometimes insufficiently advanced strategies for learning at this stage did not help the participants to accomplish their case learning, but their attempts led them to at least become more familiar with case learning. Feeling that they only partly understood about their patients care-based needs encouraged some students to find out more about their diseases and treatments, which in the study was described as being *interested in case learning*. Learning in this phase, the students were not concerned about preparing for the licence test, i.e. they were worried only about responding to the questions, having guidelines for caring for their patients each day, and completing their requirements. The students said they "read only what they have to know and do first". In many instances, they spent more than half of their total practical study duration applying strategies back and forth repeatedly before making use of them to develop new advanced strategies for learning about the problems of their cases in the following stage(s).

5.2 Learning how to provide nursing care

Participants in this phase were motivated by two significant conditions, namely *supervisors' expectations and a desire to learn.*

5.2.1 Supervisors' expectations

Supervisors' expectations obviously grew when the student nurses became more senior, and this affected their feelings and confidence levels. Participants maintained that being unable to respond

to supervisor's questions made them feel ashamed and unhappy, as they felt uneasy that even as a senior student nurse, they did not always have sufficient knowledge about their client/s to relate to the supervisor. A third- year participant said:

...When my instructor or preceptor asked, "Why did a doctor treat the patient with this medication?", if I still couldn't respond, they said, "You are a third-year student now" ... [laugh]. I felt oh! I had to find that out. ...Yes! I felt ashamed! If I couldn't [answer] ...

When influenced by this factor, the participants developed more advanced and systematic strategies of learning over time. At this stage, the participants tried to apply prior learning experiences to analyse their cases' problems and the care for them. For example, they looked for significant issues in previous cases who shared the same condition or disease. However, they sometimes did not know whether these issues corresponded with the new patients' problems or not.

Following the influence of supervisors' suggestions about case learning, the participants began to better understand the diseases and problems of their patients by learning more about their pathologies. However, some of the students did not analyse the pathologies to comprehensively learn about how they caused the symptoms in their patients; instead, the comparison only led them to get rough idea of patients' problems. They still could not link what they had learned from the pathologies to the nursing care, as a fourth-year participant explained:

...About the problem(s) related to pathologies, I had to read more. ... I had to compare with theoretical content ...compare with the information I observed or got from charts or asked the patient or her/his relatives, maybe. ...Analysed [the information], ah, whether it was the same thing that my patient had or not. If yes, ah, it meant s/he had that problem.

Other participants also tried to make use of accessible resources for gathering case information, such as textbooks, previous nursing care plans of friends, seniors, and care guidelines of settings, including nurses' notes, information gained during shift rounds, and recommendations of supervisors during pre-conferences. The students explained this strategy in ways that reflected the code "searching for compatible problems and nursing care". They compared their patients' symptoms/conditions with the support data of the diagnoses in texts and other documents, choosing only the diagnoses and nursing actions that had similar support data to their patient symptoms/conditions. A fourth-year participant confirmed:

...The exemplars of nursing diagnoses were in texts. ...I considered whether I had enough case information to diagnose as the texts guided or not,... If the patient had dyspnea, lung crepitation and pink frothy sputum, I could specify like: "Risk of cell hypoxia because her/his heart decreased the effective work", ... I made use of the nursing problems [nursing diagnoses] and nursing care activities only for the ones that my case had. ...

Many participants at this stage also looked for more opportunities to learn. In particular, some students, and especially those students with moderate-high GPA, asked to care for different cases

and/or chose the cases they thought would be interesting for their content conferences; this enabled them to learn about cases with complicated conditions, multiple system problems, or cases that they did not quite understand during their theoretical studies.

Although most strategies developed during this stage were to meet *supervisors' expectations,* using this combination of strategies enabled participants to more focus on analysing their cases' problems and how to provide nursing care. Some with moderate-high GPA (two groups of three from the fourth and second year, and four from the third year) stated that they had to understand about the problems of their patients and how to provide nursing care because of their concern about the licence test, so they tried to make use of their practices to prepare for it. Meanwhile, others who did not pay enough attention to the test, particularly those with low-moderate GPA and/or failing in comprehensive tests, could do little more than complete their requirements and/or read about what their supervisors asked. They only collected all of the related documents they acquired in order to start to prepare for it after finishing all of their practical studies.

5.2.2 Desire to learn

Some participants, frequently those with moderate-high GPA, who were *interested in case learning* since the stage of *seeking case problems and how to provide nursing care,* developed a significant internal drive, i.e. a *desire to learn.* This condition emerged as the most powerful factor that encouraged them to discover how to understand their patients' conditions during the last stage. The strategies they developed in relation to their desire to learn led them to clearly understand case problems and relevant nursing care. Interestingly, most of these self-motivated students were seniors who had to be able to respond to the questions of the juniors who practised in the same settings and their supervisors who continued their expectations from the previous stage, i.e. *modifying the strategies for case learning.* In this stage, supervisors focused heavily on the students' knowledge of the pathologies of their cases. As a result, participants' self-esteem as seniors was affected by successfully managing these expectations.

Some participants (eight from the fourth year and three from the third year) could identify the significant problems of their patients after gaining a clear understanding their pathologies, thereby extending their earlier understanding by analysing how the pathologies caused problems for their patients. Some tried to make mind maps and/or diagrams about the pathologies of their patients to find out how their symptoms had developed and were progressing. Meanwhile, others attempted to work backwards from case information, such as abnormal laboratory results or signs or symptoms, to identify what problems their patients had. A third-year participant with moderate GPA clarified this as follows:

Sometimes, I listed a problem first. Like, I saw one patient had dyspnea, so I thought about, "Hypoxia". Anyway, I had to find out why s/he had that problem. Maybe it was because of COPD, pulmonary edema, so I wrote something in my language first. Then I considered the data I had such as lung sound(s), x-ray results, and maybe ..., to support.

In this stage, from their examination of their patients' pathologies, signs and symptoms and results of various tests, the fourth and third year participants with moderate-high GPA acknowledged that they could clearly understand what had happened to their patients and what nursing care corresponded to those who had particular contexts and/or life-styles. If they were not sure whether or not their patients had certain problems associated with their illness, these participants knew what information they had to find. They could also make good use of their practical experiences to pass their tests because they were able to integrate the knowledge gained from their clinical practice experiences into preparing for the licence test. Hence, learning in this stage led them to accomplish the process of **Developing Effective Strategies for Nursing Care.**

6. Discussion

During the phase of **continuing practical studies**, entering practical placements while *worried and afraid about practising* and being *concerned about not understanding case problems* led the participants to make many efforts to be ready for their practice and to increase their patients' trust in their competence. These feelings became a significant influence that motivated the students to learn. This notion is reinforced by Gibbons, Dempster, & Moutray (2010) who found that if stress is moderated by appropriate coping strategies, it can produce 'eustress', a form of beneficial stress, which led to enhancing undergraduate nursing students' learning. This suggests that effective and supportive supervision can be a very useful strategy that encourages nursing students to reduce and cope with their stress, and to enhance their learning in clinical areas.

When moving to the phase of **learning how to provide nursing care**, *supervisors' expectations,* which are themselves related to the inevitable stress from the first phase of their development, are clearly a very important influence that motivates further nursing skill development of the participants. In the research, it was this factor that strongly affected the participants' self-esteem; i.e. they felt ashamed, unhappy and sometimes low in self-esteem if they were not able to respond to the questions of their supervisors, especially when senior students. Arguably, being sometimes trained under conditions that may lead to low self-esteem, the participants were motivated to learn by a need for greater self-esteem. As a result, they focused on presenting the learning strategies that met *supervisors' expectations* to protect their self-esteem. This finding is in line with the work of other scholars (Hermann & Arkin, 2013) who reported that individuals with a low self-esteem score behave in cautious or conservative ways (self-protective orientation). It seems very likely that collectivistic contexts such as East Asian cultures – which emphasise fitting in and not going against social norms and obligations – could significantly affect the motives by which individual student nurses protect themselves by minimising negative self-views or maintaining positive self-views without thwarting other less obvious motives (Hepper, Sedikides, & Cai, 2013).

Subsequently, most of the participants attempted to improve their nursing skills because they needed to meet the demands of what their supervisors required them to understand and exhibit in practice. Based on the concept of external locus of control and Thai hierarchical nursing culture, the students not only believed that anticipated outcomes were more influenced by extenuating circumstances beyond individual control than by the results of how they behaved (Schunk, 2012; Wood, Saylor, & Cohen, 2009), but they also valued respect for the supervisors as their superiors who gave them support (Klausner, 2000). They thought they should attempt to understand what their supervisors wanted them to learn because it would be useful for them. As well, they did not want their respected supervisors to feel unhappy with them as they themselves might lose face if it was obvious that they couldn't help or support their students. That means they couldn't have honor and dignity in their roles (Aulino, 2014). Thus expectations of supervisors and the respect accorded to them as superiors in Thai culture form a major stimulus to student learning.

Because of focusing on meeting their *supervisors' expectations*, participants attempted to modify their learning experience to learn about their cases during the stage, *modifying the strategies for case learning.* By changing some learning behaviours, most of them were able to analyse the significant problems of their patients more competently and to provide them with more corresponding nursing care. In this regard, the critical strategies most of the participants used are concerned with making a successful initial analysis and truth-seeking, as has been observed in several other studies (Colucciello, 1997; Facione, Sanchez, Facione, & Gainen, 1995; Profetto-McGrath, 2003). In this stage of their learning development, the participants showed partial connections to the evidence they could observe in their patients, thus enhancing their theoretical knowledge base to provide them with a better idea of more directly applicable and accurate nursing care practices.

The findings of this research are in line with literature that reported the critical thinking ability of Asian nursing students is generally weak (Salsali, Tajvidi, & Ghiyasvandian, 2013). One possibility is that participants enter nursing programmes with rather low learning competencies (Ariyanon et al., 2008) and/or have a low grade point average (GPA) during their nursing course (Thepworachai et al., 2008). As a result, it could be argued, their critical thinking and problem solving skills are lower than other skills (Glynara et al., 2008). A second possibility is that the participants reveal that whatever their GPA, they may still improve their skills during the later stage of *modifying the strategies for case learning* because of the effects of *supervisors' expectations.* According to Ponto, Ooms, and Cowieson (2014), nursing students had the highest mean score of external locus of control (such as their supervisors or instructors), compared to medical and physiotherapy students. Yet, as external locus of control may be negatively related to critical thinking dispositions (Oğuz & Sariçam, 2016), it is possible that these students' critical thinking skills are less developed, leading to the result that most of them were previously failing in the licence test.

The strong *desire to learn* described by some participants in the last stage of the learning process is more reflective of an internal locus of control. This is because persons will try to engage in self-regulatory

activities if they believe that this will help them, and it follows that more highly competent persons will sustain their motivation and self-regulation to attain new goals, and so self-regulation can promote learning (Schunk, 2012). It can therefore be argued that the presence of internal learning motivation encourages nursing students to think critically and contributes to their academic success.

Apart from analysing the pathologies to find out the roots of their patients' problems, *desire to learn* led some participants to attempt to consider all information that might cause or be related to the problems. According to Facione et al. (1995), this reflects that they thought about these problems based on the critical thinking dispositions of systematicity and maturity. That is, they were more careful to analyse these problems at a deeper level, leading to an increased value on the strategies that they applied (Schunk, 2012). Hence, the strategies the experienced students used as critical thinkers in the current study contributed to their success. This finding is also supported by the work of Chan (2013) who revealed that successful critical thinkers are able to put knowledge/theory into practice; i.e. they can understand the 'big picture' situations and predict upcoming events and know what to do next.

7. Study Limitations

The study findings are based on the particular cohorts of Thai students used in the study, their circumstances, and their cultural backgrounds. Furthermore, the participants were recruited from only one particular location. These may limit the generalizability of the results. Transferability, therefore, is possible only to the degree that other contexts have similarity to the setting represented by findings.

8. Recommendations

8.1 Practical study management should be run before each clinical placement in order to enhance students' theoretical knowledge with an authentic simulation programme.

8.2 Nursing school should encourage the developing of a formal system of junior-senior support/peer learning; placing senior and junior nursing students together would bring benefit to both groups.

8.3 Supervisors should promote the critical thinking skills of nursing students by promoting their internal motivation in learning, and educate them through relationships that show acceptance of the students as individuals and learners as well as provide them with enough help and support.

8.4 The challenge for the future is to find ways of building on the strengths of the hierarchical structure of the Thai nursing culture to further support student learning and motivation in this context.

9. Conclusion

This paper has explored the main findings of a research project that examined how Thai nursing students learned to develop their knowledge and skills in clinical practice in order to understand why they could or could not always integrate theoretical knowledge into clinical nursing care. In the study, it was strongly argued that students responded to the stress that was brought about by their need to learn

and develop their skills, thus, in many but not all cases, enhancing their learning strategies. Within the hierarchical culture of Thai nursing, *supervisors' expectations* that added to the stress of being a beginning nursing student in the first phase, are an important motivational factor in the nursing skill development of the participants. The ability of some students to transition from learning in order to meet an external need, i.e. *supervisors' expectations*, to an internal *desire to learn*, marked those students as successful learners who demonstrated critical thinking skills and the ability to integrate theoretical knowledge into the care planning for their patients and to transfer their knowledge to other nursing care situations, and who also subsequently passed the external registration exams.

10. References

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