

Problem-Based Learning: Undergraduate Thai Nursing Students' Perceptions

Manee Arpanantikul, Yuwadee Luecha

Abstract: Problem-based learning, a self-directed means of learning, has been implemented, throughout the world, as a teaching method in nursing. Although schools in Thailand have adopted problem-based learning as a primary teaching-learning method, little is known about how Thai nursing students feel about using such a self-directed approach. Thus, this qualitative study sought to explore undergraduate Thai nursing students' perceptions, regarding learning through the use of problem-based learning, after taking their first 16 week self-directed learning nursing course. A total of 147 first-year nursing students responded to an open-ended question regarding their perceptions about problem-based learning.

Data revealed, via content analysis, students had both optimistic and pessimistic perceptions regarding problem-based learning. Optimistic perceptions were found to include: being an active learner; being a systematic learner; developing friendly relationships; adjusting personal characteristics when learning; and, having freedom while learning. Pessimistic perceptions were found to consist of: being unexcited about learning; carrying out time-consuming learning activities; and, obtaining limited knowledge. These findings provide, for the first time, an understanding of the perceptions of undergraduate Thai nursing students regarding problem-based learning.

Pacific Rim Int J Nurs Res 2010 ; 14(3) 262-276

Keywords: Perceptions; Undergraduate Thai nursing students; Problem-based learning

Introduction

Problem-based learning (PBL) has become an increasingly popular teaching strategy in nursing education because of being a self-directed means of learning that is believed to enhance students' independence, adaptability and life-long learning.¹⁻³ The faculty of a Department of Nursing, located in a large public university in central Thailand, recognized the importance

Correspondence to: Manee Arpanantikul, RN, PhD, Associate Professor, Department of Nursing, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand.

E-mail: ramak@mahidol.ac.th

Yuwadee Luecha, RN, MEd, EdD, Associate Professor, Department of Nursing, Faculty of Medicine Ramathibodi Hospital Mahidol University, Bangkok, Thailand.

of student-centered learning and believed PBL offered an approach, through the use of actual patient situations, that would stimulate critical thinking and problem-solving, as well as provide a means for nursing students to acquire nursing and related science knowledge. Thus, the Department of Nursing implemented PBL, in 1993, as the teaching strategy for the first nursing course in their undergraduate curriculum. Although faculty, since implementation of PBL, have conducted annual course evaluations and the curriculum has been modified prior to the beginning of each new nursing class, little is known about undergraduate Thai nursing students' perceptions about PBL.

Literature Review

Due to the advantages of self-directed learning, PBL has become an accepted teaching strategy and replacement for lecture. The main objectives of PBL are: acquisition of essential knowledge; use of knowledge; and, self-directed learning.⁴ Evidence suggests students taught through a PBL system adopt better approaches to learning than those taught using conventional methods.^{3,5} PBL also has been shown to: promote Thai nursing students' critical thinking skills, self-directed learning and self-esteem;⁶ improve communication and problem solving skills among medical students;⁷ and, assist students in recalling class information, applying class information during field work, and developing new policing, problem-solving and learning skills when working in groups.⁸ In addition, nurse educators have recognized PBL as an instructional method, wherein, real practice situations, encountered by nurses, serve as the catalyst for learning rather than having to rely on an instructor's presentation of content.⁹

Nursing students have been recognized as using a three-step procedure to structure their activities when learning through a problem-based approach.¹⁰ Initially, students explore the problem by clarifying terms and concepts that are not understandable,

creating hypotheses and identifying issues. They then identify what they already know that is pertinent, as well as what they do not know; prioritize their learning needs; set learning goals and objectives; allocate their resources as a group; and, determine which tasks they will do. Next, they engage in a self-directed search for knowledge prior to returning to the group and sharing their new knowledge with the group. This includes applying knowledge and trying to integrate it into a comprehensive explanation. Subsequently, they reflect on what they have learned and the process of learning. This process necessitates facilitators [tutors/faculty members] to be present to assist when needed.

The perceptions of students towards PBL may vary in response to cultural values. Thus, some might gain valuable experiences, while others may respond in opposite ways. Hong Kong students' perceptions of PBL have been found to consist of seven themes: integration of knowing and doing; critical reflection and debate; individuality of learning; self-motivated learning; critical inquiry and independent thinking; timeliness of instruction; and, cooperative learning.¹¹ In addition, Canadian students, involved in focus groups regarding self-direction development using PBL, have described five themes: control as a mirage; overwhelmed and uncertain; confident and responsible; tutor as a guide; and, PBL works and makes sense.¹² In Thailand, medical students' have reported PBL provides them with adequate knowledge related to problem-solving skills in clinical practice compared with lecture-based learning.¹³ PBL also has been assumed to: embrace good learning and teaching principles; promote active and deep learning; and, encourage students to digest information and present it, based on their understanding, to a group.¹⁴⁻¹⁶ Therefore, this study was undertaken to provide an understanding of Thai nursing students' perceptions of PBL, so that future curriculum changes and PBL teaching techniques more appropriately would reflect students' learning needs.

Method

Design: A qualitative design, based on phenomenology, was selected to explore first year undergraduate nursing students' perceptions of PBL. Phenomenology is a study of an experience as perceived from an individual's point of view.¹⁷ When a person experiences a phenomenon, it is done through the individual's perceptions, imagination, thoughts, emotions, desires, volition and actions prior to giving meaning to the experience.¹⁷

Sample and setting: Approval for data collection was granted by the ethical research committee of the Faculty of Medicine Ramathibodi Hospital, the director of the Department of Nursing and the chairman of the "Introduction to Professional Nursing" course. Participants were Department of Nursing students, in a public university in a metropolitan city in central Thailand, enrolled in the course, "Introduction to Professional Nursing", wherein PBL was the teaching-learning method used.

The primary investigator (PI) met with all students, in the course, one week before the course ended and informed them about the: research topic; purpose and usefulness of the study; data collection method (completion of a questionnaire); time commitment to be in the study (45 minutes); and, presentation of the research results as a group versus an individual. In addition, she told them they could withdraw at anytime without repercussions and two months after completing the questionnaire, 20 of them would be randomly selected and telephonically contacted to provide a written answer to an open-ended question, as well as be tape-recorded while being interviewed.

The only inclusion criterion was that the student be enrolled in the "Introduction to Professional Nursing" course. Those consenting to take part in the study were asked to sign a consent form. If a student was under 18 years of age, he/she was required to obtain, from a parent, a signed consent

form. Those who did not participate were not impacted, since the study was conducted at the end of the course.

Although there were 188 (176 females and 12 males) students enrolled in the course, only 147 (137 females [93.2%] and 10 males [6.8%]), 17 to 20 year olds (mean = 18 years), volunteered to participate. All participants were Buddhist, with 121 (82.3%) having parents who lived together. Fifty-five (37.4%) were from the central region of Thailand; 41 (27.9%) were from the northeast; 29 (19.7%) were from the north; 17 (11.6%) were from the south; and, 5 (3.4%) were from the east. Although they had a 3.5 ± 0.25 mean high school grade point averages, none ever had been taught via a PBL method.

Procedure: Prior to entry into the course, students attended an orientation on PBL. The orientation covered: basic principles of PBL; student and tutor roles; and, available learning resources. Students practiced three skills of learning (completing a learning plan, concept mapping and searching for information) with trained instructors so as to understand and be able to apply them. Each student was purposively assigned to a group of 9-10 students led by a PBL trained faculty tutor. Each group met for two hours weekly over 16 weeks, and utilized the PBL process to learn the course content.

Upon completion of the course, those who had consented to participate were asked to respond, in writing, to a two-part questionnaire. The questionnaire was distributed, by the PI, to students while in the classroom. The first part of the questionnaire sought demographic information (i.e. age, gender, religion, region of residence in Thailand, experience with PBL, high school grade point average and parent's marital status) about each subject, including a phone number for the purpose of possible contact in two months. The second part consisted of one open-ended question, "What were the good and bad points of learning with PBL?" Participants were asked to provide a one to two page essay in response to the question. Written responses were requested so as to

obtain information from those who were not as talkative as others, as well as from those who were talkative. In addition, use of a questionnaire provided an opportunity to respond without concern about what others thought or knew about one's response. Participants also were: asked if they had any questions; told that 20 of them would be randomly selected and contacted later for a one-on-one, tape-recorded interview; and, requested to return the completed questionnaire, prior to leaving the classroom, by placing it into an envelope held by the class leader. The class leader sealed the envelope after receiving the questionnaires and posted it to the PI. Upon receipt of the questionnaires, the PI counted and checked them for completeness. A total of 147 completed questionnaires were obtained.

Two month after questionnaire completion, the PI stratified the sample based on the 5 regions of Thailand. She then randomly selected 4 participants from each of the regions. The 20 selected participants consisted of 19 females and 1 male with a 3.47 ± 0.27 mean high school grade point average. The participants were telephonically contacted and informed they had been chosen to respond, in writing a second time, to the one open-ended question ("What were the good and bad points of learning with PBL?"), as well as be interviewed. Each participant was asked to complete his/her written response to the question, while at home or in the dormitory, and then bring the response to the interview. During the telephone conversation, each participant also was asked to provide his/her name and agree to a time for an interview. None of the participants refused to complete a second written response to the one open-ended question or to be interviewed.

Each participant was interviewed in a quiet and private room, in the Department of Nursing. Prior to the beginning of each interview, the PI read the participant's written response to the one open-ended question ("What were the good and bad points of learning with PBL?"). She then asked each participant to provide a more detailed verbal response to the

same open-ended question than was provided in the written response. This procedure was implemented in an attempt to verify verbal responses with written responses and verify tentative findings/interpretations obtained from all 147 questionnaires. If responses differed, the participant was asked what he/she thought about the differences. Each interview was tape-recorded and lasted approximately 20 minutes. The tape-recorded interviews were transcribed verbatim prior to analysis. All data were kept confidential and destroyed upon completion of the study.

Data Analysis: Demographic data were analyzed using descriptive statistics, while qualitative data from the questionnaires and interviews were assessed via Benner's modified content analysis method.^{18,19} To gain overall comprehension of the students' perceptions, all written responses and interview transcripts were read and reread. To validate the investigators' interpretation of the data, two external experts in qualitative research were used until consensus was reached regarding salient themes, as well as categories and sub-categories within each theme. The researchers then met to discuss the substance of words and phrases that were similar within and across groups and agreed upon final labels for the themes, categories and subcategories. These classifications were re-coded to further identify attributes and detect patterns in the data.

Trustworthiness of the study was accomplished utilizing Lincoln and Guba's concept,²⁰ wherein truth value is done by member checking. Consistency was established via presentation of adequate data from the participants and by identifying similar meanings from their responses. Neutrality was determined by using two experts in nursing education to validate the findings. For applicability, the study's design and findings served as an exemplar for others to use when replicating the study in other similar populations.

Findings

Two main themes emerged from the study findings: optimistic perceptions about PBL and pessimistic perceptions about PBL. Within optimistic

perceptions five categories emerged, while three categories emerged within pessimistic perceptions. Each category and its respective sub-categories, with supporting data, are presented below.

Theme 1: Optimistic Perceptions about PBL

Participants indicated PBL challenged them to learn and work cooperatively, as a group, and to seek solutions to real life problems. They also felt identified problems engaged their curiosity and sparked their learning of the subject matter. In addition, participants indicated PBL prepared them to think critically and analytically, as well as to find and use appropriate learning resources. Within Theme 1, five categories emerged: being an active learner; being a systematic learner; developing friendly relationships; adjusting personal behaviors when learning; and, having freedom while learning.

Being an active learner

Students who were active learners indicated they could solve problems, answer questions, formulate questions on their own, discuss, explain, debate and brainstorm during class. Being an active learner was described by way of three subcategories: learning in a self-directed manner, sharing opinions and participating in learning.

Learning in a self-directed manner: Self-directed learning referred to a student-centered approach to learning where learners took control of their own learning processes and experiences. Most students said that they could decide how, where and when to learn the content they had identified as important. As one student stated:

I feel that PBL makes me learn many things by myself. I practice how to study by myself. I can learn whenever I want. I study content that I don't know and bring that information to class so I can explain it to my classmates.

Sharing opinions: Students in the PBL groups exchanged ideas, perspectives and knowledge, and generated new ideas which, subsequently, were discussed among the members. Debate often ensued regarding whether group members agreed or disagreed with the new ideas and why. By sharing opinions, a learning environment was created that caused the group members to pay attention to every opinion that was expressed. Very active students encouraged silent students to contribute ideas, so that everyone had an opportunity to speak. As a student stated:

With PBL, I have an opportunity to exchange, in a group setting, new ideas and to fully share my opinions with other classmates and the teacher. I like to speak, and share ideas and knowledge rather than just sit and listen to others. When I am a group leader, I like to encourage others to speak up.

Participating in learning : Students were involved in taking part in group study, sharing something in common with others, joining with others in class activities, and experiencing ownership of the group. As a result of experiencing ownership of the group, the students tried to move the work of the group forward. The majority of students said they were involved in group discussion, as well as having an opportunity to be heard and have their ideas become part of the group's database. Students indicated their level of participation as follows:

PBL provides an opportunity for every student to participate in learning. When we are in the group, we feel that we are a part of the group and try to do everything to make the group keep going so that we can meet our final learning objectives.

Being a systematic learner

Students who tended to be systematic learners indicated they developed the ability to plan and manage their own learning, and to review and reflect

upon their own investigations and learning skills. Organized learning and systematic working were sub-categories that described being a systematic learner.

Organized learning: The ability to use higher order thinking skills, such as analysis, synthesis, evaluation and creation of new knowledge, denotes the presence of organized learning. Students indicated they had ideas about how to learn and set priorities for their individual learning processes. Through the PBL method, students appeared to understand, as the first step in learning, they should identify the problem, ask questions and provide answers based upon previous knowledge. However, if they could not find any appropriate response to their questions, they should go and find out the answers from other sources. Because of this, most students thought they developed critical thinking skills, as reflected in the following comments:

For the PBL class, I have to organize my learning. Once finishing reading a scenario given by the facilitator, I have to find out the problems; ask questions related to the scenario, and set hypothesis about the possible answers. If I can't get the proper answers, I have to go find the answers before going back to discuss with my friends and facilitator in the next week's class.

When I study in the lecture class, I don't think anything. I come to class and jot down what the teacher teaches. In the PBL class, I have to think all the time when everyone in the group shares their opinion.

Systematic working: The majority indicated learning, with the PBL method, enhanced their ability to learn systematically. They acquired the process of learning by beginning with understanding and specifying problems, thinking critically about problems,

doing a learning plan, doing concept mapping and sharing information with classmates. As one student stated:

PBL makes me understand the learning process. In the past, I just went to the classroom and listened to the lecturer. I read the contents a day or a week before the midterm or final examination started. With PBL, I have the opportunity to arrange my learning systematically. I get to know the problem first and then think about what I know and do not know about the problem. After that, I do my learning plan. Then I go find out the knowledge and do my concept map. When I return to the group, I can share my knowledge in my own words. I am very proud to be able to do that.

Developing Friendly Relationships

Students indicated they developed new friendships through the group learning process and shared interest in the same topics. They also expressed having an opportunity to develop greater understanding of each other. Three sub-categories were found to comprise developing friendly relationships: building close relationships among group members; strengthening group collaboration; and, getting to know and understand colleagues.

Building close relationships among group members: Students tended to be kind to each other. They created friendships with others in the group, as well as with the faculty member. They also tended to acknowledge each other when talking, as well as acknowledge others' feelings and points of view. Listening became common place, with them stopping to realize what it meant to truly listen to one another. Some students even showed empathy towards each other. Sharing private thoughts and/or feelings with others, in the PBL group, appeared to lead to the

development of friendly relationships. For example, as stated by two students:

By studying with the PBL method, my classmates, the tutor [faculty member] and I feel familiar with one another. I get close to everyone in the group. We have a very close relationship between the teacher and the students.

I perceive that PBL makes me have interactions with the tutor [faculty member] and my classmates in a small group. I get to know others very well. Finally, I know the characteristics of each classmate, including the tutor [faculty member] as well.

Strengthening group collaboration: Intensification of working in teams on problems and projects, under conditions that assure both positive interdependence and individual accountability, reflects strengthening group collaboration. It is challenging to work with others in a group to create networking. Students often tended to demonstrate respect for others in the group. They said the PBL method gave them an opportunity to talk, work and learn with others. In addition, PBL required them to engage in active listening, as well as evaluating the overall progress of the group toward a goal. The following statements reflect aspects of strengthening group collaboration:

PBL makes me work collaboratively with others.

PBL makes us work together as a team.

PBL provides a way for us to learn together about a problem. It stimulates us to be able to analyze the problem. It helps us to understand how to work together in a small group of classmates in order to reach success.

Getting to know and understand colleagues:

As a result of leaning about each other, students were able to develop a supportive climate within each of their PBL groups and become willing to openly share, with each other, information they obtained about the topic under study. Getting to know and understand colleagues was reflected in the following statements:

I think PBL helps me meet and understand classmates. Doing small group study is fun.

I feel PBL makes us learn about one another better than when we listen to a lecture. The main reason that we know one another very well is due to the small group learning. The PBL method causes us to thoroughly access the teaching-learning process.

Adjusting personal behaviors when learning

Students noted, when engaged in PBL, they changed from thinking about nothing, when in class, to thinking carefully about data that supported their thoughts about the topic under study. Because they had to take action regarding what they would like to learn, they became aware of the fact they were responsible for their own learning. In addition, they gained confidence and began to feel sure about their abilities and ideas. Lethargic behaviors, related to learning, became enthusiastic and diligent ones. Four sub-categories emerged that described their adjusting personal behaviors when learning: creating rationality and critical thinking; increasing self-confidence; boosting diligence and enthusiasm; and, developing responsibility.

Creating rationality and critical thinking:

Students indicated they began to become critical thinkers and to provide rationale to support what they said and/or wrote. PBL appeared to provide them with ability to engage in problem-solving skills. Being rational, a problem-solver and a critical thinker were reflected in the following comments:

PBL makes me a logical person. It helps me to critically think, to identify the problem, to collect information and to solve the problem.

PBL makes me dare to think and think broadly, and leads me to get new knowledge.

PBL makes me be a critical thinker to solve the problem. I like to think and practice thinking due to PBL.

Increasing self-confidence: Students indicated they believed in their ability to have discussions with others and to retrieve information from various learning sources. As reflected in the following comments, there was a sense of confidence expressed about being able to talk, think, decide on learning goals, evaluate outcomes of the learning process and know how to proceed.

Learning through the PBL method encourages me to speak out more than I was used to. I have more confidence to talk with classmates in the group.

My self-confidence increases after studying with the PBL method. I dare to present my opinion to a group of classmates. I dare to use the computer to search for information.

Boosting diligence and enthusiasm: After engaging in PBL, students commented they had changed their behaviors in learning by staying with learning activities until they were completed or mastered. There was also an increased interest in learning. This was because working in a group tended to promote hard work and greater information retrieval, so as to obtain new knowledge for sharing. As some stated:

I became a hard-working person after studying through the PBL method. I try to look for information from textbooks and the internet in order to find the answers for the learning objectives.

I am eager to search for new knowledge every day. PBL makes me work more and more to get the answers for the problems we are given.

Developing responsibility: Since PBL provided students with feelings of accomplishment, they indicated having increased their personal responsibility for learning. It was their job to deal with group work and make decisions related to it. As students often indicated:

I have more responsibility when I am in a PBL class. When classmates from a small group assign work for everyone to do as homework, I have to do my best with the assigned work.

I know my duty in the group and I am responsible for the topic I select. I try to seek out the content and make a summary for discussion in our group. I will feel bad if I cannot find anything and bring it with me to class.

Having Freedom while Learning

Students thought PBL provided freedom to learn based on the needs and interests of the learners, and that it offered an opportunity to locate new knowledge and think dynamically. Two sub-categories constituted having freedom while learning: independently exploring new information and continuous thinking.

Independently exploring new information: Students believed it was challenging to look for up-to-date information. They searched for information by: surfing the internet; interviewing experts in a given field; using library resources; and, experiencing related real-life situations. Information they sought generally was related to topics they freely selected and were of interest to them. As one student related:

PBL motivates me to freely search for new knowledge. I can access the information through textbooks and the internet. I can do it by myself after I have learned how to use the internet. In addition, I can ask experts about the topic for which I need more information.

Continuous thinking: Often students were found to desire learning additional information related to the scenarios presented during PBL. For example, they asked: “What are the reasons behind decisions, problems, solutions, events or facts?”; “Why is it this way and not another way?” and, “Why not try this action instead of that one?” Students often found the presence of problems to be interesting opportunities. Thus, they did not easily give up when working on a problem, but rather enjoyed the learning challenges they faced, as well as a chance for creative thoughts toward obtaining solutions to a problem. Continuous thinking is reflected in their following comments:

I learn to think every time I am in the small group. The continuous thinking allows me the opportunity to share my opinions and experiences with my group.

PBL is a motivating method that makes the class energetic. Everyone needs to think very productively to make the class lively and enjoyable. After class, I keep thinking about what I have to do to gain the answers for the problems that will be presented in the next group meeting.

Theme 2: Pessimistic Perceptions about PBL

Pessimistic perceptions about PBL addresses the unpleasant or less desirable experiences students had with this teaching-learning strategy. A limited number of select students believed PBL failed to improve their learning processes. These students felt, as a result of PBL, they gained less knowledge compared to when they learned by way of lecture. In fact, a small number of students actually “*hated PBL*” because they disliked speaking, were shy about engaging in discussions and lacked courage to share their thoughts. As a result, they felt time spent

on PBL was wasted. This category consisted of the 3 sub-category attributes: being unexciting about learning; carrying out time-consuming learning activities; and, obtaining limited knowledge.

Being unexcited about learning

A limited number of students felt PBL was an uneventful experience. These students felt that the PBL environment was monotonous, not lively and not likely to surprise them. Three sub-categorical characteristics described being unexcited about learning: experiencing a boring environment; feeling unfamiliar with PBL; and, having personal behaviors not congruent with PBL.

Experiencing a boring environment: An environment that is boring is one that is tedious in reference to learning. Students who expressed boredom with PBL felt the method was “*not thrilling*” because the groups consisted of the same students, who behaved in the same manner, all of the time. For example, there were students who would simply read, to group members, textbook content rather than verbally summarizing, in their own words, the meaning of the information being presented. There were also students who did not prepare for group discussions and, thus, remained silent throughout the group session. In a select number of situations, students would identify one or two topics to present to the PBL group. However, these students failed to prepare for discussion of content beyond those one or two limited topics. As a result, the learning environment was not stimulating and very little sharing of new ideas took place. At times the discussion content was so academic that it made the learning environment very serious and inactive. As students indicated:

I think that students in the group speak so backward and forward that it makes the class environment not fun or energized... it looks like a very lethargic class.

I feel the class environment is so sleepy, boring and repetitive. Some students speak round and round. I feel unpleasant. The contents of discussion are so academic. The class is unexciting so I fall asleep.

Feeling unfamiliar with PBL: Students who were unfamiliar with PBL disliked waiting for an opportunity to exchange knowledge. Often less prepared or shy students would stop and ponder over what they would like to say, which created extensive lags in the group dialogue. By comparison, there were those who were very talkative and would keep speaking without providing opportunities for others to contribute to the group discussion. The following comments reflect students' perceptions of unfamiliarity with PBL:

I feel I am not accustomed to learn with the PBL method. It goes very slowly. I have to wait for other classmates to talk, read and write. I think they can do it faster than this.

I cannot get use to this PBL method. Some students talk so much while others are so quiet. We need to stop the talkative ones and stimulate the quiet ones to speak and share their thoughts.

Having personal behaviors not congruent with PBL: Students who had personal behaviors not congruent with learning with PBL were those who remained attached to conventional teaching/learning activities, such as lecture. These students were found to be sluggish in seeking new information and would sit in class without discussing and/or sharing information. This behavior is reflected in the following students' comments:

I feel my personal characteristics do not fit with this learning style. With the PBL method, I have to speak, but it is difficult for me to adjust myself to speaking more in the group.

I am a lethargic student. I do not like to search for information. Sometimes it is very difficult to seek the information.

I do not speak well. I feel uncomfortable when speaking. I dislike discussing information with classmates in the group.

Carrying out time-consuming learning activities

Engaging in PBL requires involvement in preparation activities that are time-consuming. Students often indicated they had to spend a great deal of time preparing for group discussions, especially when searching for new information from different sources. Sometimes their searches proved futile because they could not find information on the topic under discussion. In addition, after obtaining information, they needed time to read, synthesize and summarize content into their own words before sharing their thoughts and opinions with classmates. Because there were students who engaged in poor time management, they tended to be overwhelmed by the preparation activities involved in PBL. Two sub-categories emerged that describe the characteristics of carrying out time-consuming activities: having difficulty accessing information and unorganized use of time.

Having difficulty accessing information: Select students said that they could not gain access to the library due to limited time, facilities and learning instruments. For example, these students could log onto the internet, but found the system was very slow in retrieving needed information in a timely manner. In addition, there were students who spent considerable time searching for textbooks in the library. Encountering problems with accessing information was reflected in the following students' statements:

I think it is very difficult to hunt for needed information. For some topics, I cannot find resources. The topics are not in textbooks in the nearest library, but they are in textbooks in other libraries which are on another campus. I have to wait for interlibrary loans. Sometimes it takes a long time to get those textbooks... about 1-2 weeks.

The number of computers available on campus is not enough for every student. When I am not in class and need to use a computer, they are all in use. When a computer is available, it is nearly time for the computer center to close. I am very unlucky.

The computers work ineffectively. When I use the internet, the system is so slow that I have to wait for many minutes to get into the website I need to use.

Unorganized use of time: Because of the amount of information students had to retrieve and comprehend in order to meet their learning objectives, they often expressed concern about being able to manage their time efficiently and effectively. They felt most of their study time was lost because of having to read and focus on course content they needed to share with others. Concerns about unorganized use of time are reflected in the following students' comments:

There is a lot to read. I have to divide my time with other subjects. I cannot arrange the time for reading every subject in time. I am so tired.

I cannot organize my time. I have many things to do at the same time. I need more time to study and to search for information.

I should not spend all my time only to this subject. I have to give time to study other subjects as well.

Obtaining limited knowledge

Although there were active students, in the groups, who talked and shared their experiences related to the topic under discussion, at times, no conclusions were made about what the content meant. Students indicated that, at times, their group was silent and no new information was gained due to a lack of sharing. Three sub-categories emerged which describe obtaining limited knowledge: discussing nonspecific issues; failing to generate ideas in the group; and, obtaining superficial and incomplete knowledge.

Discussing non-specific issues: Arguing about content out of the scope of the topic under group discussion reflected discussing non-specific issues. In these situations, students would talk about their personal experiences and life stories. There was nothing new, challenging or attractive about the content being discussed to compel group members to pay attention. As two students indicated:

The group members do not discuss important points. Some speak about unrelated material. I gain very little knowledge from the group.

Some discussions are not appealing to encourage the group to keep thinking. I do not get any new knowledge from these discussions.

Failing to generate ideas in the group: Select students stated their brains were "obstructed" by learning within a group setting. As reflected in the following comment, these students had no ideas about what issues in the learning scenario needed exploration.

I cannot identify problems from the scenarios and have no idea about how to think about solving the problems, [even when they are identified]. My learning process is obstructed.

I have no chance to speak. I think very slowly. Sometimes I get obstructed by what is going on in the group. Therefore, I do not say anything because I cannot catch up on the content.

Obtaining superficial and incomplete knowledge:

Select students indicated they acquired only basic topical information from group members and, because of a limited amount of class time, it was difficult to address course content in-depth. Knowledge gained was perceived to be at a moderate level, with students not feeling confident about the content received from classmates. In such cases, students felt they gleaned more valuable information from tutors (faculty members). As indicated by the following comments, students found a lot of information, but only some of it matched the breadth and depth of the topics being addressed.

Information obtained was not enough. I cannot explain the information to the group members because I do not understand it very well.

The content presented is not deep enough and not focused on the points that we need to know. I spend a lot of time searching for information, but found it to be unhelpful.

The information searching skills of each student are different, so we end up getting incomplete or minimal information.

Discussion and Conclusions

Problem-based learning, as a teaching/learning strategy, was developed for the purpose of improving nursing education by moving from presenting lecture-based content to addressing real-life patient problems. PBL provides students with an opportunity to deal with constructed problems, in the presence of limited information, so as to enhance their abilities to probe

deeply for relevant information, think vigorously and develop life-long learning skills.²¹

According to this study's findings, most perceived PBL in an optimistic manner, with only a select few having pessimistic thoughts about the teaching/learning method. The majority appeared to enjoy learning by way of PBL and felt they could manage this type of learning process. They noted that, under minimal guidance, they had more responsibility for determining what content to learn and how to go about learning it. Students found they could be self-directed learners, search for knowledge from a variety of sources, and share opinions and information. Similar to Silverthorne's findings,²² students felt PBL worked well when all in the group contributed information. In this study, students learned to develop and organize their own systematic way of learning and working together. This led to the development of teamwork and good relationships among group members and the tutor [faculty member]. Because PBL includes group work, consensus building and collaborative decision making, Richardson and Trudeau²³ state it provides for collaborative learning. According to White, Amos and Kouzekanai,²⁴ PBL empowers students to be active learners in the classroom and to have enthusiasm when learning.²⁴

In this study, it was important to note that PBL encouraged students to change their personal learning behaviors with respect to responsibility, confidence and enthusiasm. They indicated a significant advantage to PBL was it developed them into critical thinkers, problem solvers and life-long learners. In addition, PBL taught them how to communicate and obtain information more effectively and efficiently. Thus, the findings of this study are similar to prior research that found PBL encourages students to: learn; be able to apply disciplinary content; develop critical thinking abilities; acquire skills for life-long learning; communication; and, engage in team building.^{11,14,15}

Select students disliked PBL due to: (a) being unexcited about learning (boring environment, unfamiliarity with PBL and personal behaviors not congruent with PBL); (b) carrying out time-consuming learning activities (difficulty accessing information and unorganized use of time); and, (c) obtaining limited knowledge (discussing non-specific issues, failing to generate group ideas, and obtaining superficial and incomplete knowledge). These findings are congruent with prior research which found that some students believe PBL: takes time away from other coursework and home responsibilities;²³ is very time-consuming;⁷ and, leads to student dissatisfaction when group members do not contribute or are not committed to the work that needs to be done.²²

Nursing Implications

Understanding students' optimistic and pessimistic perceptions toward PBL is valuable when making plans to implement undergraduate courses with this teaching strategy. As the findings of this study point out, it is recommended that faculty members desiring to use PBL as a teaching strategy need to be sensitive to: learning resources (fast computers, library access); adequate preparation of students to use a PBL approach; making a schedule that provides adequate time for self study; assisting students with becoming good communicators in a group setting; making certain students learn to apply theoretical knowledge, gained in group discussions, to clinical practice;²⁵ and, creating a learning environment that is supportive and motivating.²⁶

Limitations

The participants' responses may have been affected by the fact that they knew the PI was a member of the nursing faculty and, therefore, gave responses they thought would be considered desirable. As with all qualitative research, investigator bias could have been a factor regarding interpretation of the data.

Finally, it should be kept in mind that the study's findings are generalizable only to similar students from the setting where the data were gathered.

Acknowledgement

The authors are grateful to Professor Pamela Hellings, School of Nursing, Oregon Health & Science University, for her initial editing of the manuscript.

References

1. Baker CM. Problem-based learning for nursing: Integrating lessons from other disciplines with nursing experiences. *J Prof Nurs.* 2000; 16(5): 258-66.
2. Rideout E, England-Oxford V, Brown B, Fothergill-Bourbonnais F, Ingram C, Benson G, Ross M, Coates A. A comparison of problem-based and conventional curricula in nursing education. *Adv Health Sci Educ Theory Pract.* 2002; 7(1): 3-17.
3. Barrow HS. A taxonomy of problem-based learning methods. *Med Educ.* 1986; 20: 481-6.
4. Barrows HS, Tamblyn RB. *Problem-based learning: An approach to medical education.* New York (NY): Springer; 1980.
5. Norman GR, Schmidt HG. The psychological basis of problem-based learning: A review of evidence. *Acad Med.* 1992; 67: 557-65.
6. Arpanantikul M, Thanooruk R, Chanpuelksa P. Self-directed learning readiness, critical thinking skill, and self esteem in nursing students studying through problem based learning. *Thai Nurs Res.* 2006; 10(1): 59-72.
7. Seneviratne R, De A, Samarasekera DD, Karunathilake IM, Ponnampereuma GG. Student's perceptions of problem-based learning in medical curriculum of the Faculty of Medicine, University of Colombo. *Ann Acad Med Singapore.* 2001; 30: 379-81.
8. Werth EP. Student perception of learning through a problem-based learning exercise: An exploratory study. *Policing: Int J Police Strategies Manag.* 2009; 32(1): 21-37.
9. Barrows HS. The essentials of problem-based learning. *J Dent Educ.* 1998; 62(9):630-3.
10. Van Den Hurk MM, Dolmans DH, Wolfhagen IH, Muijtjens AM, van der Vleuten CP. Impact of individual study on tutorial group discussion. *Teach Learn Med* 1999; 11: 196-201.

11. Lee WM, Wong FK, Mok ES. Problem-based learning: Ancient Chinese educational philosophy reflected in a modern educational methodology. *Nurse Educ Today*. 2004; 24: 136-44.
12. Williams B. Self-direction in a problem-based learning program. *Nurs Educ Today*. 2004; 24: 277-85.
13. Paisarntantiwong R. Clinical medical student perceptions about problem-based learning and lecture-based learning. *Vajira Med J* 2001; 45(1): 73-81. [Thai]
14. Heinrichs KI. Problem-based learning in entry-level athletic training professional-education programs: A model for developing critical thinking and decision-making skills. *J Athl Train*. 2002; 37(4 Supplement): S189-98.
15. Wood EJ. Problem-based learning. *Acta Biochim Pol*. 2004; 51(2): xxi-xxxvi.
16. Sattayasai V. Problem based learning as a student-centered learning. Bangkok: Booknet; 1994. [Thai]
17. Smith DW, Thomasson AL. Phenomenology and philosophy of mind. Oxford (UK): Oxford Univ. Press; 2005.
18. Benner P. Quality of life: A phenomenological perspective on explanation, prediction, and understanding in nursing science. *Adv Nurs Sci*. 1985; 8(1): 1-14.
19. Arpanantikul M. Methodological issues: Integration of Heideggerian phenomenology and feminist methodology applied to the study of lived experience in women. *Thai J Nurs Res*. 2003; 7(4): 281-293.
20. Lincoln YS, Guba E. *Naturalistic inquiry*. Beverly Hills (CA): Sage; 1985.
21. Alexander JG, McDaniel GS, Baldwin MS, Money BJ. Promoting, applying, and evaluating problem-based learning in the undergraduate nursing curriculum. *Nurs Educ Perspect*. 2002; 23(5): 248-53.
22. Silverthorne J. Student perceptions of group function in a pharmacy problem-based learning course. *Pharm Edu: Int J Pharm Edu*. 2009; 9(1): 23-28.
23. Richardson K, Trudeau KJ. A case for problem-based collaborative learning in nursing classroom. *Nurse Educ*. 2003; 28(2): 83-8.
24. White MJ, Amos E, Kouzekanai K. Problem-based learning: An outcome study. *Nurse Educ*. 1999; 24(2): 33-6.
25. Wong FK, Cheung S, Chung L, Chan K, Chan A, To T, et al. Framework for adopting a problem-based learning approach in a simulated clinical setting. *J Nurs Educ*. 2008; 47(11): 508-14.
26. Gwee MC. Globalization of problem-based learning (PBL): Cross-cultural implications. *Kaohsiung J Med Sci*. 2008; 24(3 Suppl): S14-22.

การรับรู้ของนักศึกษาพยาบาลไทยเกี่ยวกับการเรียนโดยใช้ปัญหาเป็นหลัก

มณี อากานันท์กุล, ยุวดี ภาชา

บทคัดย่อ: การเรียนโดยใช้ปัญหาเป็นหลักได้ถูกนำมาใช้เป็นวิธีการสอนในการศึกษาพยาบาลอย่างแพร่หลายทั่วโลก แม้ว่าสถาบันการศึกษาพยาบาลหลายแห่งในประเทศไทยได้ใช้วิธีการเรียนโดยใช้ปัญหาเป็นหลักเป็นวิธีการเรียนการสอนเบื้องต้น แต่การศึกษาเกี่ยวกับความรู้สึกของนักศึกษาพยาบาลเกี่ยวกับวิธีการเรียนโดยใช้ปัญหาเป็นหลักมีน้อยมาก ดังนั้นการวิจัยเชิงคุณภาพนี้มีวัตถุประสงค์เพื่อศึกษาการรับรู้ของนักศึกษาพยาบาลไทยเกี่ยวกับการเรียนโดยใช้ปัญหาเป็นหลักภายหลังจากสิ้นสุดการเรียนวิชาการพยาบาลที่ใช้วิธีการเรียนโดยใช้ปัญหาเป็นหลักเป็นเวลา 16 อาทิตย์ นักศึกษาพยาบาลชั้นปีที่ 1 จำนวนทั้งหมด 147 คนเข้าร่วมในการศึกษาครั้งนี้ โดยให้ตอบคำถามปลายเปิดที่เกี่ยวกับการเรียนโดยใช้ปัญหาเป็นหลัก ข้อมูลได้รับการวิเคราะห์โดยใช้วิธีการวิเคราะห์เชิงเนื้อหา พบว่า นักศึกษามีการรับรู้เชิงบวกและเชิงลบเกี่ยวกับการเรียนโดยใช้ปัญหาเป็นหลัก การรับรู้เชิงบวกในการเรียนโดยใช้ปัญหาเป็นหลักประกอบด้วย การเป็นคนกระตือรือร้น การเป็นคนทำงานเป็นระบบ การพัฒนาสัมพันธภาพแบบมิตรภาพ การปรับลักษณะส่วนตัวในการเรียน และการได้รับความอิสระในการเรียน การรับรู้เชิงลบในการเรียนโดยใช้ปัญหาเป็นหลักประกอบด้วย การเรียนที่ไม่ตื่นเต้น การเสียเวลากับการเรียน และการได้รับความรู้น้อย ผลการศึกษานี้ทำให้เข้าใจความรู้สึกของนักศึกษาพยาบาลไทยเกี่ยวกับการเรียนโดยใช้ปัญหาเป็นหลักเป็นครั้งแรกอย่างลึกซึ้ง

Pacific Rim Int J Nurs Res 2010 ; 14(3) 262-276

คำสำคัญ: การรับรู้ นักศึกษาพยาบาลไทยระดับปริญญาตรี การศึกษาพยาบาล การเรียนโดยใช้ปัญหาเป็นหลัก

ติดต่อที่: มณี อากานันท์กุล, RN, PhD, รองศาสตราจารย์ ภาควิชา
พยาบาลศาสตร์ คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัย
มหิดล ประเทศไทย
E-mail: ramak@mahidol.ac.th
ยุวดี ภาชา, RN, MEd, EdD, รองศาสตราจารย์ ภาควิชาพยาบาลศาสตร์
คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล ประเทศไทย