

The Influences of Pair Discussion on Nursing Students' Learning Experience in Problem-based Learning: A Qualitative Inquiry

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Abstract

This study aimed to analyze the influences of pair discussion on the learning experiences of nursing students in PBL classes. As a result of the qualitative content analysis of the related statements extracted from the learner's reflection journal written by nursing students, it was found that the pair discussion experienced by the participants in the PBL process affected the three areas of their learning experiences, including learning ability, problem-solving ability, and communication ability. The findings of this study are expected to provide essential data that are valuable for the development and application of instructional design and teaching methods.

Keywords: Nursing, Student, Learning experience, Problem-based learning, Pair discussion, Qualitative inquiry

1. Introduction

In recent years, nurses' problem-solving abilities have become more critical, and nursing education is also an operating curriculum to achieve these core competencies [1][2][3]. This is because it is required to acquire necessary information based on critical thinking and logical thinking in the face of unpredictable situations and to have the ability to solve problems effectively through accurate situation judgment [2].

Although traditional teaching-oriented lecture-based education methods provide students with a lot of information in a short period, it has been pointed out that there is a limit to the education methods as they do not help students remember the information from their learning [4]. Problem-based learning (PBL) has been proposed to overcome these limitations. PBL has been evaluated as an educational method to improve nursing students' problem-solving ability and critical thinking tendencies [5][6]. In addition, PBL has been reported as improving the learning ability of nursing students by enhancing their meta-cognition, which is self-awareness of the process of thinking and the ability to adjust the process and use his/her gained knowledge [3], and by improving their self-directed learning ability [6].

Students in PBL are sub-grouped to receive clinical patient questions and participate in discussions to find and solve the cause of the clinical problem. Through the

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discussion process, students can improve basic medical knowledge, nursing knowledge, integration of clinical expertise, hypothesis deduction ability, self-directed learning ability, cooperative learning ability, and communication ability. However, it has been reported that only some students participating in the learning process actively participate in learning activities as required by the PBL [7][8]. Therefore, to expect the effectiveness of the PBL learning method, students should be allowed to acquire and train in learning methods such as discussion skills, critical thinking skills, and arguing skills, as well as to find ways to reduce the burden on learning activities.

Pair discussion is a method used in Havruta known as Jewish education [9]. Although Havruta is similar to the existing discussion class, there is a difference between those two discussion methods. The goal of general classroom discussion is usually determined at the beginning of the discussion, while the goal of Havruta education is to develop learners' thinking power and encourage them to find various answers in the discussion process [10].

Havruta is a process of communication involving two or three people pairing up, asking each other, answering the other's questions, and explaining their opinions. It has been reported that the education method of Havruta was effective in raising communication, listening, and persuasion abilities and positively affected interpersonal relations and creativity of individuals and groups, as well as critical thinking and problem-solving abilities [11][12].

This study aimed to investigate the influences of pair discussion on the learning experiences of nursing students in the PBL class and to discuss educational strategies for practical PBL classes in nursing education. In this paper, we want to report the results of the ongoing research.

2. Research methods

This qualitative inquiry uses content analysis to investigate the influences of pair discussion on the learning experiences of nursing students in PBL class based on the reflection journal prepared by the students.

The course selected for this study consisted of applying a pair discussion as a part of the entire PBL class, which operated as a regular curriculum at a university in Korea, and asking students to write a reflective journal about their learning. The course was designed to allow students to meet a patient with specific health problems in a scenario through the PBL process, find problem-solving methods through group activities, and practice the patient's nursing problem-solving process through simulation. The course obtained five domains of learning, including PBL class as a part of learning, so all participants were assigned to participate in 5 PBL classes until the end of the course.

All participants had already participated in two or three PBL lessons in the subject before participating in the study, and it was their first experience participating in pair discussions for all of the participants. In the class, with additional pair discussion, all participants went through 'learning plan - pair discussion - group discussion - whole discussion - reflection.' In the data collection, students were asked to submit the "Learner Reflection Journal" written the day after the class by e-mail to the professor in charge of the PBL class.

The collected data were analyzed using qualitative content analysis, which explores the data and finds the meaning of the data [13]. Among 138 students who participated in the class and submitted the learner reflection journal, the relevant contents about

‘how a pair discussion influenced the personal learning and problem-solving process of nursing students’ were extracted and analyzed.

3. Results

The total number of statements related to the pair discussion experience among the 138 nursing students was 248. These statements were analyzed, and 245 codes, 29 subcategories, and three categories were derived from them (the numbers in parentheses are the number of codes reinterpreted by interpreting participant statements).

3.1. Influences on learning ability

In the pair discussion process, the participants experienced ‘active learning with his/her learning partner’. They taught, learned from each other, and tried to make responsible learning to explain well to their partner.

However, many experienced ‘passive learning depending on his/her learning’. I learned from my partner about the contents that they did not prepare through self-directed study and had the opportunity to supplement what they still needed to know.

The pair discussion also allowed some learners to reflect on ‘self-reflection of learning’. It was an opportunity to be aware of their learning methods or the ultimate reason they learned as a nursing student.

Participants preparing for a pair discussion made an ‘effort to acquire accurate knowledge’. These include experience in finding answers to paired questions, whether the knowledge learned is appropriate, and whether there are errors in gained knowledge.

Participants in pair discussions ‘learned various ways to use learning materials’. The participants searched for information to solve the common problem presented, but some found that both partners brought almost the same information. On the other hand, some participants experienced that even though the contents of the subject and the information were the same, their thoughts about the priority and the weight differed.

Pair discussion allowed participants to demonstrate the learning skills they had not experienced through individual learning before. Participants ‘confirmed that they could get better learning outcomes’.

From the experiences of pair discussion, participants had a positive conviction about their learning ability’. Pair discussion eventually boosted their confidence in the depth of learning, extensive learning, use of knowledge, critical thinking for information uses, and thought for learning. They were also committed to the belief that they had learned effective learning methods and would use them in other learning situations.

On one hand, some participants who felt that they had just begun to get used to the PBL method had ‘a sense of burden about the new learning method’. On the other hand, the existence of a colleague who had to solve the same task as a ‘pair’ had become a driving force for the PBL to ‘reduce the burden on his / her learning under the charge’. Some participants experienced ‘enjoyment in learning’ that they had not tasted before.

3.2. Influences on problem-solving ability

As the focus of the PBL was on solving the problem, the participants stated that the pair discussion helped solve the problem. One participant experienced ‘improvement of learning responsibility’. She felt that she had to do well in the problem-solving process with her learning pair to be successful.

Some participants also experienced a 'rise in confidence' about problem solving as they realized that they had the knowledge needed to solve the problem and that it was solved quickly by pairing and teamwork.

While discussing the problem with their partner, some participants felt 'better concentration' than when they solved the problem alone.

Many participants experienced the 'expansion of thinking' necessary for problem-solving by learning various perspectives of problem recognition and approaches in the problem-solving process with their learning partner.

As the debate progressed, they became more confident in approaching and solving the problems. This was based on learning the thinking process needed to approach the situation and 'improving their critical thinking ability'.

Participants had more discussion opportunities in pair discussions than in group discussions in other PBLs, so they experienced a change of awareness for problem-solving such as 'awareness of the importance of cooperation' and 'learning the attitude of how to cooperate with other health professions'.

Participants felt pressure from the PBL class because they should complete solving problems within the given time. Pair discussions have 'reduced such burdens' and even 'increased relief' for problem-solving because a partner's presence was the companion's object for cooperation and consultation.

Approaching and solving their problems in PBL with previous pair discussions was much easier than in PBL with ordinary talks. This was because they thought that they had already 'secured the comrades to solve the problem with' and 'secured useful knowledge and information' necessary for the problem-solving with the comrades.

3.3. Influences on communication ability

Several statements described the positive (mainly) influences on communication abilities among participants.

Participants could recognize that they were the main characters of the discussion because one of the two people participating in the pair discussion was themselves). The opportunity to express their opinions was abundant compared to the PBL group discussion. Therefore, participants naturally got to 'recognize themselves as important discussion members' and 'actively concentrate on each other for discussion'. Participants in pair discussions were perceived as strong comrades who carried out the same tasks because the pair discussion was 'perceived as a discussion for the same goal'.

In the paired discussion, the participants could 'explore data and knowledge predominantly and lead the discussion' from the beginning to the end, unlike the PBL discussion they had experienced in the past. Through this process, the participant experienced 'mature discussion technique' and 'confidence in participating in debate'.

In addition, the influence of the pair discussion on the participants' communication ability included 'learning the professional value of discussion and collaboration'. Interestingly, one of the participants experienced 'discordance in the topic of discussion' because both she and her learning partner became interested in topics different from those that were required to be discussed as time passed.

4. Discussion

This study aimed to analyze the influences of the pair discussion on the PBL class in nursing and regular courses.

The results of this study showed that the pair discussion influenced the learning, problem-solving, and communication abilities of students participating in the PBL class. Those results are similar to previous studies in Korea that reported positive effects on interpersonal relations, the creativity of individuals and groups, critical thinking, problem-solving ability, communication ability, and persuasion ability [10][11][12]. In addition, the results of this study showed that pair discussion can play a role in facilitating learning activities for students who have difficulties in debating and problem-solving in PBL.

The result of this study is meaningful in that it provided essential data on instructional design and teaching and learning methods to reduce the burden on nursing students' PBL class and facilitate the problem-solving process. Based on the results of this study, we propose the simultaneous application of detailed learning ability training opportunities, such as pair discussion, to the application of 'teaching and learning' to enhance the clinical thinking ability and problem-solving abilities of nursing students.

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