Using Team-based Learning for Junior Nursing Students' Preparation Before Mental Health and Psychiatric Nursing Practicum

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Abstract

Introduction: Junior nursing students who are enrolled in the psychiatric and mental health practicum may feel anxious and stressed due to a lack of self-preparation before taking part in the clinical work. Such feelings can have an influence on self-confidence, which, in turn, can affect achievement of learning outcomes (LOs) and knowledge. Team-based Learning (TBL) is one of the useful techniques that clinical instructors can apply to promote junior nursing students' self-confidence, thus increasing both their knowledge and LOs.

Aims: To compare the pre-test and post-test scores of knowledge and self-confidence to achieve LOs of junior nursing students in both the experimental and control groups.

Materials and Method: This quasi-experimental study employed a two-group pre-test and post-test design. The conceptual framework was developed based on an integration of the framework proposed by Michaelsen et al. (2004) and the Thai qualification framework (TQF). The sample consisted of junior nursing students recruited by means of purposive sampling, with 32 in the experimental group receiving TBL in the orientation class and 32 in the control group who had only self-preparation. Students' knowledge questionnaire, self-confidence for achieving learning outcomes questionnaire, and demographic data questionnaire were used to collect the data.

Results: There were statistically significant differences in both the scores of knowledge and self-confident to achieve learning outcomes of the experimental group received TBL (p < .001) and the control group.

Conclusion: TBL can be used to enable nursing students to achieve learning outcomes in the psychiatric and mental health nursing field.

Keywords: *Readiness's preparation, team-based learning, learning outcomes, Thai qualification framework.*

Introduction

Practicum in mental health and psychiatric nursing is an important subject. At the Faculty of Nursing, Prince of Songkla University, this subject is a required course for junior nursing students in the Bachelor of Nursing Program. The principal content addresses holistic nursing and practice of caring of patients with mental illness as well as people who are at risk of a psychiatric disorder. Nursing students must practice myriad activities such as communicating with patients, performing psychotherapy both individually and in groups, and providing care to patients by doing group activities as the leader, co-leader, or just an observer of the group. In addition, they have to be responsible for medication administration in the wards. The ultimate goal of nursing students is to achieve learning outcomes (LOs) specified in the

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Thai Qualifications Framework for Higher Education (TQF: HEd), the National Education Act 1999 and the revised version (Issue2) 2002, in all six Los as follows: 1) moral and ethics, 2) knowledge, 3) intellectual skills, 4) interpersonal skills and responsibilities, 5) skills related to analysis, number, communication, and use of information technology, and 6) professional skills[1].

A previous study has revealed that practice and training of nursing students caused students to develop a higher level of anxiety than traditional lectures in the classroom because they have to work in a real situation and adjust to a supervisor or related nursing team[2]. Additionally, in a study of learning outcomes in a mental health and psychiatric nursing course, which is a subject that nursing students must pass in their second year before doing the nursing practicum, it was found that most students perceived that the mental health and psychiatric nursing course was an interesting subject but there were around 25 percent of nursing students who thought it was a difficult subject and required a lot of time for preparation for the nursing practicum in the third year.[3] The results of the study showed that there were some students who were still not confident and worried about the practicum in the field. This may be a hindrance that prevents some nursing students from accomplishing their learning outcomes. However, there are previous studies that have shown that if students have an opportunity to learn, to be guided, and to practice in a simulated situation, or when they are able to establish a good relationship with teachers or mentors, their anxiety while doing the practicum in the field could be reduced.[4]

Therefore, in preparing students before doing the practicum in a real situation to enable them to achieve learning outcomes in accordance with the standard of learning outcomes in all six areas, which are important goals in the teaching and learning, it is necessary to develop strategies to teach and assist them. For example, teaching strategies can be changed or adjusted in order to ensure accomplishment of the expected standard of learning outcomes. One way to do that is to use project-based learning and team-based learning, both of which have been reported in previous research as effective teaching strategies that resulted in satisfaction of and positive learning benefits for nursing students.[5,6]

In fact, team-based learning, or TBL, is a method of teaching that focuses on students learning and working together as a small team based on individual differences among team members. This technique is believed to help nursing students to develop the level of cognitive skills in classrooms, particularly weak learners. It also promotes development of interpersonal communication skills and teamwork. In addition, TBL is also a teaching method that helps learners to efficiently apply the knowledge they have gained in classrooms in an actual care setting.[7,8,9]

Prior studies have revealed that when implemented in a classroom, TBL could increase the scores of knowledge with statistical significance ($p < 0.001$).[10] However, in a clinical setting, especially during orientation sessions, there were no studies that have investigated the effectiveness of TBL. Therefore, the present study aimed to compare the pre-test and post-test scores of mental health and psychiatric nursing's knowledge and self-confidence to achieve learning outcomes. Furthermore, the study aimed tocompare mental health and psychiatric nursing's knowledge and self-confidence to achieve learning outcomes after receiving TBL during an orientation session before doing the practicum in the actual clinical setting as part ofa mental health and psychiatric nursing course.

Materials and Method

The present study was quasi-experimental research with a two-group pre-test and post-test design. **Setting of the study:** the study was carried out during the orientation class at the Faculty of Nursing, Prince of Songkla University. **The target population** consisted of junior nursing students who participated in the orientation class conduced for two hours before doing the practicum at the clinic in the second semester of the academic year 2018. The study sample was composed of 64 nursing students who were assigned to the control group and the experimental group. **The purposive sampling technique** was used to recruit the sample. Validity was investigated and confirmed by a panel of three experts. Moreover, a pilot study was carried out with ten nursing students in the first semester of the 2018 academic year. The research instrument was the TBL teaching plan for the orientation class which integrated the conceptual framework of Michaelsen et al.[11] and Thai qualification framework.[1]

The data collection instruments included three questionnaires to elicit data regarding: 1) demographic characteristics of the subjects (gender and age), 2) self-confidence to achieve learning outcomes, consisting of 20 Likert scale items and closed-ended questions,

with the Chronbach's alpha coefficient of 0.91, and 3) knowledge, with 12 items with four response choices and Chronbach's alpha coefficient of 0.70.

Findings: There were 64 junior nursing students who participated in this study. Half of them were assigned to the experimental group who received TBL, while the other 32 were assigned to the control group and had only self-preparation before the nursing practicum. The findings revealed that most of the subjects were female, and the largest group of the subjects in the both groups were 20 years old. The homogeneity of the subjects in both groups was examined using Chi-square test, and no difference between the two groups of subjects was found (p>0.05).

Table 1: Comparison of the scores of knowledge and self-confident to achieve learning outcomes of the experimental and control subjects obtained before and after the implementation of TBL (N=64)

Variables	Self-preparation			TBL		
	Pre-test Mean (SD)	Post-test Mean (SD)	p-value	Pre-test Mean (SD)	Post-test Mean (SD)	p-value
Student' Knowledge	5.437(1.43)	5.593(1.64)	.444	3.906(.39)	11.375(.94)	.000***
TQF						
Over all	78.313(8.64)	79.125(9.52)	.177	77.125(7.94)	79.406(10.47)	.007**
LO1	21.375(2.25)	21.563(2.31)	.544	20.625(2.25)	20.938(2.82)	.282
LO2	9.875(1.73)	10.656(2.07)	.024*	9.844(1.46)	10.594(1.62)	.002**
LO3	6.906(1.08)	7.219(1.23)	.096	6.938(1.01)	7.313(1.40)	.050*
LO4	16.438(2.24)	16.438(2.16)	1.00	16.125(1.84)	16.656(2.47)	.048*
LO5	7.500(1.19)	7.625(1.36)	.525	7.813(1.12)	8.063(1.34)	.088
LO6	16.219(2.26)	16.313(2.01)	.781	15.718(1.84)	15.844(2.10)	.745

*<.05, **<.01, ***<.001

LO1= moral and ethics, LO2 = knowledge, LO3 = intellectual skills, LO4 = interpersonal skills and responsibilities, LO5 = analysis number, communication and use of information technology skills, and LO6 = professional skill

As shown in Table 1, the mean score of knowledge of the subjects in the control group who had only self-preparation obtained after the experiment (M = 5.593, SD = 1.64) was higher than that obtained before the experiment (M = 5.437, SD = 1.43) with no statistical significance at the 0.05 level (p> 0.05). In addition, the mean score of self-confidence to achieve overall learning outcomes obtained after the experiment (M = 79.125, SD = 9.52) was higher than that obtained before the experiment (M = 78.313, SD = 8.64) (p>0.05) higher than before the experiment.

As regards the experimental group, their mean score of knowledge obtained after receiving TBL (M = 11.375, SD = 0.94) was higher than that obtained before the experiment (M = 3.906, SD = 0.39) with statistical significance at the 0.05 level (p<.05). Furthermore, the mean score of self-confidence to achieve overall learning outcomes as expected obtained after the experiment (M = 79.406, SD = 10.47) was higher than that obtained

before the experiment (M = 77.125, SD = 7.94) with statistical significance at the 0.05 (p <.05) level.

When considering each aspect of learning outcomes, it could be seen that, after the experiment, the mean scores of the control subjects who had only self-preparation were higher than those obtained before the experiment as follows: moral and ethics (M = 21.563, SD = 2.31 vs. M = 21.375, SD = 2.25), knowledge (M = 10.656, SD = 2.07 vs. M = 6.906, SD = 1.08), interpersonal skills and responsibilities (M = 16.438, 2.16 vs. M = 16.438, SD = 2.24), skills related to analysis, number, communication, and use of information technology (M = 7.625, SD = 1.36 vs. M = 7.500, SD = 1.19), and professional skill (M = 16.313, SD = 2.01 vs. M = 7.500, SD = 1.19). However, only the post-test mean score of the aspect of intellectual skills was higher than the pre-test mean score with statistical significance at the 0.05 level (p<0.05).

On the other hand, the post-test mean scores of the

aspect of intellectual skills and interpersonal skills and responsibilities (M = 20.938, SD = 2.82; M = 8.063, SD = 1.34; M = 15.844, SD = 2.10, respectively) of the experimental group were statistically significantly higher than the pre-test mean scores (M = 20.625, SD = 2.25; M = 7.813, SD = 1.12; M = 15.718, SD = 1.84, respectively) at the levels of 0.05 and 0.01 ($p<.05$, $p<.01$). In contrast, the post-test mean scores of the aspect of skills related to analysis, number, communication, and use of information technology and the aspect of professional skills (M = 10.594, SD = 1.62; M = 7.313, SD = 1.40; M = 16.656, SD = 2.47 respectively) were not statistically significantly higher than the pre-test mean scores (M = 9.844, SD = 1.46; M = 6.938, SD = 1.01; M = 16.125, SD = 1.84, respectively) at the 0.05 level ($p>0.05$).

The table 2 presents the mean scores of knowledge and self-confident based on the six aspects of TQF of the nursing students in the experimental and control groups after the experiment with TBL. It was found that the students who received TBL (M = 11.375, SD = .94) had higher mean score of knowledge scores than that of the self-preparation group (M = 5.593, SD = 1.64) with statistical significance at the 0.00 level (p = 0.000). In addition, with regard to self-confidence to achieve learning outcomes, the findings revealed that the mean scores of overall confidence to achieve learning outcomes of the two groups of subjects were not statistically significantly different ($p>0.05$). Likewise, the mean scores of self-confidence to achieve each aspect of learning outcomes were not statistically significantly different ($p>0.05$).

Table 2: Comparison of the mean scores of knowledge and self-confidence to achieve learning outcomes between the control group having self-preparation and the experimental group receiving TBL TBL (N = 64)

Variables	Groups		p-value
	Self-preparation Mean (SD)	**TBL Mean (SD)**	
Student' knowledge	5.593(1.64)	11.375(.94)	0.000***
TQF			
Over all	79.810(9.53)	79.406(10.48)	0.872
LO1	21.563(2.31)	20.938(2.82)	0.337
LO2	10.656(2.07)	10.594(1.62)	0.894
LO3	7.219(1.23)	7.313(1.40)	0.778
LO4	16.438(2.16)	16.656(2.47)	0.708
LO5	7.625(1.36)	8.063(1.34)	0.200
LO6	16.313(2.01)	15.844(2.10)	0.364

*<.05, **<.01, ***<.001

Discussion

Nursing students who were prepared for their practicum in an actual clinical setting with TBL had a statistically significantly higher level of knowledgeable than those of had only self-preparation. One plausible explanation is that TBL positively affects knowledge based on the four key principles of TBL, which are 1) to organize the right team related to skills and abilities of students, 2) to assign students to have some preparation before participating in the orientation class, 3) to encourage students to focus on both individual goals and group goals, and 4) 4) to enable students to reflect on both the individual and group processes of learning,[12]

which lead to the exchange of knowledge in actual situations by students. To further explain, TBL enables nursing students to develop greater understanding of the lessons. As in the experiment, the students were assigned to prepare themselves before going to the clinics using the three steps. First, as for pre-class preparation, the students were assigned to review the lessons and the contents of mental health and psychiatric nursing via the Learning Management System (LMS2@PSU) for two weeks prior to the orientation. After that, in the class (in-class), both individual tests and group tests were administered. Finally, in the last step, the students were asked to reflect on the problems and obstacles

they faced in each group. Such activities were related to using teamwork as a basis to help the students gain an understanding of the lessons and motivate them to learn. As a result, with the nursing students who received team-based learning had statistically significantly higher post-test scores compared to the students who had only self-preparation and were taught in a regular classroom.[9,13,14,15,16] Moreover, it could be observed that TBL enabled the students to receive higher grades than those of the students who studied in a regular classroom or with self-directed learning at 0.001.[17] Therefore, it could be concluded that TBL could be implemented to effectively facilitate learning and increase learning outcomes of nursing students.

When it came to the self-confidence to achieve overall learning outcomes, as for the subjects in the experimental group and control group, it could be seen that the post-test scores of both groups increased with statistical significance. In particular, the students' mean scores of intellectual skills and interpersonal skills and responsibilities were higher than pre-test mean scores with statistical significance at the 0.01 level, hence further evidence of the effectiveness of TBL. It was found in this study that nursing students perceived that they had more confidence that they were able to create work and have more positive thinking.[5,7] Finally, TBL could promote nursing students' responsibilities, especially when learning and working in a team.[10]

Conclusion

Team-based learning is a learning method that helps junior nursing students be prepared by equipment them with knowledge and self-confidence, which, in turn, enables them to achieve desired learning outcomes while doing their practicum in an actual clinical setting. Therefore, clinical instructors should apply TBL in the orientation class to ensure that the junior nursing students who are about to begin their practicum have necessary knowledge and self-confidence, hence more likelihood that the expected learning outcomes will be achieved.

Recommendation for Future Studies: Studies should be undertaken to follow up the levels of knowledge and self-confidence to achieve learning outcomes of the junior nursing students in mental health and psychiatric nursing after completing their practicum course.

Conflict of Interest: Nil

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