Enhancing Learning, Classroom Engagement, and Attitude through Team-Based Learning among Vietnamese Nursing Students: A Quasi-Experimental Study

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Abstract: Due to the increasing number of students each year in Vietnam and elsewhere, current active teaching methods and traditional lecture methods face many difficulties. Therefore, innovation in teaching methods is necessary to meet training needs and ensure training quality. Even though team-based learning is widely used globally, there is still no scientific evidence of the effectiveness of this method in health education in Vietnam. This quasi-experimental study compared individual and team readiness scores and satisfaction in students undergoing team-based learning. The study also compared the effects of the team-based learning method versus traditional lectures on final test scores, classroom engagement, and students' attitudes toward team-based learning. The study was conducted on 192 fourth-year bachelor of nursing students at the University of Medicine and Pharmacy, Hue University, in the 2022-2023 school year. Students participated in three Nursing Care for Adults with Internal Medicine Disease course modules. Data were collected using five instruments: a Demographic Questionnaire, the Student Preparation Questionnaire, the Classroom Engagement Survey, the Team-Based Learning Student Assessment Instrument, and the Attitudes toward Different Aspects of Team Learning. The data were analyzed using descriptive statistics, independent t-test, and chi-square using SPSS version 20.0.

The findings revealed that students in the team-based learning group had mean scores on the team readiness test significantly higher than the individual readiness test in all three modules, and satisfaction with team-based learning was high. When comparing the two groups, the students in the team-based learning classes had significantly higher scores on classroom engagement and more positive attitudes toward this type of learning than those in traditional classes. However, the two groups had no significant difference in final test scores. We recommend that universities in Vietnam urgently consider applying the team-based learning method to many courses for nursing students, given its potential to enhance classroom engagement and foster positive attitudes. However, before widespread application, more research is needed on factors that can affect the effectiveness of team-based learning, such as the capacity of lecturers, teaching assistants, and infrastructure conditions. More extensive research in more courses, more students, and longer periods are needed to see the long-term benefits of team-based learning.

Keywords: Lectures, Nursing education, Nursing students, Team-based learning, Traditional learning, Vietnam

Received 8 March 2024; Revised 6 August 2024; Accepted 19 August 2024

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https://doi.org/10.60099/prijnr.2024.268402

Introduction

Active learning methods are gradually attracting attention in the health education field because they are believed to enhance knowledge retention and skill application.[1] Team-based learning (TBL) is an active learning method that divides instruction into small groups. Educational theory, according to TBL, is learner-centered and teamwork skills.[2] Learning in groups helps promote interaction, exchange, and discussion in small groups, helping to enhance learners' ability to work collectively and active critical thinking.[3] TBL allows students to reveal contradictions between current knowledge and new experiences, stimulating new personal inquiry based on previous knowledge. Because of these aspects, TBL is a method to enhance healthcare education qualifications.[4] TBL is used widely in health sciences education. Around the world, medical schools from many countries, including the UK, Australia, China, and Singapore, have applied the group learning method in the curriculum to promote learners' initiative, creativity, and analytical and problem-solving abilities and create more excitement in learning.[5-8] TBL was evidenced to help students perform better on post-test scores, significantly higher in all subjects taught using TBL.[9] These results imply that TBL helps the learning process improve. Not only does it keep students engaged throughout the learning process, but it also stimulates critical thinking, problem-solving skills, and confidence.[9] Additionally, most studies of TBL in medicine and other disciplines show improvements in test scores, knowledge, classroom participation, and student satisfaction.[10] Besides the positive results on student satisfaction and engagement when participating in TBL, the knowledge acquisition and retention results are more mixed. There is no clarity on the value of implementing TBL in clinical specialties.[11]

Although TBL is an effective teaching and learning strategy, to the best of our knowledge, it has yet to be applied as a teaching method in universities, including health universities, in Vietnam. In recent years, due to the increasing demand for nursing human resources in the country and other countries in the region, at the University of Medicine and Pharmacy, Hue University, the number of students enrolling in nursing majors has increased by around 200-300 students per year. Several active teaching methods have been implemented for students, like problem-based and flipped learning. However, applying those methods to big classes of students also faces difficulties. In Vietnam, there still needs to be scientific and practical evidence to prove the effectiveness of this method. In-depth research is required before the TBL method is widely used to teach nursing students.

Literature Review

TBL is a learner-centered strategy in which the instructor is a facilitator who combines group work and classroom assessment to enhance active learning and critical thinking.[12] According to Parmelee's[13] instructions, the TBL lesson includes six steps. **Step 1** – Advance transfer: Outside of class/individual: Learners prepare for the TBL lesson. Students will conduct Readiness Assurance Testing (RAT), which determines if they are ready or prepared for foundational knowledge before class on their own to move on to the next section. RAT is divided into individual readiness assurance testing (iRAT) and team readiness assurance testing (tRAT). **Step 2** – Individual readiness test (i-RAT): In class/individually. Each learner individually completes a set (10-20) of multiple-choice questions (MCQs). **Step 3** – Team readiness test (t-RAT): In class/group: The same set of questions of i-RAT. However, now the group must answer them through a consensus-building discussion. **Step 4** – Instructor's clarifying assessment. In class/instructor. Learners receive clear explanations from their instructors about the concepts they do not understand during the t-RAT test. **Step 5** – tAPP – Team application: In class/group. Groups are presented with a situation/model similar to the problem they may face in their careers. **Step 6** – Complaint: Leave the class/

group. A group may ask the instructor to consider an alternative answer to the one designated as "best."[13]

Many universities worldwide have applied TBL in their teaching strategies and achieved many positive results. Some studies have evaluated the effectiveness of TBL teaching methods based on iRAT and tRAT scores and enjoyment of TBL. For example, a study in Singapore using TBL among 125 year-one nursing students found that all quizzes significantly increased scores from iRAT to tRAT.[14] Another study assessed TBL acceptance by students in a Saudi medical school where 63.2% of students expressed "Agree or strongly agree" about working in teams during TBL.[15] The TBL preference is also evidenced in previous studies. For instance, a study by Vannini on the effects of online TBL showed the overall mean TBL-SAI score was 109.7±10.8, higher than the neutral cut-off score (99 scores).[16] According to a study on pharmacy and biomedical students in the United Kingdom, the TBL-SAI's total mean score was 115.6 ± 5.6.[17] In addition, some studies have compared the effectiveness of class participation levels, group learning attitudes as well as scores between TBL learning groups, and groups learning using traditional learning methods. For example, Sanad's meta-analysis study showed that the TBL method increased students' final scores compared to traditional learning methods. Sanad also indicated that the mean score of nursing students in the final exam within the TBL classes was higher than in traditional lectures.[18] A randomized controlled trial compared the effects of TBL and traditional lectures in a course on postpartum hemorrhage for midwifery students in Indonesia and found that over three weeks, there was a significant difference in the classroom participation ratings between the intervention and control groups.[19] Another study showed that medical students display better attitudes toward group learning with TBL than traditional lectures.[20] In Vietnam, there is still a lack of research evaluating the effectiveness of group learning methods for nursing students, hence this study.

Study Aim

This study aimed to 1) compare individual preparedness [Readiness Test (i-RAT)] and team readiness test (t-RAT) among students in a TBL group, and the satisfaction of the TBL experience, 2) compare the final test score, classroom engagement, and attitudes of nursing students toward TBL between students in the TBL group and the traditional lecture group in three modules. We evaluated the efficacy of the TBL for Vietnamese nursing students studying nursing care for adults with an internal medicine disease.

Methods

Study Design: This study used a quasi-experimental study. Our report followed the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) guidelines.[21]

Sample and Setting: This study was conducted at a university in Vietnam. The participants were fourth-year, full-time Bachelor of Nursing students. We used G*power software to calculate sample size to compare the difference between two independent means (two groups),[22] with an effect size of d = 0.50, a significance level (α) of 0.05, and a power of 0.80. The total sample size was 128, with at least 64 students for each group.

Inclusion criteria were all students enrolled in the course and agreeing to participate in the study. We excluded students having previously participated in research involving the use of the TBL method, having experience with TBL in other courses, and students absent during the study period. We presented the teaching plan for this subject. We selected all the 4th year students taking Adult Nursing Courses and invited them to participate. Finally, 192 agreed to participate, then we randomly assigned them to the TBL class (TBL group) (n = 97) and traditional class (traditional lecture group) (n = 95).

Ethical Considerations: The approval was obtained by the Human Research Ethics Committee,

Hue University of Medicine and Pharmacy Hospital (No: H2023/431-QD/DHYD). Students received all information about the research. All the ethical standards of research followed anonymity, voluntary participation, and the right to refuse to participate. The ethical considerations related to data collection focused on informed consent, protection from harm, and ethical principles for medical research involving human subjects. The study purpose, methods, the use of results, and the possibility of refusing or withdrawing from a study at any time were emphasized before obtaining written consent from the participants. All students in our study were over 18 years old and signed the informed consent form. The students' names were not linked with the surveys. Research data were handled exclusively by the researchers.

Research Instruments: There were five instruments for data collection and intervention.

A Demographic Questionnaire was developed by the researchers. It included age, gender, and the average score of the student's previous semesters was collected based on the final test score of the seven semesters the student experienced in the first three and a half years of the Bachelor of Nursing Course.

The Student's Preparation Questionnaire: This questionnaire was designed by our research team, the lecturers in this course, to assess students' knowledge preparation regarding the content of three modules: musculoskeletal, digestive, and urinary diseases. The designed questionnaire was then revised by the Head of Internal Medicine Nursing Course and Vice Dean of Faculty. These questionnaires were used for the individual readiness assurance test (iRAT) and team readiness assurance test (tRAT). Each questionnaire consists of 20 multiple-choice questions, e.g., "Clinical manifestations of decompensated cirrhosis" in the digestive module. Each question has four answers, and only one is correct. Students who answered each question correctly rated 1 point, and those answering incorrectly or not answering rated 0 points. The total score ranges from 0-20 points. The test reliability was assessed using the Kuder-Richardson 21 formula. The reliability of Module 1, 2, and 3 questionnaires was 0.81, 0.83 and 0.85, respectively.[23]

The Classroom Engagement Survey (CES-Survey) was developed by Haidet[24] to assess student class participation in general education environments and later adapted for use in nursing education. It contains eight items, e.g., "Most students were actively involved," using a 5-level Likert scale ranging from strongly disagree (1) to strongly agree (5). Possible scores range from 8-40, with higher scores reflecting a higher level of student engagement in the classroom. The instrument's reliability in this study was Cronbach's alpha, which was 0.78.

The TBL-Student Assessment Instrument (TBL-SAI) was developed by Mennenga[12]. It contains 33 items with three subscales: Accountability, Preference for Lectures, and Student Satisfaction.[12] In this study, we used the Student Satisfaction scale comprising nine items to evaluate students' satisfaction when learning using the TBL method. The response uses a Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The scores range from 9-45, with higher scores representing student's higher satisfaction with the TBL learning method. An example of this is "I enjoy team-based learning activities." The Cronbach's alpha in this study with 97 students in the TBL group was 0.94.

The Attitudes toward Different Aspects of Group Learning (ATL) is an instrument created by Parmelee.[25] It is used to evaluate students' attitudes when studying in groups. It includes 19 questions, e.g., "I have found working as part of a team in my class to be a valuable experience." All items are rated on a 5-point Likert scale ranging from "Strongly Disagree" = 1 to "Strongly Agree" = 5. The score ranged from 19-95, with a higher score indicating a higher positive attitude. Cronbach's alpha reliability in this study was 0.95.

All five instruments were used with permission from the authors and were translated into Vietnamese using the Brislin back-translation model[26] to ensure

consistency between the tools' original and translated versions. During the translation process, the content of the instruments was validated by two nursing experts and a medical education expert.

The Intervention: TBL Course Design (PBL-CD) and Implementation

The research team organized a tutorial session for students to introduce the steps in a TBL lesson and how to implement the TBL learning method. Ninety-seven students in the TBL group were divided into ten small groups. Each group had 9-10 students.

The Nursing Care for Adults with Internal Medicine Diseases Course includes lecture content on health care for adults with digestive, urinary, and musculoskeletal diseases. Designing the TBL course for this subject, we divided all the lectures according to the above topics so students could learn more systematically. We divided it into three modules: (1) Nursing care for adults with musculoskeletal diseases, (2) Nursing care for adults with digestive diseases, and (3) Nursing care for adults with kidney and urinary diseases. Modules were designed according to content and topic, not the difficulty level.

Each module was designed to teach according to the six basic steps of the TBL teaching method. **Step 1**: Prepare before class: Students were provided with different learning resources about one week before class. **Step 2**: (iRAT) with 20 multiple choice questions for each module to assess the student's preparation. **Step 3**: (tRAT). The tRAT also includes 20 questions with the same content as the iRAT test. The iRAT and tRAT were done without the support of books, notebooks, or the internet within 15 minutes. We used immediate feedback assessment techniques in tRAT to provide feedback on group answers. **Step 4**: Answer to clarify the groups' problems. The group's controversial issues were noted on the blackboard. Then, the lecturer allowed all class members to explain questions. After that, the lecturer would answer any questions that students and the class members could not resolve. **Step 5**: Solve problems through specific case exercises. All modules in TBL are four periods long, starting with the iRAT and tRAT, followed by an application section to solve case studies. **Step 6**: Finish. The teacher synthesizes ideas to remember before students end the lesson.

Number of TBL lessons: Three lessons, of which one lesson is a module designed in a 4-period lesson (50 minutes/1 period).

Teaching organization: Each TBL session requires one lecturer and one assistant lecturer. The lecturer conducts group discussions, explains issues that students do not understand, and works with students to solve problems designed in case exercises. The assistant lecturer provides technical support while students take individual and group tests.

Traditional lecture-based course design: Before the course started, an introduction to the course content and teaching methods was held. Teaching content was designed for each lecture, which lasted 1-2 periods.

To avoid interference factors related to lecturers, the research team designed the teaching plan so that the lecturer responsible for teaching any module to the TBL class would teach those lessons to the traditional class. All lecturers and students were trained and knew how to conduct the course.

Data Collection was conducted from February to May 2023. Each self-report questionnaire took around 10-15 minutes to complete. All questionnaires were checked for completeness to ensure no data were missed. Research assistants were responsible for collecting data.

Evaluating learning effectiveness of TBL through scores: For groups studying using the TBL method: through the change in scores between the iRAT and the tRAT of each module. Students took multiple-choice iRAT in a lecture setting. Students answered 20 questions in 15 minutes. Students completed all questions and noted down answers to prepare for group discussion. At this stage, the answer had not been given. The sequences of students' activities were answering 20 multiple-choice iRAT

in 15 minutes after each 3-module and noting down answers to prepare for group discussion. At this stage, the answer had not been given. Each correct answer in iRAT would receive 1 point, and each incorrect answer would receive 0 points.

The groups discussed questions similar to those in the iRAT test and provided group answers to all questions in 15 minutes. In this stage, groups discussed the questions on the scratch cards, which were designed with the correct answers below the scratch cards. Groups had three chances to get the correct answer. The tRAT score ranges from 0 to 1 point. If the group answered correctly the first time, they got 1 point; the second was 0.50, and the third time was 0.25 points. If they answered incorrectly three times, they got 0 points. The answers appeared immediately because the scratch card had a signal below the correct answer. Individuals and teams could then determine their own and the team's scores. Then, groups submitted their answer sheets.

We evaluated the effectiveness of learning scores between the TBL and the traditional lecture group by the final test score. This final test was conducted for each individual, including 100 multiple-choice questions, and lasted 60 minutes. Its content was related to the lessons/modules learned.

Data Analysis: Data were entered, processed, and analyzed using SPSS 20.0 software. Mean, standard deviation, maximum, and minimum values were used to describe continuous variables. The Kolmogorov-Smirnov test was used to test the normality of data. The homogeneity between the two groups before intervention was checked using the independent t-test and Chi-square test. We used the independent t-test to compare the two average values between the comparison and the intervention groups.

Results

There were 192 participants in total: 97 nursing students in the TBL group and 95 in the traditional lecture group. In the TBL class, most participants were female, and the mean age was lower than that in the traditional class. The average score for the previous semester in the TBL group was lower than that of the traditional lecture group. However, the experimental and traditional lecture groups did not significantly differ in their characteristics (**Table 1**).

Table 1. Characteristics of the two groups

Characteristics		TBL group (n = 97)	Traditional lecture group (n = 93)	Statistic value	p-value
Age		21.11 ± 0.41	22.06 ± 0.25	-1.01[a]	0.315
Gender	Male	9	5	1.06[b]	0.407
	Female	88	88		
Mean score from previous semesters		6.76 ± 0.50	6.83 ± 0.43	0.97[a]	0.325

Note. a = Independent t-test; b = Chi-square test

There was a statistically significant difference between the iRAT and tRAT average scores. The average tRAT score was always higher than the iRAT score in all modules ($p < 0.05$) (**Table 2**). For satisfaction, the mean scores and the standard deviations for satisfaction in TBL using the TBL questionnaire were 36.18 ± 4.43, range = 17-45, and neutral cut-off = 27. Overall, many students gave high scores, revealing a high satisfaction with the TBL learning experience. For the final test, the TBL's average score (mean ± SD) = 7.01 ± 0.79 and the traditional lecture group = 6.94 ± 0.87. The two groups had no statistical difference ($t = -0.59$, $p > 0.05$).

Table 2. Average iRAT versus tRAT score of TBL groups (n = 97)

Module	iRAT	tRAT	t	p-value
Module 1	7.30 ± 1.26	9.58 ± 0.35	-17.36	< 0.001
Module 2	5.20 ± 1.02	9.01 ± 0.22	-37.26	< 0.001
Module 3	6.89 ± 1.16	9.63 ± 0.18	-23.34	< 0.001
Average 3 modules	6.46 ± 0.84	9.41 ± 0.19	-33.78	< 0.001

Table 3. The mean TBL-SAI score of the TBL group

Variable	Mean ± SD	min-max	Neutral cut-off
Student satisfaction	36.18 ± 4.43	17-45	27

Table 4. The mean difference in final exam scores between two groups

Group	TBL group (n = 97)	Traditional lecture group (n = 93)	t	p-value
Final exam score (mean ± SD)	7.01 ± 0.79	6.94 ± 0.87	-0.59	0.553

Results in **Table 5** show a statistical difference in the total average CES score of the TBL and the traditional lecture group ($p < 0.001$). Students in the TBL class agreed that most students were actively involved, the class was fun, members contributed meaningfully to class discussions, and most students paid attention.

Table 5. Comparison of classroom engagement between 2 classes

Classroom engagement survey	TBL group (n = 97)	Traditional lecture group (n = 93)	t	p-value
1. Most students were actively involved	4.09 ± 0.69	3.55 ± 0.89	4.69	< 0.001
2. I had fun in class today	4.18 ± 0.71	3.87 ± 0.65	3.09	0.002
3. I contribute meaningfully to class discussions	4.04 ± 0.59	3.09 ± 0.75	9.73	< 0.001
4. Most students were not paying attention	3.84 ± 0.93	3.30 ± 0.83	4.16	< 0.001
5. I paid attention most of the time	3.92 ± 0.61	3.85 ± 0.79	0.66	0.506
6. I did not enjoy class today	4.07 ± 0.95	4.04 ± 0.79	0.23	0.819
7. I participated in class most of the time	4.00 ± 0.63	4.11 ± 0.73	-1.09	0.279
8. I would like more class sessions to be like this one	4.18 ± 0.66	3.98 ± 0.74	1.94	0.054
CES (mean ± SD)	32.31 ± 3.83	29.78 ± 3.92	4.49	< 0.001

Note. t = Independent t-test

Students' attitudes toward group learning in the TBL group were better than in the traditional lecture group. The mean attitude score of "Team impact on clinical reasoning ability" was the highest and "Overall satisfaction with team experience" was the lowest. Only the "Professional Development" aspect results showed no significant difference between the two groups (**Table 6**).

Table 6. Comparison of mean scores of students' attitudes towards TBL between 2 classes

Attitudes towards TBL	TBL group (n = 97)	Traditional lecture group (n = 93)	t	p-value
Overall satisfaction with team experience	3.98 ± 0.51	3.68 ± 0.47	-4.14	< 0.001
Team impact on quality of learning	4.02 ± 0.57	3.65 ± 0.50	-4.68	< 0.001
Satisfaction with peer evaluation	3.99 ± 0.55	3.65 ± 0.50	-4.41	< 0.001
Team impact on clinical reasoning ability	4.06 ± 0.52	3.75 ± 0.47	-4.31	< 0.001
Professional development	4.00 ± 0.50	3.93 ± 0.47	-1.07	0.288
Total	4.01 ± 0.48	3.73 ± 0.36	-4.50	< 0.001

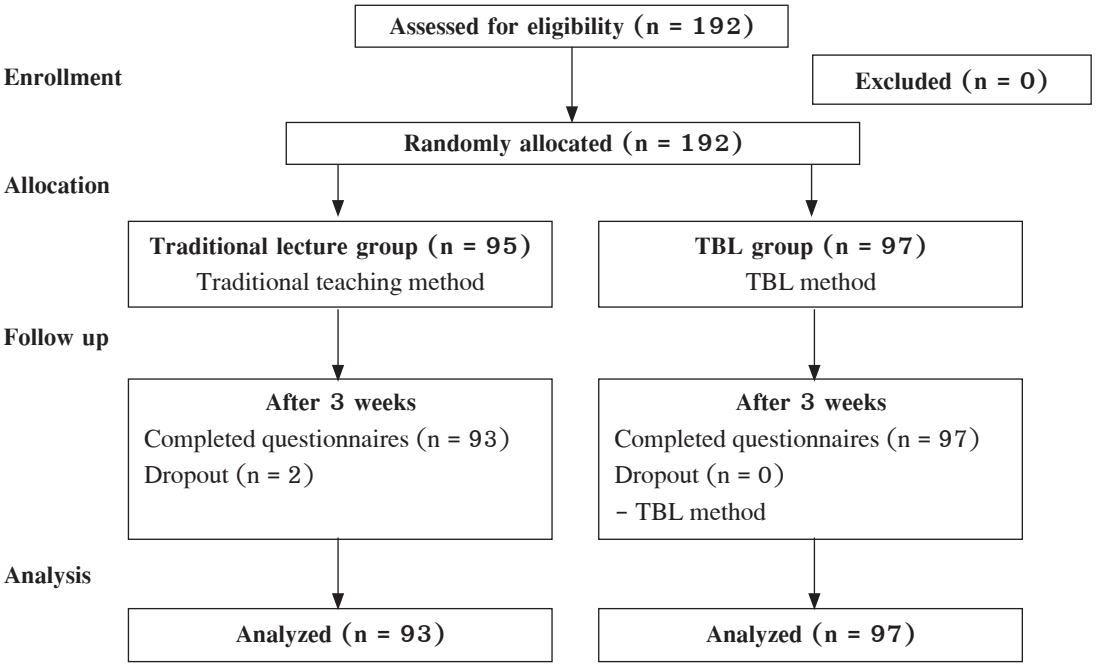

Figure 1. Flow diagram of the study

Discussion

This study compared two methods of learning, TBL and traditional lectures. The results indicated the superiority of TBL to lectures. Students' mean score of tRAT was significantly higher than iRAT in the TBL group, indicating that students were well prepared individually and excellent in their discussion and group work efforts. This result highlights the success of TBL in promoting collaborative problem-solving, critical thinking, and peer learning, which contributes to improved TBL classroom performance. This result is similar to a previous study in that the tRAT scores in all online TBL sessions showed a significant improvement compared to iRAT scores.[16] According to a comprehensive study, when many people participate in solving a problem, the results will be better than if only one individual tried to do this.[27]

The research results on student satisfaction when learning TBL in our study were 36.18, higher than the average score (neutral cut of 27), similar to previous studies, for example, a study by Tan with an average student satisfaction score of TBL 31.82.[28] Another study in Singapore conducted TBL on 68 nursing students, and the average satisfaction score of TBL was 33.5.[29]

Most students thought group learning activities were an effective learning method and had positive attitudes towards group learning activities. This attitude revealed that students found TBL changed their learning process and made lessons more engaging. TBL can be a suitable method to support students in learning vocational knowledge and clinical careers.

However, when comparing the scores in the final exam, we found no difference between the TBL group and the traditional lecture group. Our findings differed from those in another study in which the final test scores for the TBL class were significantly higher than the lecture-based learning class.[30] Five important factors for the successful implementation of TBL are level of participation, expertise, resources, time, and course characteristics. Our research may be affected because the faculty teaching TBL and the teaching assistants did not have much experience, and the time to organize the course was quite short. Our research results revealed that a higher tRAT than iRAT score may not guarantee the TBL is more effective than the traditional learning method for the final test score. Regardless of the score results, TBL is being applied more widely in health science teaching in many countries because TBL is not only to ensure learning content but also to solve problems with a deep understanding of the topic. These findings raise the issue of continuing more research on the impact of TBL on students' final test scores and finding out the factors that affect students' theoretical test scores.

This study found a difference in student classroom engagement between the two groups. The TBL group has a higher average score on classroom engagement than the traditional lecture group. This result is similar to a study in Indonesia on nursing/midwifery students whose CES score after learning TBL was higher than after learning by lecture.[19] Another study on medical students also detected the same result.[20] The reason seems to be that most of the time, the students in the TBL class were asked to hold discussions, which is different from those in the traditional class who learned inactively.[19] Applying TBL with group interaction and collaboration can promote students' interest in learning, leading to more active participation in classroom exercises and activities. These results are also consistent with other reports that have confirmed the role of TBL in creating a favorable environment for collaborative learning.[31]

We used the ATL questionnaire to assess students' attitudes towards group learning. The results showed a positive attitude toward TBL preference in almost all aspects of the attitude toward group learning. This result shows that after the TBL course, students have a more positive attitude toward the group work experience than that with the traditional method with lectures. Previous studies also showed the same results. For example, a study showed positive results on overall satisfaction with group work experience after TBL intervention.[16] Through data analysis, we found that the "Impact on learning quality" area received higher ratings in the TBL than in the traditional lecture group. This result is consistent with a previous study that after learning TBL, the score related to the impact on learning quality was higher than before TBL.[32] These results revealed that students appreciate TBL in improving learning efficiency compared to traditional learning methods. Student evaluations in the "peer assessment" area in the TBL group were higher than in the traditional lecture group and gave the lowest score among the five aspects. This result was similar to a previous study where online TBL in biochemistry for medical students found that receiving constructive feedback from peers had the lowest average scores.[33] Previous studies have demonstrated that many students

do not like peer assessment.[33,34] On the other hand, students must be fully trained to understand the feedback process to apply the peer assessment method.[35] These results suggest that peer assessment needs to be trained for students before conducting TBL. Our study also showed that "students' perceptions of the impact of groups on clinical reasoning ability" in the TBL group were significantly higher than the traditional lecture group. This finding was similar to a study by Vanini.[16] This result could be explained by the fact that traditional teaching methods emphasize mastery of academic textbooks through memorization, thereby limiting critical thinking and problem-solving skills.[36] Data analysis of this study also demonstrated that the "Professional Development" average score in the TBL group was higher than the traditional lecture group. It is easy to understand because the TBL class has group work done throughout all three modules. Meanwhile, traditional classrooms only have group work at certain times, depending on each lecture. In particular, group work was not organized as systematically as the teamwork design in TBL. Furthermore, TBL has been described as more effective in developing clinical performance skills than traditional teaching because traditional teaching methods emphasize mastery of academic textbooks through memorization, thereby limiting critical thinking and problem-solving skills.[36] However, this difference is not statistically significant. Therefore, further research is needed to clarify this result.

Limitations

The research was conducted in one subject of one course, only on fourth-year nursing students, and in a short period; thus, generalization is limited. In addition, despite the teaching staff not being involved in data collection, there may also be bias because TBL students did not provide negative feedback. The students could have compromised research integrity by sharing and discussing different methods within the same module. Besides, the results of the study may be affected by the capacity of lecturers and teaching assistants during the class process. In the future, it is necessary to expand the research on other students in different years and subjects. Lecturers, especially teaching assistants, need to be trained more carefully to ensure improvement in the quality of TBL teaching. The number of students in each group should be smaller. Longer-term research should be conducted to determine the effectiveness of TBL.

Conclusion and Implications for Nursing Education

The TBL, implemented with the internal medicine adult nursing subject with three modules, was more effective than the traditional lecture method in enhancing preparation for learning, classroom engagement, and a more positive attitude through TBL among Vietnamese nursing students. We recommend that Vietnamese educators gradually apply TBL to teaching nursing students. Before widespread application, more research is needed on factors that may affect the effectiveness of TBL. In particular, the issue of training in skills to organize and implement TBL teaching for lecturers is very important. The lecturers teaching this course had been trained by experts from Korea on "Facilitating Skills in Team-Based Learning Classrooms." However, for Vietnam, TBL is a relatively new teaching method, so more training courses, more continuity, and training for more participating lecturers are needed so that TBL can be applied more widely and effectively.

Acknowledgments

We acknowledge all participants and those who made this study possible. Thanks to the University of Medicine and Pharmacy, Hue University, for funding and supporting this study.

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การพัฒนาการเรียนรู้ การมีส่วนร่วมในชั้นเรียน และทัศนคติผ่านการเรียนรู้แบบทีมเป็นฐานในนักศึกษาพยาบาลเวียดนาม : การศึกษากึ่งทดลอง

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บทคัดย่อ: เนื่องจากจำนวนนักศึกษาเพิ่มขึ้นทุกปีทั้งในเวียดนาม และที่อื่นๆ วิธีการสอนเชิงรุกที่ใช้ในปัจจุบันและวิธีการบรรยายแบบดั้งเดิมจึงเผชิญกับปัญหาอย่างมาก ดังนั้น นวัตกรรมในวิธีการสอนจึงมีความจำเป็นเพื่อตอบสนองความต้องการในการฝึกอบรมและมั่นใจในคุณภาพการฝึกอบรม แม้ว่าการเรียนรู้แบบทีมเป็นฐานนั้น จะใช้กันอย่างแพร่หลายทั่วโลก แต่ก็ยังไม่มีหลักฐานที่เป็นวิทยาศาสตร์อย่างชัดเจนที่แสดงให้เห็นถึงประสิทธิภาพของวิธีการนี้ในการศึกษาด้านสุขภาพในเวียดนาม การศึกษากึ่งทดลองนี้มีวัตถุประสงค์เพื่อเปรียบเทียบคะแนนความพร้อมของรายบุคคลและความพร้อมของทีมและความพึงพอใจของนักศึกษาที่ได้รับการเรียนรู้แบบทีมเป็นฐาน และเพื่อเปรียบเทียบผลของวิธีการเรียนรู้แบบทีมเป็นฐานกับการบรรยายแบบดั้งเดิมต่อคะแนนสอบปลายภาค การมีส่วนร่วมในชั้นเรียน และทัศนคติของนักศึกษาต่อการเรียนรู้แบบทีมเป็นฐาน ดำเนินการวิจัยในนักศึกษาพยาบาลระดับปริญญาตรีชั้นปีที่ 4 จำนวน 192 คนจากวิทยาลัยแพทยศาสตร์และเภสัชศาสตร์ มหาวิทยาลัยเว้ ในปีการศึกษา พ.ศ. 2565-2566 นักศึกษาเข้าร่วมในโมดูลรายวิชาการพยาบาลผู้ใหญ่ที่มีโรคทางอายุรศาสตร์ 3 โมดูล รวบรวมข้อมูลโดยใช้เครื่องมือ 5 ชุด ได้แก่ แบบสอบถามข้อมูลประชากร แบบสอบถามการเตรียมตัวของนักศึกษา แบบสำรวจการมีส่วนร่วมในชั้นเรียน เครื่องมือประเมินการเรียนรู้แบบทีมของนักศึกษาและทัศนคติต่อด้านต่างๆ ของการเรียนรู้แบบทีมเป็นฐาน ข้อมูลวิเคราะห์ด้วยสถิติเชิงพรรณนา การทดสอบทีอิสระ และไคสแควร์โดยใช้โปรแกรม SPSS เวอร์ชัน 20.0

ผลการศึกษาพบว่านักศึกษาในกลุ่มการเรียนรู้แบบทีมเป็นฐานมีคะแนนเฉลี่ยความพร้อมในแบบทีมสูงกว่าการทดสอบความพร้อมรายบุคคลอย่างมีนัยสำคัญทางสถิติทั้ง 3 โมดูล และความพึงพอใจในการเรียนรู้แบบทีมเป็นฐานอยู่ในระดับสูง เมื่อเปรียบเทียบทั้งสองกลุ่ม นักศึกษาในชั้นเรียนที่ใช้การเรียนรู้แบบทีมเป็นฐานมีคะแนนการมีส่วนร่วมในชั้นเรียนสูงกว่าอย่างมีนัยสำคัญ และมีทัศนคติเชิงบวกต่อการเรียนรู้ประเภทนี้มากกว่านักศึกษาในชั้นเรียนแบบดั้งเดิม อย่างไรก็ตาม คะแนนการสอบขั้นสุดท้ายของทั้งสองกลุ่มไม่มีความแตกต่างกันอย่างมีนัยสำคัญ ผู้วิจัยเสนอแนะให้มหาวิทยาลัยในเวียดนามพิจารณานำวิธีการเรียนรู้แบบทีมเป็นฐานไปใช้กับรายวิชาในหลักสูตรต่าง ๆ สำหรับนักศึกษาพยาบาลอย่างเร่งด่วน เนื่องจากวิธีการดังกล่าวมีศักยภาพในการเพิ่มการมีส่วนร่วมในชั้นเรียนและส่งเสริมทัศนคติเชิงบวก อย่างไรก็ตาม ก่อนที่จะนำไปใช้อย่างแพร่หลาย จำเป็นต้องมีการวิจัยเพิ่มเติมเกี่ยวกับปัจจัยที่อาจส่งผลต่อประสิทธิผลของการเรียนรู้แบบทีมเป็นฐาน เช่น ความสามารถของอาจารย์ผู้ช่วยสอน และสภาพโครงสร้างพื้นฐาน จำเป็นต้องมีการวิจัยที่ครอบคลุมทั้งหลักสูตรต่าง ๆ และนักศึกษามากขึ้น และใช้เวลานานขึ้นเพื่อประเมินประโยชน์ในระยะยาวของการเรียนรู้แบบทีมเป็นฐาน

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คำสำคัญ: การบรรยาย การศึกษาพยาบาล นักศึกษาพยาบาล การเรียนรู้แบบทีมเป็นฐาน การเรียนรู้แบบดั้งเดิม เวียดนาม

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