

Effectiveness of Incorporating the Think Pair Share Technique Into Cooperative Activity-Based Learning on English-Major Students' Teamwork Ability

ประสิทธิผลของการใช้กลวิธี Think Pair Share ในการเรียนรู้แบบร่วมมือโดยการจัดกิจกรรมเป็นฐานที่มีต่อความสามารถในการทำงานเป็นทีมของนักศึกษาวิชาเอกภาษาอังกฤษ

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บทคัดย่อ

การเรียนรู้แบบร่วมมือเป็นกลไกสำคัญที่มักใช้ในระดับอุดมศึกษาเพื่อการพัฒนาการทำงานเป็นทีมของนักศึกษา วัตถุประสงค์ของการศึกษาค้นคว้าครั้งนี้คือ เพื่อประเมินประสิทธิผลของการใช้กลวิธี Think Pair Share ในการจัดการเรียนการสอนโดยใช้กิจกรรมเป็นฐาน ตามแนวคิดการเรียนรู้แบบร่วมมือเพื่อส่งเสริมความสามารถในการทำงานเป็นทีมของนักศึกษาวิชาเอกภาษาอังกฤษและสำรวจความพึงพอใจต่อโปรแกรมการเรียนการสอน การเลือกกลุ่มตัวอย่างเป็นการเลือกแบบสะดวกจากนักศึกษาที่ลงทะเบียนเรียนวิชา Assessment and Evaluation Instruments ที่ผู้วิจัยเป็นผู้สอน ในภาคเรียนที่ 2 ปีการศึกษา 2562 จำนวน 60 คน เครื่องมือที่ใช้ในการศึกษาได้แก่ แผนการจัดกิจกรรมเป็นฐานด้วยกลวิธี Think Pair Share ตามแนวคิดการเรียนรู้แบบร่วมมือ แบบประเมินระดับความสามารถในการทำงานร่วมกันเป็นทีมของนักศึกษาด้วยการประเมินตนเองและโดยเพื่อนประเมินเพื่อน และแบบวัดความพึงพอใจต่อโปรแกรมการจัดกิจกรรมเป็นฐานตามแนวคิดการเรียนรู้แบบร่วมมือ ผลการศึกษาพบว่า หลังจากการทดลองนักศึกษามีความสามารถในการทำงานเป็นทีมอยู่ในระดับ “สูง” ทั้งจากการประเมินตนเองและโดยเพื่อนประเมินเพื่อน นักศึกษามีความพึงพอใจต่อโปรแกรมการเรียนการสอนอยู่ในระดับ “สูง” ข้อค้นพบจากการวิจัยบ่งชี้ว่าโปรแกรมการเรียนการสอนที่นำเสนอเป็นทางเลือกที่ดีที่จะใช้เพื่อพัฒนาทักษะการทำงานร่วมกันเป็นทีมของนักศึกษา

คำสำคัญ: การเรียนรู้โดยจัดกิจกรรมเป็นฐาน; การเรียนรู้แบบร่วมมือ; นักศึกษาวิชาเอกภาษาอังกฤษ; กลวิธี Think Pair Share; ความสามารถในการทำงานเป็นทีม

Abstract

Cooperative learning is often employed in higher education to help students develop their teamwork skills. The purpose of this study was to assess the effectiveness of incorporating the Think Pair Share technique into cooperative activity-based learning to enhance English-major students'

teamwork ability and to survey students' satisfaction toward the use of Think Pair Share technique in cooperative activity-based learning. A convenience sample of 60 students who enrolled in the author's "Assessment and Evaluation Instruments" course, in the second semester of academic year 2019, was used as research participants. The instruments utilized were: an instructional plan, a self-assessment/peer assessment questionnaire, and a satisfaction survey questionnaire. The results indicate that upon completion of the intervention, the students' teamwork ability was at a "High" level, based on both self-assessment and peer assessment. Students' satisfaction toward the instructional program was also at a "High" level. These findings indicate that the proposed instructional program can be a good alternative to implement in order to develop students' teamwork skills.

Keywords: *activity-based learning; cooperative learning; english-major students; teamwork ability; think pair share technique*

Introduction

Teamwork has now been essential in most modern organizations in a rapidly changing world of work. In university settings, students are often assigned to work in small groups for a variety of activities such as seminars, presentations, study groups, and research projects (Prichard, Stratford, & Bizo, 2006). Cooperative and collaborative learning has been instrumental in higher education in helping students develop their teamwork skills and acquire the course subject matters (Curseu, Chappin, & Jansen, 2018).

Businesses and most organizations tend to distribute their tasks in teams consisting of personnel from different areas (Curseu, Janssen & Raab, 2012), so teamwork has become a major factor for work accomplishment. According to Partnership for 21st Century Learning (Crane, Wilson, Maurizio, Bealkowski, Bruett, & Couch, 2003), "Collaboration, teamwork, and leadership" is one of the seven essential skills of 21st century learning (Trilling & Fadel, 2012). To prepare students for their future careers, it is necessary for teachers to integrate teamwork across the curriculum as a means for learning and for professional development (Bravo, Catalán, & Pina., 2019; Chiriac, 2008; Napier & Johnson, 2007; Parsazadeh, Ali & Rezaei, 2018).

Cooperative learning is a "communicative strand" in the foreign or second language (L2) classroom (Oxford, 1997). It is one form of active learning that promotes students' interaction and engagement in the learning environment. Cooperative learning is defined as "group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in-groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of other" (Olsen & Kagan, 1992). This instructional approach

emphasizes, sharing knowledge, experiences, and authority, in small groups that work together in such a way that each group member's success is dependent on success of the group (Panitz, 1999).

Think Pair Share is an activity-based active learning strategy, in which individual students first work on their own, then in pairs, and finally as a classwide discussion (Kothiyal et al., 2013; Lyman, 1987). The Think Pair Share technique encourages students to express their ideas, to reflect on their thinking, and to share and obtain feedback on their understanding (Kothiyal, Majumdar, Murthy, & Iyer, 2013). The technique is thus appropriate to use to promote cooperative learning.

In view of the fact that teamwork is an essential skill for both students' academic success and their future career accomplishment, this study aimed to propose an instructional program which incorporates the Think Pair Share technique into cooperative activity-based learning to enhance English-major students' teamwork ability.

Research Objectives

1. To assess English-major students' teamwork ability after the use of Think Pair Share technique in cooperative activity-based learning.
2. To survey students' satisfaction toward the use of Think Pair Share technique in cooperative activity-based learning.

Research Questions

- RQ 1. To what extent does the proposed instructional program promote students' teamwork ability as estimated by students' self-assessment?
- RQ 2. To what extent does the proposed instructional program promote students' teamwork ability as estimated by peer assessment?
- RQ 3. To what extent are students satisfied with the proposed instructional program?

Literature Review

Many scholars used the Think Pair Share technique to enhance students' academic performance. Raba (2017) employed the Think Pair Share technique to enhance students' oral communication skills and found that the technique played a positive role, creating a cooperative learning environment and increasing students' academic level. Kwok and Lau (2015) found that the Think Pair Share technique helped students solve challenging mathematics problems significantly better, be more motivated and enthusiastic, and reduce their anxiety. Sahardin, Hanum and Gani (2017) showed that the Think Pair Share technique helped improve students' descriptive writing ability significantly in the mastery of organization, vocabulary, content, mechanics, and grammar, respectively. Thomas (2014) proposed a framework for a collaborative writing assignment to develop students' ability to work in teams. The results showed that the collaborative writing assignment helped students learn about working in teams, have a positive experience of working in teams, and believe that it can be used

in real life. Slone and Mitchell (2014) utilized Google Docs to facilitate Think Pair Share activities with their 25 doctoral students. Students indicated that they benefited from discussing and learning beyond the content through reflections and discussions of responses on the Google Docs.

Regarding teamwork ability, employing problem-based learning in web-based environment created students' positive attitude and helped their team-working (Yueh & Lin, 2005). A study on online course using collaborative learning components, with 197 graduate students, revealed that the three extracted online collaboration factors (Team Dynamics, Team Acquaintance, and Instructor Support) accounted for 53% of the variance in online teamwork satisfaction (Ku, Tseng & Akarasriworn, 2013). Kapp (2009) proposed a team-building strategy to improve students' abilities to work together in teams, consisting of an initial team-building workshop, collaborative learning, and subsequent evaluation and feedback. The results showed that students had positive perceptions of team performance and positive perceptions of team performance and the overall value of collaborative learning. Yusof, Hassan, Jamaludin, and Harun (2012) utilized a cooperative problem-based learning (CPBL) framework to guide students through the PBL cycle according to the cooperative principles in order to develop a learning community. The findings showed that CPBL helped students learn together with team members, as well as the whole class.

Research Methodology

Conceptual Framework

Figure 1 depicts a framework for cooperative activity-based learning. The proposed framework integrates cooperative learning with activity-based learning focusing on the Think Pair Share technique. It is hypothesized that the intervention will be able to enhance students' teamwork ability and students will have high satisfaction toward the proposed instructional program.

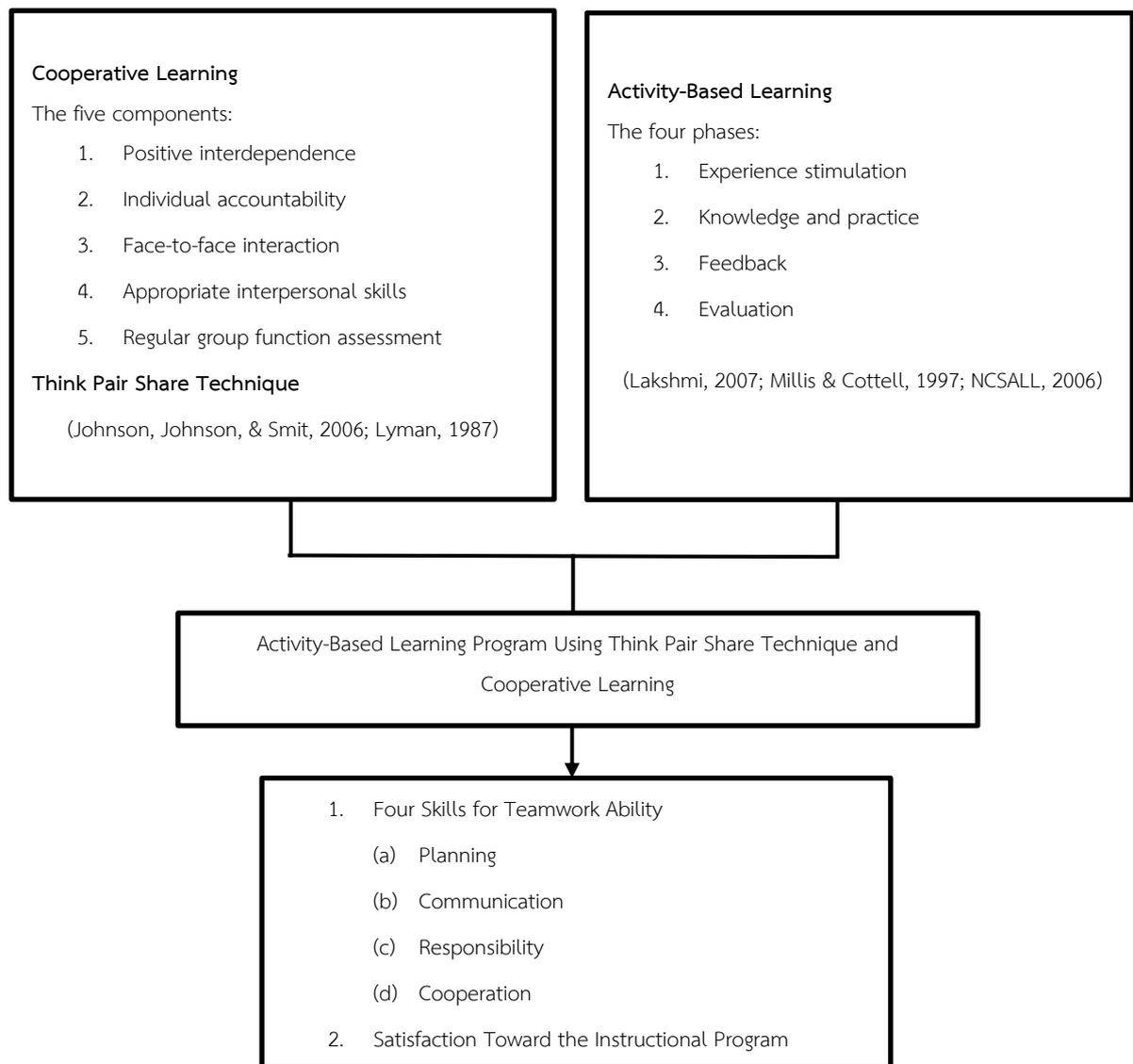


Figure 1: Cooperative Activity-Based Learning Using Think Pair Share Technique Framework

Participants and Instruments

A convenience sample of 60 third-year English-major students from two separate sections, enrolling in the course “Assessment and Evaluation Instruments” in the second semester of the academic year 2019, participated in this study. The course was a compulsory course for English as an International Language (EIL) track of English-major students. The students were entirely of typical third-year university age (20-22), and the majority of them were female. A convenience sample was employed because this study was classroom research and the author conducted this course.

Employing the cooperative activity-based learning using Think Pair Share technique, three topics from the course syllabus, namely, Introduction to assessment and evaluation, Types of tests, and Designing classroom language tests, were selected to develop three separate modules for students

to learn. The other two instruments used for data collection included Teamwork Behavior Questionnaire and Satisfaction Toward the Learning Modules Survey Questionnaire. The other two instruments used were Teamwork Behavior Questionnaire and Satisfaction toward the Instructional Model Survey Questionnaire. These two instruments were adapted from Kaewkongka (2017).

Procedure

During the six weeks of the experiment, participants engaged in all course activities in the three learning modules developed by the author. The course activities were primarily geared toward course contents and cooperation. Upon completion of the experiment, they were asked to complete the Teamwork Behavior Questionnaire to assess themselves (Self-Assessment) and to assess their team members (Peer Assessment). Students were also requested to complete the Satisfaction Toward the Learning Modules Survey Questionnaire.

The results were analyzed using percentage points and mean scores for further interpretation. Based on a five-point Likert Scale, the following criteria were adopted:

- 4.50-5.00 = Highest
- 3.50-4.49 = High
- 2.50-3.49 = Moderate
- 1.50-2.49 = Low
- 1.00-1.49 = Lowest

Results and Discussion

Results

RQ 1. Students' Teamwork Ability as Estimated by Students' Self-assessment

Table 1: *Teamwork Effectiveness by Students' Self-Assessment*

| Components | Teamwork Behavior | | | | | Mean | Level |
|---|-------------------|-------|-------|------|------|------|-------|
| | 5 | 4 | 3 | 2 | 1 | | |
| Planning | | | | | | | |
| 1. Contributing to setting team goal | 55.56 | 28.57 | 9.52 | 4.76 | 1.59 | 4.32 | High |
| 2. Contributing to designing the operational plan | 61.90 | 20.63 | 11.11 | 4.76 | 1.59 | 4.37 | High |
| 3. Agreeing on the same operational goal | 57.14 | 26.98 | 12.70 | 3.17 | 0.00 | 4.38 | High |
| | | | | | | 4.35 | High |

| Teamwork Behavior | | | | | | | | |
|--|-------|-------|------|------|------|-------|---------|------|
| Components | 5 | 4 | 3 | 2 | 1 | Mean | Level | |
| Communication | | | | | | | | |
| 4. Daring to share insightful opinions | 61.90 | 28.57 | 1.59 | 7.94 | 0.00 | 4.44 | High | |
| 5. Listening attentively to team members' opinions | 66.67 | 26.98 | 1.59 | 4.76 | 0.00 | 4.56 | Highest | |
| 6. Collaborating on sharing opinions | 65.08 | 22.22 | 7.94 | 4.76 | 0.00 | 4.48 | High | |
| | | | | | | 4.49 | High | |
| Responsibility | | | | | | | | |
| 7. Understanding one's own role and responsibilities in the team | 68.25 | 23.81 | 3.17 | 3.17 | 1.59 | 4.54 | Highest | |
| 8. Performing assigned tasks attentively | 65.08 | 25.40 | 3.17 | 6.35 | 0.00 | 4.49 | High | |
| 9. Helping team members after one's task completed | 63.49 | 25.40 | 4.76 | 3.17 | 3.17 | 4.43 | High | |
| | | | | | | 4.49 | High | |
| Cooperation | | | | | | | | |
| 10. Listening to team members' opinions and discussing them constructively | 65.08 | 25.40 | 3.17 | 6.35 | 0.00 | 4.49 | High | |
| 11. Contributing to resolving the problems | 63.49 | 22.22 | 4.76 | 4.76 | 4.76 | 4.35 | High | |
| 12. Forgiving and encouraging team members when making mistakes | 68.25 | 19.05 | 9.52 | 3.17 | 0.00 | 4.52 | Highest | |
| | | | | | | 4.46 | High | |
| | | | | | | Total | 4.45 | High |

The results from students' self-assessment indicate that generally students' teamwork effectiveness was at a "High" level (Total M = 4.45). When comparing the teamwork skills, it was found that the Communication Skills and the Responsibility Skills were both the highest with a mean score of 4.49, followed by the Cooperation Skills (M = 4.46) and the Planning Skills (M = 4.35), respectively. Additionally, the three subskills which had the "Highest" level mean scores (M > 4.49) were "Listening attentively to team members' opinions" (M = 4.56), "Understanding one's own role and responsibility in the team" (M = 4.54), and "Forgiving and encouraging team members when making mistakes" (M = 4.52), respectively.

RQ 2. Students' Teamwork Ability as Estimated by Peer Assessment

Table 2: Teamwork Effectiveness by Students' Peer Assessment

| Components | Teamwork Behavior | | | | | Mean | Level |
|--|-------------------|-------|-------|------|---|------------|---------|
| | 5 | 4 | 3 | 2 | 1 | | |
| Planning | | | | | | | |
| 1. Contributing to setting team goal | 41.03 | 43.59 | 15.38 | 0 | 0 | 4.26 | High |
| 2. Contributing to designing the operational plan | 51.28 | 38.46 | 10.26 | 0 | 0 | 4.41 | High |
| 3. Agreeing on the same operational goal | 43.59 | 33.33 | 23.08 | 0 | 0 | 4.21 | High |
| | | | | | | 4.29 | High |
| Communication | | | | | | | |
| 4. Daring to share insightful opinions | 58.97 | 25.64 | 15.38 | 0 | 0 | 4.44 | High |
| 5. Listening attentively to team members' opinions | 71.79 | 23.08 | 5.13 | 0 | 0 | 4.67 | Highest |
| 6. Collaborating on sharing opinions | 53.85 | 33.33 | 10.26 | 2.56 | 0 | 4.38 | High |
| | | | | | | 4.50 | Highest |
| Responsibility | | | | | | | |
| 7. Understanding one's own role and responsibilities in the team | 64.10 | 30.77 | 5.13 | 0 | 0 | 4.59 | Highest |
| 8. Performing assigned tasks attentively | 66.67 | 30.77 | 2.56 | 0 | 0 | 4.64 | Highest |
| 9. Helping team members after one's task completed | 51.28 | 35.90 | 12.82 | 0 | 0 | 4.38 | High |
| | | | | | | 4.54 | Highest |
| Cooperation | | | | | | | |
| 10. Listening to team members' opinions and discussing them constructively | 58.97 | 38.46 | 2.56 | 0 | 0 | 4.56 | Highest |
| 11. Contributing to resolving the problems | 64.10 | 30.77 | 5.13 | 0 | 0 | 4.59 | Highest |
| 12. Forgiving and encouraging team members when making mistakes | 58.97 | 30.77 | 10.26 | 0 | 0 | 4.49 | High |
| | | | | | | 4.55 | Highest |
| | | | | | | Total 4.47 | High |

The data in Table 2 reveal students' teamwork effectiveness as assessed by their team members. Each student was requested to assess their team members' teamwork behaviors. In general, students' teamwork effectiveness was at a "High" level, Total M = 4.47, a little high than their self-assessment mean score shown in Table 1 (Total M = 4.45). The overall results from both students' self-assessment and students' peer-assessment; therefore, support that students' teamwork

effectiveness was at a “High” level. However, when considering the details, the order of the mean scores of the four skills was different from that of their self-assessment. In students’ peer assessment, the mean score of the Cooperation Skill was the highest (M = 4.55), followed by the Responsibility Skills (M = 4.54), Communication Skills (M = 4.50), and the Planning Skills (M = 4.26), respectively. In addition, the first three skills were all at the “Highest” level (M > 4.49), and the four subskills: “Listening attentively to team members’ opinions” (M = 4.67), “Performing assigned tasks attentively” (M = 4.64), “Understanding one’s role and responsibilities in the team” (M = 4.59), “Contributing to resolving the problems” (M = 4.59), and “Listening to team members’ opinions and discussing them constructively” (M = 4.56), reached the “Highest” level.

RQ 3. Students’ Satisfaction Toward the Proposed Instruction Program

Table 3: Students’ Satisfaction Toward Cooperative Activity-Based Learning Using Think Pair Share Technique

| Components | Degree of Satisfaction | | | | | Mean | Level | |
|---|------------------------|-------|-------|------|------|-------|-------|------|
| | 5 | 4 | 3 | 2 | 1 | | | |
| 1. Phase of collaboration on studying the content | 21.43 | 75.00 | 3.57 | 0.00 | 0.00 | 4.18 | High | |
| 2. Phase of pairing off to perform the task | 46.43 | 32.14 | 14.29 | 7.14 | 0.00 | 4.18 | High | |
| 3. Phase of making a presentation and group evaluation | 53.57 | 28.57 | 17.86 | 0.00 | 0.00 | 4.36 | High | |
| 4. Working in pairs and being able to cooperate with team members promote unity leading to goal achievement | 21.43 | 57.14 | 14.29 | 7.14 | 0.00 | 3.93 | High | |
| 5. The Think Pair Share technique makes me interact with team members and helps reduce conflicts. | 35.71 | 39.29 | 17.86 | 7.14 | 0.00 | 4.04 | High | |
| | | | | | | Total | 4.14 | High |

Regarding students’ satisfaction toward activity-based learning using Think Pair Share technique, the results in Table 3 show that the students were satisfied with all learning activities at a “High” level (Total M = 4.14). Their highest satisfaction (M = 4.36) was at the “Phase of making a presentation and group evaluation, and the lowest was (M = 3.93) at “Working in pairs and being able to cooperate with team members promote unity leading to goal achievement”.

Discussion

The aim of this study was to assess the effectiveness of incorporating the Think Pair Share technique into cooperative activity-based learning to enhance English-major students' teamwork ability. Upon completion of employing this instructional program, students were requested to conduct self-assessment and peer assessment to evaluate their own teamwork ability and their team members' teamwork ability. They were also asked to complete a questionnaire to reveal their satisfaction toward the instructional program.

The results from students' self-assessment and peer assessment showed that the effectiveness of students' teamwork ability was at a "High" level. The results from their self-assessment indicated a total mean score of 4.45 while those from peer assessment yielded a total mean score of 4.47. Looking into details of each skill of teamwork ability, the two highest mean scores from self-assessment were the Communication skill ($M = 4.49$) and the Responsibility skill ($M = 4.49$), whereas the highest mean scores from peer assessment were the Cooperation skill ($M = 4.55$) and the Responsibility skill ($M = 4.54$). It is interesting that from self-assessment, the mean score of the Communication skill was the highest and as high as that of the Responsibility skill, but from peer assessment, the Cooperation skill was the highest, followed by the Responsibility skill.

According to additional comments, many students enjoyed working in pairs before sharing with the whole class because it made them feel much more confident to discuss their thoughts. Understanding their own role and responsibilities helped strengthen teamwork spirit and facilitate work collaboration, resulting in good performance.

Another important finding was that the mean scores from peer assessment were higher than those from self-assessment in three areas: Communication skill, Responsibility skill, and Cooperation skill. Planning skill was the only area where the mean score was higher in self-assessment than in peer assessment (4.35 vs. 4.29). A possible explanation would be that in planning, personal leadership played a significant role, so a team member with prominent leadership might be more influential in determining the goal, resulting in a lower mean score from self-assessment than from peer assessment.

The findings that the use of Think Pair Share technique in cooperative activity-based learning could enhance students' teamwork ability at a "High" level were in line with various studies which found that cooperative activity-based learning was a very effective strategy to develop and enhance students' teamwork ability (Chookhampaeng & Chadong, 2018; Kapp, 2009; Ku et al., 2013; Thomas, 2014; Yueh & Lin, 2005; Yusof et al., 2012). Additionally, students' feedback indicated that cooperative learning could effectively enhance their learning (Yueh & Lin, 2005), whereas building cooperative atmosphere and common expectation created smooth and effective teamwork (Kapp, 2009). Furthermore, cooperative learning experience made teamwork fun, useful, and applicable to real life (Thomas, 2014; Yusof et al., 2012).

Regarding students' satisfaction toward this instructional program, the survey results reveal that students' satisfaction was at a "High" level (Total M = 4.14). The highest satisfaction mean score (M = 4.36) was on "Phase of making presentation and group evaluation", followed by "Phase of collaborating on studying off to perform the task" (M = 4.18). These findings show that students were highly satisfied with working collaborately in groups and group evaluation.

The results of students' satisfaction toward the use of Think Pair Share technique in cooperative activity-based learning which were at a "High" level were in concert with previous studies like those of Kapp (2009); Kwok and Lau (2015); Raba (2017); Sahardin et al. (2017); Slone and Mitchell (2014); Thomas (2014); Yueh and Lin (2005) and Yusof et al. (2012), which supported that students favored cooperative learning, finding it fun, helpful, and practical. Moreover, the use of Think Pair Share technique in cooperative learning could promote deep learning and learning beyond the content (Slone & Mitchell, 2014), create learning motivation, resulting in skill development, effective speech communication, and better academic performance (Raba, 2017), and enhance descriptive writing, improving students' writing ability on organization, vocabulary, content, mechanics, and grammar (Sahardin et al., 2017). Moreover, the Think Pair Share technique could also enhance students' mathematics ability, motivating them to collaborately solve the problems, reducing their anxiety, and increasing their mathematics performance (Kwok & Lau, 2015).

Conclusion

In sum, activity-based learning program using Think Pair Share technique and cooperative learning not only directly promotes students' teamwork ability and receives a "High" level of satisfaction, but also has potentialities for developing various skills and abilities, and enhancing students' academic performance. The proposed instructional program is thus a good alternative for teachers to consider when attempting to develop students' teamwork skills.

Recommendations

Based on the conclusion of the study, it is recommended that:

1. The use of Think Pair Share in cooperative activity-based learning to enhance students' teamwork ability is effective.
2. Teachers should increase the activities that use the Think Pair Share technique in diverse disciplines.
3. Inclusion of measures for evaluation including both quantitative and qualitative data can help strengthen the results.
4. A short Team building workshop (Kapp, 2009) is recommended at the beginning of the course of instruction.

5. Student learning, as assessed by a group product is not necessarily the same as individual learning.

6. Future research should gather responses from students both before and after the intervention in order to compare the results.

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This study has been approved by Mae Fah Luang University's Ethics Committee on Human Research.

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