



# Effectiveness of Cooperative and Blended Learning to Assist Thai ESL Students in Learning Grammar

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**Abstract:** *Effectiveness of cooperative learning and blended learning will assist and increase the learning ability of English grammar in subject-verb agreement of Thai ESL students. The purposes of this study were to study: 1) the scores of the English grammar method, pretest and posttest of the above and under average learners who learn through the blended-cooperative learning method and 2) the attitudes of all the learners after learning grammar through the blended-cooperative learning method. The participants consisted of 100 Mattayomsuksa 3 students (50 who were above average and 50 who were under average) who studied at Banchangkarnchanakulwittaya School (BKW), Rayong, Thailand. Data was analyzed using: 1) Mean to find the average score and compare how different participants grouped before and after the experiment; and 2) T-test for independent participants was used for comparing the pretest and posttest scores of the participants group.*

*The results revealed that both the above and under average students showed a better score after studying grammar through the blended-cooperative learning. Furthermore, there was a significant pattern between the student improvement, the learning achievement of above and under average participant groups and the significant improvement of the attitudes of the participants after completing the grammar method. The questionnaire indicated that the participants' self-regulation (for an average participant) was lacking in the study while the above average participants demonstrated more self-regulation. However, the relationships between age and gender were not significant.*

**Keywords:** cooperative learning/blended learning/weblog/e-book

## Introduction

The dawning of 2012 marked a significant global event when the world population exceeded 7 billion people. These people were speaking 200 different prime languages. However, it is evident that many people in Asia should have one common language to communicate effectively with each other, and English is suggested as being that language. Thailand was not colonized by European powers, so while it kept its traditions, at the same time it did not inherit the legacy of a European language. While English in Malaysia, Singapore and the Philippines is a post-colonial language, and also sometimes an official second language, English in Thailand seems to remain a foreign language. However, it is the language of the AEC.

Technology is becoming an important aspect for classroom teaching/learning strategies or devices to integrate language teaching with contexts. For instance, some researchers have concluded that distance learning uses technology in class that is as effective as traditional classroom learning (Dellana et al., 2000; Iverson et al., 2005; Sooner, 1999; Jones et al., 2005). As a result, it could indicate that there are several approaches to teach/learn language effectively. However, there is a popular combination of online technology and the traditional way of teaching called blended learning (BL) for language acquisition.



Cooperative Learning (CL) is another approach to set the course or lesson for learners. Furthermore, this learning method can be defined as a learning approach which learners study and help each other in small mixed groups.

These developments of the learning approaches are sometimes combined in the classroom for learners. Finally, since several cooperative learning and blended learning studies have been added to learning/teaching language and there have been a few combinations of cooperative learning and blended learning together with English skills.

## Statement of the Problem

The main problems Thai learners encounter while learning English grammar is the verb system, i.e., subject-verb agreement in the present simple tense. The researcher used a combination of the two methods, blended and cooperative learning to help Thai ESL learners' and their grammar ability with subject-verb agreement. This study aims to investigate the blended-cooperative learning method which was set for improving the student's English grammar learning ability.

This method combines the use of technology and traditional teaching (face to face in the classroom) which also applies cooperative learning to give the learners a chance to work together. The purpose of this research is to study the effectiveness of the blended-cooperative learning method that was designed for teaching/learning of English grammar.

## Research Questions

This research study attempts to answer the following questions:

1. Does the blended-cooperative learning method help above average students learn subject-verb agreement of English grammar?
2. Does the blended-cooperative learning method help under average students learn subject-verb agreement of English grammar?
3. What are the attitudes of above average students towards the blended-cooperative learning method in learning subject-verb agreement of English grammar?
4. What are the attitudes of under average students towards the blended-cooperative learning method in learning subject-verb agreement of English grammar?

## Literature Review

### Cooperative Learning Method

It is an approach to organizing classroom activities into academic and social learning experiences. Students must work in groups to complete tasks collectively. Jacobs, Power, & Loh, (2002, p.1) said that "it is the principles and techniques for helping students work together more effectively". Additionally, "Cooperative learning is the instructional use of small groups so that students work together to maximize their individual and group learning" (Johnson and Johnson, 1999, p.5).

### Cooperative Learning on Teaching English

Chen (2005) agreed that using cooperative learning can help learners to improve their English skills, but there is no significant difference among the participants' motivation in learning English within the brevity of this study. In addition, Nuntrakune, Nason and Kidman (2009) found the two teachers in their research had constructed different levels of perceptions about the benefits of cooperative learning and the roles of the teacher, so the level of the perceptions of the teacher for the benefits of cooperative learning and the role of the teachers could be a part to make the students able to learn English. As well as Wichadee (2005), who stated that after usages of cooperative learning, the



assessment forms show the performance of good cooperative learning behaviors in the participants' tasks. Moreover, Shachar (2003) who reported the results of a study between the achievement levels of students and their attitudes towards their courses and cooperative learning. It was found that both high and low achieving groups had overall positive attitudes towards the course, teachers, school and towards cooperative learning itself. Moreover, the low achieving group showed a more positive attitude than the high achieving group. This could confirm that working or studying in a group as it was set in the cooperative learning to be a part of the research design.

### **Blended Learning Method**

Blended learning combines traditional methods and face-to-face learning with online learning (e-learning). The goal of blended learning is to provide the most efficient and effective learning experience by combining different learning environments that are the most suitable for learners. In blended learning, there are several different terms used such as distributed learning, e-learning, open and flexible learning, and hybrid courses.

Bonk and Graham (2006 p.5) concluded that the definition of blended learning systems is "the combination of instruction from two historically separate models of teaching and learning, i.e., traditional face-to-face learning systems and distributed learning systems".

Bonk and Graham (2006) have talked about was the major issues. The six major issues that were indicated are: 1) the role of live interaction, 2) the role of learner choice and self-regulation, 3) models for support and training, 4) finding balance between innovation and production, 5) cultural adaptation and 6) dealing with the digital divide. In addition,

Furthermore, Wichadee (2005) stated that the learners' attitudes towards cooperative learning were a similar result to those observed in this research. Most students rated cooperative learning moderately positive.

## **Research Design**

This study is quasi-experimental research which determined the effect of using the Blended-cooperative learning method for studying grammar, i.e., subject-verb agreement.

This study investigated four variables. Two of them were the independent variables which consisted of Blended-cooperative learning and the students' English learning ability. The two dependent variables were the learning achievement and the learners' attitudes towards Blended-cooperative learning method.

First, all of the participants got the pretest of the course and after that they followed research procedures. The research procedures had the participants study four units of grammar independently with an e-book. While the participants were doing the four units, they used a weblog was created from [www.blogger.com](http://www.blogger.com) to be a useful tool to help the participants to share their personal blogs about what they have learned in the classroom in L1 (Thai) or L2 (English). They could ask questions, read what other learners have learned and answer questions.

## **Data collection**

### **Population**

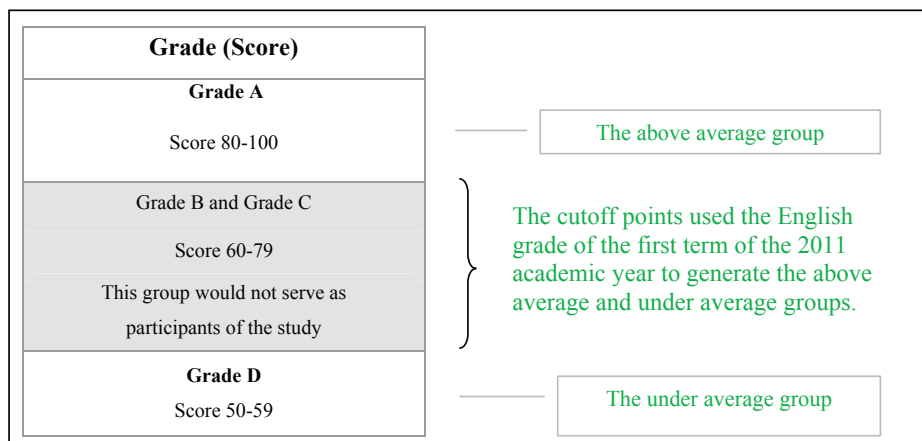
This research study was conducted in the province of Rayong, Thailand, with the target population of the study being all Matthayomsuksa 3 students who studied in the government school Banchangkarnchanakulwittaya School (BKW) during the second term of the 2011 academic year. In this school, there were 465 Matthayomsuksa 3 (M3) students (228 male and 237 female students). The entire target population had to study and pass Basic English in Matthayomsuksa 1 and 2. The target population was studying in the Thai program.



### Participants

All Mattayomsuksa 3 (M3) students in Banchangkarnchanakulwittaya School (BKW) in the 2011 academic year were used, their English grades from the first term were used to assess and choose the participants in BKW School, so the total number of participants which was chosen in the study was 100 (N=100). The 100 students were divided into 2 groups, with 50 of the participants labeled as the above average group and the other 50 students served as the under average group to learn English grammar with the blended-cooperative learning method.

The researcher used their English grades as an indicator of their ability to band and set the appropriate cutoff point for each level of students' learning achievement. This figure was the indication of the use of their English grades to set the cutoff points.



**Figure 1:** The indication of the use of the English scores to set the cutoff points

The figure above illustrates the steps that the researcher used to divide the students and to find the participants. As the table shows, the scores of English in the first term of the 2011 academic year ranged as follows: 80-100 or grade A was the cutoff score for the above average students and 50-60 or grade D was the cutoff score for the under average students. As a result, the first 50 students whose scores ranged from 80-100 (grade A) were labeled as the above average students/ group. On the other hand, students who got a score from 50-60 (grade D) were labeled as the below average students/ group. Students whose scores ranged from 60 - 79 were not chosen to participate in this study.

As a result of the English grades from the first term of the 2011 academic year, there were a total of 465 students in the total population of M3 at BKW School. This consisted of 94 above average ranking students, 158 under average students and a remaining 213 students in the mid-range. The participant was selected by choosing 100 students randomly from both the above and under average students. 50 students were chosen at random from both groups to generate the participants.

Students had to study in groups of four students with the teacher once a week. These participants studied the grammar in an e-book and weblogs during the course.

However, they had to allocate their time practicing or studying on many sites that were recommended on the e-book and weblog after class. Students also joined the face-to-face in class discussions with their teacher and classmates in groups of four students. It should be emphasized that the method of English grammar teaching/learning in class used the cooperative Learning method as a strategy.

How these participants learned English grammar with this method would have the results of improving their learning by taking pretests and posttests before and after using this method. Finally, the participants would get a questionnaire to ask about their attitudes toward the research procedure.



## Findings

The findings of this study show that there is a significant difference in the amount of learning of the above and under average students after studying blended-cooperative learning method.

**Table 1** The results of all participants in the pretests and posttests from the English Grammar Test

Participant	N	Pretest		posttest		Difference		df	t-value	Sig. level
		$\bar{x}$	SD	$\bar{x}$	SD	Mean	SD			
Above	50	11.98	2.18	16.30	1.32	4.32	1.86	49	16.45	.00
Under	50	7.22	1.63	9.14	1.86	1.92	0.85	49	15.91	.00
Level .05										

The table above shows the difference between the test scores of the above and under average students on the tests. The other finding was a significant difference in the learning attitudes of the above and under average students toward blended-cooperative learning.

**Table 2** The  $\bar{x}$  and SD of all participants' attitudes

Statement	$\bar{x}$		SD	
	Above	Under	Above	Under
1. How often do you use a computer at home?	3.96	3.92	0.20	0.27
2. How often do you use a computer at school?	4.04	3.70	0.27	0.46
3. How often do you use a computer at the internet café?	3.14	3.34	0.83	0.75
4. How often do you use a computer for education (e.g., write a report or search for knowledge)?	3.70	3.46	0.46	0.73
5. How often do you use a computer for entertainment (e.g., online games, chatting)?	4.00	4.00	0.00	0.00
6. How often do you use the internet?	3.76	3.72	0.43	0.45
7. How many e-books have you read?	3.78	2.62	0.42	0.67
8. How many weblogs have you been using?	3.83	4.72	0.39	0.85
9. How would you rate your ability to use computer software?	2.50	2.04	0.74	0.40
10. How would you rate your ability to use computer parts (e.g., mouse, keyboard)?	3.92	3.52	0.34	0.68
11. How long have you been learning or working with a computer?	2.46	2.16	0.73	0.37
12. I think working with the e-book and weblog are enjoyable and stimulating.	3.80	3.48	0.40	0.50
13. I feel tense whenever I am working on the e-book and weblog.	3.96	4.02	0.20	0.00
14. The challenge of solving problems with a computer does not appeal to me.	3.82	2.22	0.39	0.40



Statement	$\bar{x}$		SD	
	Above	Under	Above	Under
15. Working with the e-book and weblog does not make me feel nervous.	3.46	3.30	0.50	0.79
16. I think the computer is useful to my studies and my job in the future.	3.36	2.88	0.48	0.44
17. I feel aggressive and unfriendly toward the computer.	3.52	3.26	0.50	0.43
18. I am satisfied to work in a group with friends.	3.32	3.58	0.48	0.50
19. I look forward to using the e-book and weblog in my studies.	3.88	3.24	0.33	0.69
20. I feel insecure about computer knowledge and ability.	3.46	3.50	0.50	0.50
21. I expect to have little use for the e-book and weblog in my daily life.	3.78	3.30	0.42	0.57
22. I would rather work on my own.	4.00	3.92	0.22	0.30
23. Once I start to work with the e-book and weblog, I find it hard to stop.	3.84	2.78	0.50	0.51
24. I feel uneasy thinking that I have to work on the e-book and weblog.	3.48	3.66	0.50	0.61
26. I feel uncomfortable to work in a group with my friends.	3.56	3.48	0.50	0.50
27. I feel computers are necessary tools in an education setting.	3.60	3.04	0.49	0.14
28. I feel at ease working with others.	3.90	3.68	0.30	0.47
29. Working on computers makes me feel isolated from other people.	3.82	3.42	0.39	0.50
30. I am confident that I can learn the e-book and weblog.	3.58	3.18	0.43	0.58
26. I feel uncomfortable to work in a group with my friends.	3.76	3.56	0.54	0.71

Table 2 shows the mean (X) and standard deviation (SD) of the above average and under average participants. The average scores are for the mean score and standard deviation.

## Conclusions of the Study

As noted earlier in the purposes of the research study, the results of this analysis will provide information on the effectiveness of the blended-cooperative learning method to help Thai ESL students learn subject verb agreement in English grammar. The results of the study have confirmed for teachers or learners who had additional ideas to arrange the teaching and learning style which was suitable for them. The pretest and posttest scores of the above average participants indicate that the average scores of the posttests are higher than the pretest scores. The findings of the test scores indicated that the above average participants can learn better using the blended-cooperative learning method. The information about the under average group on pretests and posttests also shows that the average scores of the posttests in this group of participants are higher than the pretest scores. The findings of the test scores also show that the under average participants, using the same procedures



as the above average participant, indicated that the under average participants could also improve their grammar ability on subject verb agreement. On the questionnaires concerning the use of the computer, all of the participants often used computers for entertainment. Moreover, the majority of the participants often used computers at home and school. Most of participants used the internet more than four times a month. On the questionnaire concerning the research tools, most of above average have read e-books and have used weblogs more than four times. On the questionnaire which concerned the ability of using computers most of them rated themselves fair in using computer software and 94% of the above average participants rated themselves as excellent on using computer parts. And on the length of the years of experience with computers over half of the participants (68%) has been learning or working with a computer for 1-4 years. The last questionnaire concerning the attitudes about the research procedures, most of them agreed that this method of combining the two methodologies of blended and cooperative learning helped their learning ability. Moreover, it was found that the participants have self-awareness to how important using technology is for education. The findings of the above average participant's attitudes after completing the grammar tests based on blended and cooperative learning methodological procedures show that the participants had an overall positive attitude towards the research procedures that could benefit their English learning ability.

In conclusion, the findings of the attitudes from the above average participants found that they showed an overall positive attitude towards the research procedures which combined the two methods to help them to better learn English grammar (subject-verb agreement).

*What are the attitudes of under average students towards the blended-cooperative learning method in learning subject-verb agreement of English grammar?*

On the questionnaires concerning the use of computers, it was found that the under average participants tend to have similar attitudes with the above average participants; often using the computer for entertainment in their free time, most of the participants often use computers both at home and school and also use the internet more than four times a month. On the questionnaire concerning the research tools, most of them have read e-books only one or two times but they have used weblogs more than four times. This showed that the under average participants have less desire to read the grammar on e-books. On the questionnaire concerning the ability of using computers, it was found that they rated their ability on using software fair which is the same as the above average participants. However, it was found that only a half of the under average participants (62 %) rated themselves as excellent on using computer parts which is a lower percentage than that of the above average participants. On the questionnaire concerning the number of years experience using computers, 80% of the under average participants showed that they had 1-4 years of experience learning and working on computers. Finally, questionnaires which concerned the attitudes about the research procedure, most of them agreed that this method of combining the two methodologies, blended-cooperative learning, helped their learning ability. Moreover, it was found that the participants have self-awareness to how important the use of technology is for education. The findings of the under average participant's attitudes, after completing the research procedures were similar to those of the above average participants, revealing that these participants also showed a positive attitude towards research procedures that could benefit them in English learning ability.

In conclusion, the findings of the attitudes of the under average participants show that these participants also had similar attitudes as the above average participants to the research procedures which combined two methods to help them to better understand English grammar (subject-verb agreement).

## Discussion

As noted earlier in the four research questions of the study, the results of this study provide information on the effectiveness of blended-cooperative learning to assist Thai ESL students in learning subject-verb agreement in English grammar.



This study can also help Thai teachers to better understand the students' grammar learning problems and to find an appropriate way for teaching grammar, i.e., subject-verb agreement. The researcher of this study has reviewed various analyses. The researcher indicated the discussion of some of these findings.

The first purpose of the research is the effect of teaching the blended-cooperative learning method to students having above average academic grades. Among these students this test showed a positive result. This could represent that all the processes of the research study could help Thai ESL learners with English subject-verb agreement.

The other purpose of the research is the effect of teaching the blended-cooperative learning method to students having under average academic grades. Among these students this test showed different results from the above average group on the deviation of the pretests and posttests. This could represent that all processes of the research study could help Thai ESL learners to learn English grammar better. It was the same result as the above average students. Chen (2005) agreed that using cooperative learning can help learners to improve their English skills, but there is no significant difference among the participants' motivation in learning English within the brevity of this study. Nuntrakune, Nason and Kidman (2009) found the two teachers had constructed different levels of perceptions about the benefits of cooperative learning and the roles of the teacher, so the level of the perceptions of the teacher for the benefits of cooperative learning and the role of the teachers could be a part to make the students able to learn English.

In conclusion, the performance of both the above and under average participants in the study improved better after applying cooperative learning. This result is the same as Wichadee (2005), who stated that after usages of cooperative learning, the assessment forms show the performance of good cooperative learning behaviors in the participants' tasks. After all of research procedures, the participants were asked to complete questionnaires. The questionnaire was divided into two main parts: (a) attitudes of using computers and two technology tools, e-book and weblog, in the learning method and (b) general attitudes of using the blended-cooperative learning method in the study. It was found from the results of the questionnaire of these two areas that the participants had slightly good attitudes about both the teaching technique (blended and cooperative learning), and the use of technology. Most of the participants used computers at home and also at school. They used computers for entertainment and education, too. However, we focused on the participants' attitudes on using the e-book and weblog, especially most of the above and under average participant strongly agreed to use the e-book and weblog to study English grammar in the research experiment. The results of the study suggest that most of the participants had good attitudes on using technology, e-book and weblog, which is why they could improve their learning ability in English grammar.

It was not only the scores of the pretests and posttests from both groups of participants increased but also the results of the attitudes shown from both participants were positive overall. This could claim that the motivation from the teacher could help these participants have better test scores and attitudes.

Even though the overall results of the study showed that most of the participants had good attitudes about using technology for learning English grammar and blended and cooperative learning. This was the same result as the overall positive attitude among participating students towards blended learning that was observed by Djiwandono (2013) who found the answers of the questionnaires reflected their feelings towards the materials used in the study.

However, there are a few points of view from the under average participants that revealed their attitudes on the questionnaire. Questionnaire item 19 asked the participants' attitudes on the study. The statement aimed towards each student was "I look forward to using the e-book and weblog in my studies". 14% of the participants had this attitude that they slightly disagreed to look forward to use the e-book and weblog. We criticized on the few percent (14% of the under average participants) who slightly disagreed on looking forward to using the e-book and weblog in this study. It seems like the



course design, the technique or the tools in the research (e-book and weblog) were problems for their study.

In conclusion, it did not always confirm that using e-books and weblogs (technology) could be the best overall choices for under average participants (lower ability learners).

The online tools may cause isolation problems for the participants, their peers and the teacher. Focusing on weblogs and e-books could cause problems for a few participants to be isolated from their peers and cause a lack of assistance in times of difficulty as the results show on the questionnaire. The statement for each student was “Working on computers makes me feel isolated from other people”.

Item 29 revealed that 18% of the under average participants slightly feel isolated when they worked on a computer. However, the unsuccessful part of the course was indicated on the questionnaire. As a result, we could imply the disadvantages that happen in the course. Wahlstrom, William and Shea, (2003) concluded that there are two basic types of distance education—synchronous and asynchronous, so in this research both the e-book (asynchronous) and the weblog (synchronous).

Not surprisingly, for the success of blended-learning students in this research study, it was indicated more strongly that their computer skills increased the good attitudes on items 14, 16, 17, 20, and 27 of the questionnaire (see Chapter IV, Table 15 for the above average participants and Table 20 for the under average participants). In any case, computer skills enhancement was not a primary objective of the course. It was not only the improvement of computer skills but also the attitude to work with other people in groups as the cooperative learning theory which was set for the participants as the research procedure (cooperative learning) of the study, i.e., items 26 and 28 of the questionnaire. The statement given to students as question 26 was “I feel uncomfortable to work in a group with my friends”. All above average students showed a degree of disagreement towards this statement, showing preferences to group work with their peers, as confirmed in statement 28 “I feel at ease working with others” to which all students showed a varying level of positive agreement towards. The results in this study tend to show similarities to the study of Shachar (2003) who reported the results of a study between the achievement levels of students and their attitudes towards their courses and cooperative learning. It was found that both high and low achieving groups had overall positive attitudes towards the course, teachers, school and towards cooperative learning itself. Moreover, the low achieving group showed a more positive attitude than the high achieving group. This could confirm that working or studying in a group as it was set in the cooperative learning to be a part of the research design.

The attitude of the under average participants on using cooperative learning for teaching grammar, the results confirmed that the under participants showed similar attitudes towards cooperative learning as the above average participants. The same statements were given to the under average students with similar results, which were that 98% of under average students slightly disagreed with statement 26, while the remaining 2% strongly disagreed. These parallels were observed in statement 28 with 42% strongly agreeing while the remaining 52% slightly agreed. Wichadee (2005) stated that the learners’ attitudes towards cooperative learning were a similar result to those observed in this research. Most students rated cooperative learning moderately positive.

Finally, the results from this research show the following ideas for the reasons why this research method could lead participants to improve their learning abilities. The first factor was the methods which were used in the research, i.e., blended learning and cooperative learning.

Blended learning is the combination of instruction from two historically separate models of teaching and learning, which are traditional face-to-face learning systems and distributed learning systems. It also emphasizes the central role of computer-based technologies in blended learning (Bonk and Graham, 2006). In this research, there was the combination of two methods; face to face (cooperative learning) and the computer-based (the e-book and weblog) which really affected the results of the study. This research focused on blended learning, and the researcher chose this method



to improve the teaching style, give the students more chances to learn and also make it easy to use in multiple learning environments. The researcher used the e-book method in the research because it was a way for students to save expenditure (the price of buying a textbook) while learning English grammar outside the classroom. For that reason, the researcher chose the blended learning method.

Blended learning which was used in this research could have discussed the challenges and issues such as those found by Bonk and Graham (2006) with the six major issues that are relevant to designing blended learning systems and what Bonk and Graham (2006) have talked about was the major issues. The six major issues that were indicated are: 1) the role of live interaction, 2) the role of learner choice and self-regulation, 3) models for support and training, 4) finding balance between innovation and production, 5) cultural adaptation and 6) dealing with the digital divide. In this study, the researcher was concerned with these six major issues when designing the teaching method. The results after the research procedure show that the roles of live interaction, learner choice and self-regulation that the researcher set the roles for the students (both above and under average students) show that above average students could set their roles better than the under average students. It was especially the participants' self-regulation that the under average participants were lacking in the study while the above average participants demonstrated more self-regulation. This seemed to be similar to the results of the study of Shen and Liu (2011) that surveyed the self-regulation efficacy with postgraduates and undergraduates in Dalian University of Technology in China Shen and Lui (2011) conducted a survey of two groups of participants that had different levels of learning ability. This shows the same results that the higher ability that used blended learning was stronger than the results of the lower ability. In conclusion, roles of the participants' self-regulation was the factor that helped the above average participants learned the English grammar of subject verb agreement better than the under average participants.

Cooperative learning is the instructional use of small groups so that students can work together to maximize their individual and group achievement (Johnson and Johnson, 1999, p.5). In order to have small groups work together successfully, a teacher must compose five essential elements in each lesson, which are: 1) positive interdependence, 2) face-to-face interaction, 3) individual accountability, 4) social skills and 5) group processing (Johnson & Johnson, and Holubec 1990, 1993). In the group processing for this research, the results show that most of above average participants (82%) felt at ease working with others. It shows that the test scores of above average participants increased (an improvement on their learning ability) after they finished the research procedure to learn subject-verb agreement of English grammar.

It was not only the above average participants but also, the other participants (under average students) that showed improvement on their test scores. The results of this research indicate that both groups improved their learning abilities from learning the research method. One reason to support this was questionnaire item 28 which showed that the above average participants had more satisfaction working in groups with other students including the under average participants. The research results are similar in supporting that cooperative learning could help learners to improve. Wichadee (2005) found that first year students obtained higher reading comprehension scores on the posttest than the pretest scores at the .05 level of significance.

## References

- Bonk, C. J., & Graham, C. R. (2006). *The handbook of Blended Learning*. San Francisco: Pfeiffer.
- Chen, S. F. (2005). *Cooperative learning, multiple intelligence and proficiency: Application in college English language teaching and learning*. (Unpublished doctoral thesis), Australia Catholic University, Australia.
- Dellana, S., Collins, W., & West, D. (2000). Online education in a management science course- Effectiveness and performance factors. *Journal of Education for Business*, 76 (1), 43-47.



- Dijiwandono, P. I. (2013). *A blended learning approach to enhance college students' vocabulary learning*. Retrieved from <http://e-lt.nus.edu.sg/v10n22013/djiwandono.pdf>.
- Iverson, K., Colky, D., & Cyboran, V. (2005). E-learning takes the lead: An empirical investigation of learner differences in online and classroom delivery. *Performance Improvement Quarterly*, 18 (4), 5-18.
- Jacobs, G. M., Power, M. A., & Loh, W. I. (2002). *The teacher's sourcebook for cooperative learning: Practical techniques, basic principles, and frequently asked questions*. Thousand Oaks, CA: Corwin Press.
- Johnson, D. W., & Johnson, R. T. (1999). *Learning together and alone: Cooperative competitive, and individualistic learning* (5<sup>th</sup> ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1990). *Circles of learning: Cooperation in the classroom* (3<sup>rd</sup> ed.). Edina, MN: Interaction Book Company.
- \_\_\_\_\_. *Cooperation in the Classroom* (6<sup>th</sup> ed.). Edina, MN: Interaction Book Company.
- Jones, K., Moeeni, F., and Ruby, P. (2005). Comparing web-based content delivery and instructor-led learning in a telecommunications course. *Journal of Information Systems Education*, 16 (3), 265-270.
- Nuntrakune, T., Nason, R., & Kidman, G. C. (2009). *Two Thai teachers' perceptions of cooperative learning*. Retrieved from <http://researcharchive.vuw.ac.nz/xmlui/bitstream/handle/10063/2044/thesis.pdf?sequence=2>
- Shachar, H. (2003). Who gains what from cooperative learning: An overview of eight studies. In R. Gillies, & A. Ashman (Eds.), *Cooperative learning: The Social and Intellectual Outcomes of Learning in Groups* (pp.103-118). London: Rutledge.
- Shen, H., & Liu, W. (2011). A Survey on the self-regulation efficacy in DUT's English blended learning context. *Journal of Language Teaching and Research*, 2(5), 1099-1110.
- Sooner, B. S. (1999). Success in the capstone business course-Assessing the effectiveness of distance learning. *Journal of Education for Business*, 74(4), 243-248.
- Wahlstrom, C., Williams, B. K., & Shea, P. (2003). *The successful distance learning student*. Belmont, CA: Scratchgravel.
- Wichadee, S. (2005). The effects of cooperative learning in English reading skill and attitudes of the first-year students at Bangkok University. *BU Academic Review*, 4(2), 22-31.