The Impact of Motivation and Collaborative Learning on Academic Achievement

Yentri Anggeraini[1], **Rita Nilawijaya[2]**

[1]Department of English Education, Universitas Baturaja, Indonesia
[2]Departmen of Indonesian Language and Literature Education, Universitas Baturaja, Indonesia

*Corresponding email: anggeraini.yentri@yahoo.com

Abstract: The Impact of Motivation and Collaborative Learning on Academic Achievement. **Objective:** This article aimed at explaining the impact of motivation in learning English and the application of collaborative learning on English learning achievement. **Method:** A three by two factorial design was employed and the sample of this research was 48 students of English for Special Purposes (ESP) subject. The valid and reliable motivation questionnaire and English test were distributed to gather the data and were analyzed by independent simple t-test and two-way ANOVA. **Result:** The result presented that there was a significant interaction between motivation and the application of collaborative learning to the ESP learners' English achievements with the sig. 0.00. **Conclusion**: It can be derived that the motivation and the use of collaborative learning gave a positive impact on ESP learners' English achievement and there was a significant interaction between learning English motivation and the application of collaborative learning to the ESP learners' English achievements.

Keywords: Motivation, collaborative learning, academic achievement.

***Abstrak: Dampak Motivasi dan Pembelajaran Kolaboratif pada Nilai Akademik.** **Tujuan:** Artikel ini bertujuan untuk menjelaskan dampak motivasi dan penerapan pembelajaran kolaboratif pada nilai Bahasa Inggris. **Metode:** Desain faktorial three by two diterapkan dalam penelitian ini dengan sampel berjumlah 48 orang mahasiswa yang mengambil mata kuliah English for Special Purposes (ESP). Angket motivasi dan tes Bahasa Inggris yang valid dan reliabel digunakan untuk memperoleh data dan dianalisa dengan Independent simple t-test dan two way ANOVA. **Temuan**: Hasil penelitian menunjukan bahwa ada interaksi yang signifikan antara dampak pengunaan pembelajaran kolaborasi dengan siswa yang memiliki, motivasi tinggi, sedang, dan rendah dengan nilai sig. 0.00. **Kesimpulan:** Dapat disimpulkan bahwa motivasi dan pembelajaran kolaboratif memberikan dampak positif dan signifikan pada nilai Bahasa Inggris khususnya pada mata kuliah ESP.*

***Kata kunci:** motivasi, pembelajaran kolaboratif, nilai akademik.*

■ **INTRODUCTION**

As an international language, English becomes important to be mastered to face the globalization era as a part of international cooperation and communication so English teaching for non-English department students. Therefore, motivation plays an important role in foreign learning. Some studies discussed motivation in language learning for example (Bambirra, 2017; Dakhi & Damanik, 2018; Fandino, Munoz, & Velanda, 2019; Nasrollahi-mouziraji & Birjandi, 2016; Proctor et al., 2014; Shaaban & Ghaith, 2008). Then, it supported by the result of the research by (Long, Ming, & Chen, 2013), the finding summarized that motivation is essential thing for the students in learning English. On another side, English learning can be influenced by many factors such as attitudinal, social, socioeconomic, and extracurricular factors (El-Omari, 2016). Rahmi & Diem (2014) found out that the classroom environment had a positive correlation to the students' English achievement.

Some research focused on motivation and students' achievement. Li & Pan (2009) conducted a survey on the relationship between students' motivation and their achievements. The result indicated that the ones who have high achievements get better integrative motivation than the lower ones. Next, Khoshnam, Ghamari, & Gendawani (2013) found out that motivation could predict the academic achievement. Li & Zheng (2017) indicated that there was positive correlation between academic motivation in learning English with learning achievement.

Collaborative learning (CL) delivered some benefits. According to Laal & Ghodsi (2012), collaboration builds learners' self-esteem, social competence, support, and committed relationships among others. Furthermore, Ezeanyanike (2013) proposed that CL promotes learning goals, encourages learners' responsibilities, stimulates critical thinking, and develops oral communication skills. Moreover, in the implementation of CL, knowledge is transferred among learners as they work towards collaborative activities for example discussing and giving solutions to a problem (Brindley et al., 2009). Then, the use of collaborative learning approach reduced language anxiety, gain learners' participation, and build learners' self-confidence (Arta, 2018), and improve learners' performance (Pacheco, 2011). It can be derived that CL is necessary to be used in English teaching.

Some research focused on the effect of collaborative strategies in a language classroom. First, the research was conducted by (Anggeraini, Novarita, & Afifah, 2018) and the result revealed that collaborative strategies are significantly effective in developing reading comprehension. Second, the other research focused on collaborative learning strategy for teaching speaking skill (Daulay, Salmiah, & Ulfa, 2019; Geetha & Karthiga, 2020; Khan & Yunus, 2019) cooperative learning (Katawazai & Saidalvi, 2020; Namaziandost et al., 2019), for listening and speaking (Wang, 2020), and for academic improvement (Bhowmik, 2016; Talan, 2021). Third, The research by (Zulfiqar, Zhou, Asmi, & Yasin, 2018) indicated CL improved the learner's performance. Moreover, Rodphotong (2018) did a case study to figure out the effect of collaborative learning in improving communicative competence and the result presented that the participants' communicative competence was significantly enhanced. Then, The students had a positive attitude on the use of CL in writing class and CL helped them consider the content and context of writing practices (Sedhu, Choy, & Lee, 2015) and the students. To sum up, CL is effective to be implemented in English classroom and it makes the researcher implement the CL in ESP class with their different English learning motivation. Different from previous research, this research aimed at explaining the impact of

motivation in learning English and collaborative learning the non-English department students' English achievement. Hopefully, the result of this study can be an evaluation of the teaching English in accounting study program and the lecturer can employ collaborative learning to build the students' confidence in learning English for specific purposes.

■ **METHODS**

This research belongs to a *three by two* factorial design (Creswell, 2012) which includes collaborative learning and non-collaborative learning and it was analyzed based on participants' motivation in learning English. The sample of this research was the 48-second semester students of accounting study program in the economics faculty, Universitas Baturaja. There were divided into two groups and each group consists of 8 participants who were in low motivation learning English, 8 participants who were in moderate motivation in learning English and 8 of them had high motivation in learning English. The reliable and valid MLE questionnaire (15 items) and English test (20 questions) were used as the instruments for collecting the data. In doing this research, the researcher did some steps. First, administering MLE questionnaire. Second, delivering a pre-test on both CLC and

Non- CLC. Next, the lecturer applied collaborative learning in the experimental group and Non-CL in the control group in 8 meetings and then delivering a post-test. The last step was analyzing the data and concluding the result of the research. In analyzing the data, the researcher used paired sample t-test, independent sample t-test, and two-way ANOVA which were computed by SPSS 23. Two–way ANOVA was applied to concern with the investigation of the interaction between one dependent variable (English achievement) and two or more variables (collaborative learning and motivation in learning English).

■ **RESULTS AND DISCUSSION**

The Description of Pre-test and Post-test in the Experimental Group and Control Group

The following table presents descriptive statistics regarding the pre-test and post-test of English achievement before and after the application of the treatment for both the experimental and control groups. The descriptive statistics presented the range, minimum, maximum, and mean of the scores of pretest and posttest on both collaborative learning class (CLC) and non-collaborative learning class (Non-CLC) as shown in figure 1.

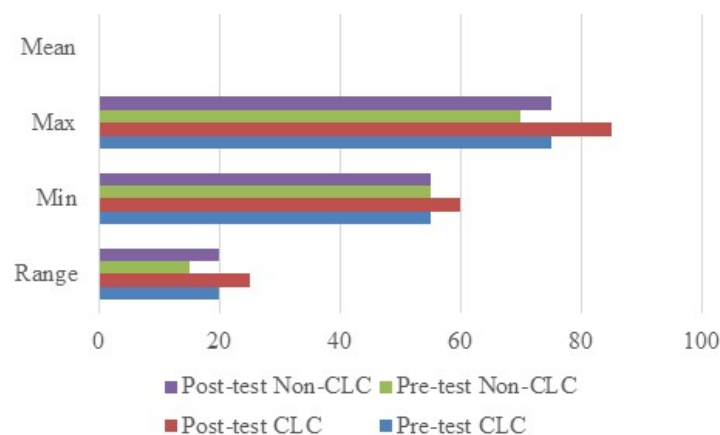**Figure 1.** Descriptive statistics of English achievement score

Figure 1 describes the descriptive statistics of English achievement on both experimental and control groups, it was found that the lowest score of the pre-test was 55, while the highest score was 75, the mean score was 66.33, the range was 20, and the standard deviation was 7.614 and in the post-test, lowest score was 60, while the highest score was 85, the mean score was 79.92, the range was 25, and the standard deviation was 7.506 in the collaborative learning class. Furthermore, it was found that the lowest score of the pre-test was 55, while the highest score was 70, the mean score was 61.67, the range was 15, and the standard deviation was 5.036 and in the post-test, the lowest score was 55, while the highest score was 75, the mean score was 65.21, the range was 20, and the standard deviation was 6.164 in the non-collaborative learning class. This result is in line with the finding from (Pacheco, 2011) which indicated that collaborative learning influences learners achievement.
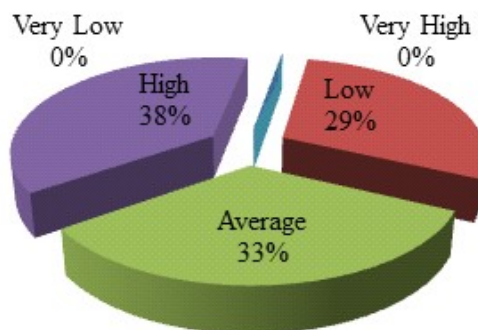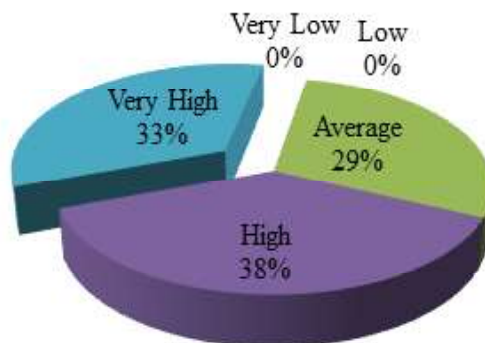

Figure 2. Pre-test result in the CLC

The Percentages of Pre-test and Post-test Results in the CL Class

The following figures display the percentages regarding the pre-test and post-test results before and after the implementation of the treatment in the experimental group.

Figure 2 displays the percentage of the pre-test in the experimental group. None of the participants got an English achievement score in the very low category, 7 (29%) participants got English achievement scores in the low category, 8 (33%) participants got English achievement scores in the average category, 9 (38%) participants got English achievement in the high category, and none of participant got an English achievement score in the very high category. Meanwhile, the post-test result in the CL Class is displayed in figure 3.

Figure 3. Post-test result in the CLC

Figure 3 presents the post-digital literacy score, none of the participants got English achievement score in the very low and low category, 7 (29%) participants got English achievement in the average category, 9 (38%) participants got English achievement score in the high category, and 8 (33%) of the participants got English achievement score in the very high category.

The Percentages of Pretest and Posttest Results in the Non-CLC

The following figures display the percentages regarding the pre-test and post-test results before and after the implementation of the treatment in the control group.

Figure 4. Pretest result for the Non-CLC

Figure 4 displays the percentage of the pre-test in the control group. None of the participants got an English achievement score in the very low category, 4 (17%) participants got English achievement scores in the low category, 15 (62%) participants got English achievement scores in the average category, 5 (21%) participants got English achievement in the high category, and none of participant got an English achievement score in the very high category. Meanwhile, the post-test result in the Non-CL Class is displayed in figure 5.
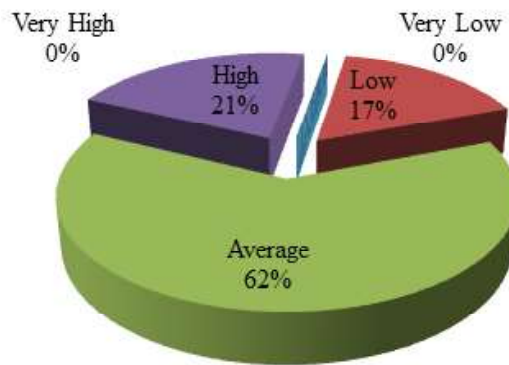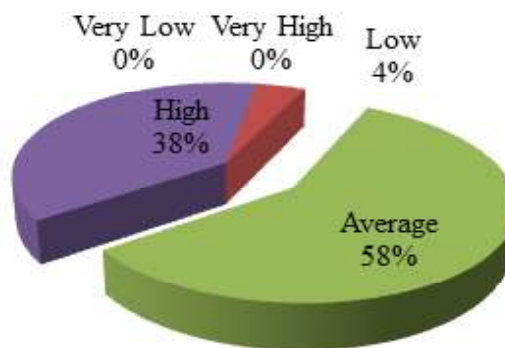

Figure 5. Post-test result in the Non-CLC

Figure 5 presents the post-digital literacy score, none of the participants got English achievement score in the very low and low category, 1 (4%) participants got English achievement in the average category, 14 (58%) participants got English achievement score in the

high category, and 9 (38%) of the participants got English achievement score in the very high category.

The Normality of the data

In analyzing the normality of the data, the researcher used the Shapiro-Wilk which was computerized by applying the SPSS version 23. If the normally spread p>0.05 then it is normal. The result showed pre-test and post-test in the CL class that the values of 0.156 and 0.067 were higher than 0.05. Meanwhile, in the Non-CL class, the pre-test was 0.120 and the post-test was 0.114 were higher than 0.05. Therefore, it can be assumed that the data of pre-test and post-test were distributed normally.

The Homogeneity of the data

The homogeneity of pre-test and post-test of English achievement on both experimental and control groups is displayed in table 1.

Table 1 describes the homogeneity of pre-test and post-test of English achievement in both experimental and control groups. In the CL Class,

Table 1. Homogeneity of pretest and posttest of English achievement on CLC and Non-CLC

Test of Homogeneity of Variance	
	Based on trimmed mean Sig.
Pre-test on CL Class	.650
Post-test on CL Class	.340
Pre-test on Non-CL Class	.424
Post-test on Non- CL Class	.582

the test of homogeneity of variances showed in the based on mean trimmed mean with significance was 0.650 for pre-test and 0.340 for post-test. Moreover, in the Non-CL class, homogeneity of variances showed in the based on mean trimmed mean with significance was 0.424 for pre-test and 0.582 for post-test Since 0.650, 0.340, 0.424, and 0.582 were higher than alpha value level of 0.05, it can be assumed that the variance of every data in the pre and post-test scores was homogenous.

Statistical Analysis on the Result of Pretest and Posttest in the Experimental Group

The results of different paired-sample t-tests between pre-test and post-test scores of the same scales collected after and before implementing the collaborative learning in the experimental group was presented in table 2.

Table 2 describes the result of the paired sample t-test that shows there was a significant difference between pre-test and post-test in the experimental group. The mean of the pre-test in the experimental group was 63.33 while the post-test in the experimental group was 72.92. From the result of paired samples t-test, it was found that t-obtained between pre-test and post-test in the experimental group were 5.468, the standard error mean was 1.753, As illustrated in table 2, the sig. (2-tailed) was 0.000 less than the alpha value 0.05. There was some progress happened after the learners had been joined the collaborative learning. This result is in line with the finding from (Bhowmik, 2016). It proposed that collaborative learning enhances academic achievement.

Table 2. The paired sample T-test result

	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Lower	Upper			
Pair 1 (Post-Pre-test in the Experimental Group)	1.753	5.957	13.209	5.468	23	.000

Statistical Analysis on the Result of Pre-test and post-test in the Control Group

The results of different paired-sample t-tests between pre-test and post-test scores of the same scales collected after and before implementing the non-collaborative learning in the control group was presented in table 3.

Table 3 describes the result of the paired sample t-test that shows there was a significant difference between pre-test and post-test in the control group. The mean of the pre-test in the experimental group was 61.57 while the post-test in the control group was 65.21. From the result of paired samples t-test, it was found that

Table 3. The paired sample T-test result

	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Lower	Upper			
Pair 1 (Post-Pre-test in the control Group)	1.184	1.092	5.991	2.991	23	.007

t-obtained between pre-test and post-test in the control group were 2.991, the standard error mean was 1.753, As illustrated in table 3, the sig. (2-tailed) was 0.000 less than the alpha value 0.05. Some progress also happened in the control group. This finding is in line with (Anggeraini, Novarita, & Afifah, 2018) which indicated there was a significant difference between pre-test and post-test in the control group.

Independent Sample t-test Analysis

In order to evaluate the significant difference in ESP learners' achievements between the ones that got treatment and the ones who followed the

non-collaborative learning, the result of post-test scores in the experimental group and control group were compared by using an independent sample t-test. It is described in table 4.

The independent sample test shows the comparison of the post-test of the collaborative learning class and the non-collaborative learning class displayed the difference between scores. It showed that the mean difference was 7.708, the standard error difference was 1.983, the t obtained was 3.888, and sig. (2-tailed) or p-value (0.00) was less than the alpha value (0.05). It means that there was a significant impact on the

Table 4. The result of independent sample T-test of English achievement

		Levene`s Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	df	t	Sig. (2-tailed)	Mean Difference	Std. Error Difference
English Achievemen	Equal Variance assumed	1.449	.235	46	3.888	.000	7.708	1.983
	Equal variances not assumed			44.324	3.888	.000	7.708	1.983

ones that got treatment and the ones who followed the non-collaborative learning class.

Collaborative learning class gave an impact on ESP learners' English achievements. Both experimental and control groups achieved significant differences in participants' English achievement scores. It was found that the experimental group got better English scores which was compared to the participants in the control group. Furthermore, in the setting of the experimental group, the students could have collbarative pratices, apply their critical thinking in sharing information, and find the answer to each question they formed during the lesson. It can be derived that the first null hypothesis of this study is rejected and it can be claimed that there is a significant difference between the participants who taught by collaborative learning and non-collaborative learning. To sum up, the results revealed that the application of collaborative learning is effective to enhance learners' English achievement. It is in line with the result from (Geetha & Karthiga, 2020; Khan & Yunus, 2019) that indicated the implementation of collaborative learning is effective to improve the learners' English skills. Collaborative learning is process of interaction between peers engaged in

the completion of a common task. The students are not only 'in' groups but also they 'work' together in groups, playing a significant role in each activity, managing time while learning together. The CL class creates an understanding the topic and enlarging the knowledge which members of the group could not achieve alone (sharing makes solution to solve the problems in learning English).

The Result of the Experimental and Control Group based on Motivation in Learning English by Using Two-Way ANOVA

It measures an interaction effect on the students' writing achievement taught using Collaborative learning and non-collaborative learning towards students' learning English motivation. The following table 5 presents the result of tests of between-subjects effects.

Table 5 indicated that the significance value of (learning English motivation*Class) was 0.001 and F obtained was 8.588. It can be called that Ho was rejected or there was a significant interaction between learning English motivation and the application of collaborative learning to the ESP learners' English achievements with the Sig. value $0.001 < 0.05$. The result of this research

Table 5. Tests of between-subjects effects

Dependent Variable: English Achievement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	796.354[a]	2	398.177	8.588	.001
Intercept	31201.875	1	31201.875	672.951	.000
Motivation*Class	796.354	2	398.177	8.588	.001
Error	2086.458	45	46.366		
Total	231825.000	48			
Corrected Total	2882.812	47			

R. Squared = .276 (Adjusted R Squared = .244)

is different from (Rodphotong, 2018; Zulfiqar et al., 2018) because this present research found that motivation in learning English and the use of collaborative learning delivered a positive impact to the ESP learners' English achievement enhancement which included their communicative competence and English performance. Based on the result, collaborative activities build learners' experiences encourage their attention to the friends' talks when they have communicated in English. Motivation in learning English (low, moderate, and high motivation) also gave a significant interaction to the ESP learners' English achievement. It is in contrasts with the findings done by (El-Omari, 2016). It indicated that attitudinal, social, socioeconomic, and extra curricula gave influence on the learners' English achievement. This present study found that motivation in learning English gave impact on the ESP learners' academic achievement.

■ CONCLUSIONS

From the findings, it can be concluded that motivation in learning English collaborative learning gave a positive influence on ESP learners' English achievement. It can help participants develop their English skills through collaborative activities. Collaborative learning not only builds the learner's responsibilities, critical thinking, and partnership but also develops their English skill. Having high motivation in learning English, the learners can communicate and help their friend if she/he got difficulties in learning English.Therefore, applying collaborative learning into the ESP learning process can have an effective contribution to the development of language proficiency and reinforcement of language skills. It facilitates learners to practice their English in joyful and interesting ways. In CL class, the learners can share their understanding and knowledge with their classmates, so that the problems in understanding and communicating in English can be solved. ESP learners' English achievement can be more effectively improved in the CL class as compared to the non-CL class and motivation in learning English becomes one of factors that influenced the learners' English achievement.

■ REFERENCES

Anggeraini, Y., Novarita, & Afifah, N. (2018). Collaborative strategic reading in EFL reading classroom. *ETERNAL:English Teaching Journal*, *9*(2), 34–47.

Arta, B. (2018). Multiple studies: The influence of collaborative learning approach on Indonesian secondary high school students' English-speaking skill. *English Language Educational Journal (ELTEJ)*, *1*(3), 149–160.

Bambirra, R. (2017). Motivation to learn English as a foreign language in Brazil. *Linguagem Em (Dis)Curso*, *17*(2), 215–236.

Bhowmik, M. (2016). Impact of collaborative learning on academic achievement in Mathematics of secondary students in the school hostel in rural area in India. *British Journal of Education, Society & Behavioural Science*, *14*(1), 1–7.

Brindley, J. E., Walti, C., & Blaschke, L. M. (2009). Creating effective collaborative learning groups in an online environment. *International Review of Research in Open and Distance Learning*, *10*(3), 1–18.

Creswell, J. W. (2012). *Educational research/ : Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Pearson Education Limited.

Dakhi, S., & Damanik, I. S. (2018). Students' motivation in reading English text: A qualitative study in EFL context. *Journal of English Teaching*, *4*(2), 81–92.

Daulay, S. H., Salmiah, M., & Ulfa, Z. (2019). Students' speaking skill through cooperative learning strategy: Time token arends. *Advances in Social Science, Education, and Humanities Reseach (ASSEHR)*, *279*, 388–393.

El-Omari, A. H. (2016). Factors affecting students' achievement in English language learning. *Journal of Education and Social Research*, *6*(2), 9–18.

Ezeanyanike, P. A. (2013). Assessing benefits of collaborative learning environment for quality higher education in Nigeria. *Journal of Educational and Social Research*, *3*(6), 85–94.

Fandino, F. G. E., Munoz, L. D., & Velandia, A. J. S. (2019). Motivation and e-learning English as a foreign language: A qualitative study. *Heliyon*, *5*, 1–7.

Geetha, M., & Karthiga, S. V. (2020). A study on the effect of collaborative learning techniques to enhance speaking skills. *European Journal of Molecular & Clinical Medicine*, *7*(7), 391–397.

Katawazai, R., & Saidalvi, A. (2020). The attitudes of tertiary level students towards cooperative learning strategies in Afghan EFL context. *International Journal of Learning, Teaching and Educational Research*, *19*(9), 301–319.

Khan, M. A., & Yunus, M. M. (2019). A collaborative learning intervention module to improve speaking fluency. *International Journal of Scientific & Technology Research*, *8*(12), 1834–1838.

Khoshnam, A. H., Ghamari, M., & Gendawani, A. G. (2013). The relationship between intrinsic motivation and happiness with academic achievement in high school students. *International Journal of Academic Resarch in Bussines and Social Sciences*, *3*(11), 330–336.

Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia - Social and Behavioral SciencesSocial and Behavioral Sciences*, *31*, 486–490.

Li, P., & Pan, G. (2009). The relationship between motivation and achievement -A survey of the study motivation of English majors in Qingdao Agricultural University. *English Language Teaching*, *2*(1), 123–128.

Li, S., & Zheng, J. (2017). The effect of academic motivation on students' English learning achievement in the eSchoolbag-based learning environment. *Smart Learning Environments*, *4*(3), 1–14.

Long, C., Ming, Z., & Chen, L. (2013). The study of student motivation on English learning in junior middle school- A Case Study of No.5 middle school in Gejiu. *English Language Teaching*, *6*(9), 136–

145.

Namaziandost, E., Neisi, L., Kheryadi, & Nasri, M. (2019). Enhancing oral proficiency through cooperative learning among intermediate EFL learners/: English learning motivation in focus. *Cogent Education*, *6*(1), 1–15.

Nasrollahi-mouziraji, A., & Birjandi, P. (2016). Motivational beliefs, self-regulation and EFL listening achievement: A path analysis. *Journal of Teaching Language Skills*, *35*(3), 91–118.

Pacheco, A. Q. (2011). Collaborative elearning: An academic experience between the university of Costa Rica and the university of Kansas. *Revista Electronica" Actualidades Investigativas En Educacion"*, *11*, 1–27.

Proctor, C. P., Daley, S., Louick, R., Leider, C. M., & Gardner, G. L. (2014). How motivation and engagement predict reading comprehension among native English-speaking and English-learning middle school students with disabilities in a remedial reading curriculum. *Learning and Individual Differences*, *36*, 76–83.

Rahmi, R. A., & Diem, C. D. (2014). Junior high school students' perception of classroom environment and their English achievement. *International Journal of Applied Linguistics and English Literature*, *3*(3), 41–47.

Rodphotong, S. (2018). The effectiveness of collaborative learning to enhance English communicative competence: A case study of the first-year students at Thepsatri Rajabhat University. *International Journal of Pedagogy and Teacher Education (IJPTE)*, *2*, 143–150.

Sedhu, D. S., Choy, S. C., & Lee, M. Y. (2015). Students' perceptions of using collaborative learning as a tool for acquiring writing skills in university. *American Journal of Applied Psychology*, *4*(3), 1–6.

Shaaban, K. A., & Ghaith, G. (2008). Student motivation to learn English as a foreign language. *Foreign Language Annals*, 632–644. Talan, T. (2021). The effect of computer-supported collaborative learning on academic achievement: A meta-analysis study. *International Journal of Education in Mathematics, Science and Technology*, *9*(3), 426–448.

Wang, Y. (2020). Promoting English listening and speaking ability by computer-supported collaborative learning. *IC4E*, *313*, 228–233.

Zulfiqar, S., Zhou, R., Asmi, F., & Yasin, A. (2018). Using simulation system for collaborative learning to enhance learner's performance. *Cogent Education*, *5*(1), 1–13.