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Cooperative Learning to Increase Students' English Self-Efficacy

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Abstrak

Korelasi positif antara efikasi diri dengan prestasi murid memicu peneliti untuk menemukan model pembelajaran yang berpotensi dapat meningkatkan efikasi diri bahasa Inggris murid. Pembelajaran kooperatif memiliki potensi untuk melakukan hal tersebut, namun terdapat keterbatasan bukti yang menunjukkan bahwa efikasi diri bahasa Inggris murid dapat dipengaruhi secara positif oleh model pembelajaran ini. Oleh karena itu, penelitian ini bertujuan untuk membuktikan apakah pembelajaran kooperatif STAD berkontribusi terhadap peningkatan efikasi diri bahasa Inggris murid. Investigasi ini menggunakan metodologi kuantitatif yang menerapkan studi eksperimental satu kelompok dengan memanfaatkan kuesioner sebelum dan sesudah perlakuan. Sampelnya terdiri dari 35 murid yang duduk di bangku kelas VIII sebuah SMP di Tangerang Selatan. Hasil dari penelitian ini menunjukkan perbedaan yang tidak signifikan antara sebelum dan sesudah perlakuan. Penelitian ini juga menemukan ukuran efek pembelajaran kooperatif yang dapat diabaikan dalam meningkatkan efikasi diri bahasa Inggris murid. Dengan demikian, penelitian ini memberikan temuan baru yang menunjukkan bahwa pembelajaran kooperatif STAD tidak bermanfaat untuk meningkatkan efikasi diri bahasa Inggris murid. Sebagai implikasi, guru dapat mempertimbangkan model pembelajaran lainnya selain pembelajaran kooperatif STAD guna meningkatkan efikasi diri bahasa Inggris murid.

Kata Kunci: pembelajaran kooperatif STAD, efikasi diri Bahasa Inggris, efikasi diri

Abstract

The positive correlation between self-efficacy and students' achievement triggered researchers to find a learning model that could potentially improve students' English self-efficacy. Cooperative learning has the potential to do that, but there is limited substantiation suggesting that students' English self-efficacy can be positively affected by this learning model. Therefore, this study aimed to prove whether or not STAD cooperative learning contributes to enhancing students' English self-efficacy. This investigation used a quantitative methodology that implemented a one-group experimental study by utilizing pre- and post-treatment questionnaires. The sample consisted of 35 students enrolled in the eighth grade of a junior high school in Tangerang Selatan. The result of this study shows an insignificant difference between before and after treatment. This study also found a negligible effect size of cooperative learning on increasing students' English self-efficacy. Thus, this research gives new findings suggesting that STAD cooperative learning is not useful for increasing the students' English self-efficacy. As an implication, teachers can consider other learning models besides STAD cooperative learning in order to enhance students' English self-efficacy.

Keyword: *STAD cooperative learning, English self-efficacy, self-efficacy*

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INTRODUCTION

In accordance with Bandura (1986), self-efficacy refers to the self-conviction regarding self-competencies to arrange and undertake the courses of action demanded to achieve certain kinds of performances. Based on his theory, English self-efficacy can be understood as the self-judgment of self-competencies to implement or perform English skills either in academic or daily life settings. In an English learning context, this theory indicates the urgency of increasing student self-efficacy since it has a positive correlation with student English achievement (Gumanti & Kaniadewi, 2020; Mahyuddin *et al*., 2006; Nguyen *et al*., 2022; Tasha, 2023). Therefore, the appropriate learning model is needed as a solution to increasing students' English self-efficacy in order to improve students' English achievement. In this paper, the learning model that is suggested to enhance students' English self-efficacy is cooperative learning.

In cooperative learning, students work in small groups to improve each other's learning (Johnson *et al*., 1994). The core of cooperative learning is that students help each other reach learning objectives. With this behavior, it will be easier for students to observe their peers' success and receive feedback in their English learning process. Through this positive reliance, students will also get the chance to experience success and mastery in learning English, which provides an opportunity for increasing their English self-efficacy. To sum up, cooperative learning has the potential to fulfill four factors that can increase self-efficacy. Those factors are previous mastery experience, observing peers' achievement or success, verbal persuasion, and physiological states, as mentioned by Bandura (1995).

A large amount of prior research has discussed a lot about how students' achievement can be positively affected by cooperative learning. In a public college context, Gull & Shehzad (2015) suggested that cooperative learning activities favorably affect students' academic achievement. Compatible with this, Mahamod & Somasundram (2017) highlighted the effectiveness of cooperative learning on students' learning achievement in learning Malay language. In a different context, a study carried out by Hossain & Tarmizi (2013) showed a significant impact of cooperative learning on students' accomplishments and attitudes toward mathematics. This is strengthened by a study conducted by Rani (2022), which revealed the improvement of students' mathematics outcomes after they were engaged in TGT (Teams Games Tournament) cooperative learning. Whereas in a different type of cooperative learning, research conducted by Wyk (2012) revealed that STAD cooperative learning had beneficial effects on students' achievement, attitude, and motivation in the economics education context. STAD cooperative learning was also claimed by Ziziumiza *et al*. (2022) to enhance students' achievements in a vocational and technical engineering school. Furthermore, a recent study carried out by Aningsih *et al*. (2019) confirmed that STAD cooperative learning can enhance students' mathematics achievement.

Besides fostering students' learning achievement, cooperative learning also has psychological influences that have the potential to foster a mutualistic learning environment among students. Based on a theory developed by Johnson *et al*. (1986), cooperative learning is defined as a learning model where students work on assignments or projects together in small groups under the guidance of a teacher or instructor in order to mutually enhance each other's learning. Kagan & Kagan (2009) stated that cooperative learning gives students a chance to develop constructive relationships within their groups, which can potentially improve one another's learning. Additionally, Keramati & Gillies (2022) stated that cooperative learning can give students a safe and secure learning environment. Based on the prior studies mentioned previously, researchers in the present study hypothesize that cooperative learning not only can increase students' English achievement but also their English self-efficacy if teachers or instructors can provide guidance for them during the learning activities to yield positive learning experiences.

Furthermore, this study concentrates on one type of cooperative learning, namely STAD (Student Team Achievement Division). In the STAD cooperative learning model, students have to be divided into

heterogeneous groups according to their performance levels, gender, ethnicity, and so on (Slavin, 1995). Individual responsibility and great teamwork are the main points of STAD cooperative learning. According to Sharan (2002), STAD focuses on an individual's knowledge mastery and their motivation. Based on her statement, STAD cooperative learning is likely to be suitable to apply in English language learning in order to enhance students' language mastery. The emphasis on the motivation aspect also gives opportunities for STAD to contribute to increasing students' self-efficacy since a recent study conducted by Rahayu & Dian (2022) revealed that academic motivation correlates positively with self-efficacy. For that reason, this study implemented the STAD cooperative learning model as an experimental treatment.

The best results of the researchers' exploration found that a substantial amount of research had been conducted and showed cooperative learning effectivity in enhancing students' self-efficacy in learning mathematics contexts (e.g., In'am & Sutrisno, 2021; Isfayani *et al*., 2018; Rachmah, 2017; Ulpah, 2019). However, there is still limited evidence suggesting that cooperative learning models can increase students' self-efficacy in an English learning context. Therefore, the present study examined the effect of STAD cooperative learning on English self-efficacy in the context of EFL students. The results of the present study act as an important part of the process of finding appropriate learning models to increase students' English self-efficacy. In addition, previous studies discussed self-efficacy in general terms. However, the present study will be specific to the "English self-efficacy" term. Within the framework provided previously, the question in this study is: "Is there any significant difference in the level of students' English self-efficacy before and after implementing STAD cooperative learning?"

METHOD

The present study is one-group experimental research involving 35 students as a sample. The sampling technique used was probability sampling, in which 48 students enrolled in the 8th grade junior high of a school in Tanggerang Selatan had an equal chance of being selected into the sample. A quantitative approach was used to determine the effect of STAD cooperative learning on students' English self-efficacy. A Questionnaire of English Self-Efficacy (QESE) was utilized as an instrument in the present study. This Likert scale questionnaire was meticulously created by Wang (2004) and adapted by Wang *et al*. (2014), as stated by Montaño-González & Cancino (2020). Researchers in the present study have modified the questionnaire in order to fit the research context. Therefore, validity and reliability testing has been done using SPSS 20 to ensure the quality of the questionnaire.

Table 1. Validity Test Result

Items	Sig.	Result
Q1	.000	Valid
Q2	.000	Valid
Q3	.000	Valid
Q4	.005	Valid
Q5	.000	Valid
Q6	.000	Valid
Q7	.001	Valid
Q8	.000	Valid
Q9	.000	Valid
Q10	.000	Valid
Q11	.001	Valid
Q12	.000	Valid
Q13	.000	Valid
Q14	.000	Valid
Q15	.000	Valid
Q16	.000	Valid

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Items	Sig.	Result
Q17	.000	Valid
Q18	.000	Valid
Q19	.000	Valid
Q20	.000	Valid
Q21	.000	Valid
Q22	.000	Valid
Q23	.000	Valid
Q24	.000	Valid
Q25	.000	Valid
Q26	.000	Valid
Q27	.000	Valid
Q28	.000	Valid
Q29	.000	Valid
Q30	.000	Valid
Q31	.000	Valid
Q32	.000	Valid

Based on Table 1, it can be seen that the significance value of each item in the questionnaire is no more than 0.05 (Sig. < 0.05). Therefore, it can be concluded that all items in the questionnaire are valid.

Table 2. Reliability Test Result

Cronbach's Alpha	N of Items
.970	32

The Crobach's alpha result in Table 2 is 0.970. Based on the criteria in Table 3, this result is greater than 0.90 (Crobach's alpha > 0.90). Thus, it can be stated that the QESE questionnaire used in the present research has perfect reliability.

Table 3. Reliability Criteria

Crobach's Alpha Value Interval	Criteria
> 0.90	Perfect Reliability ✓
0.70 - 0.90	High Reliability
0.50 - 0.70	Moderate Reliability
< 0.50	Low Reliability

The QESE questionnaire served as a vital means in the present study to determine students' English self-efficacy levels before and after treatment. This questionnaire consists of seven rating scales and was distributed through Google Form to make it flexible and accessible for both the students and the researchers. Treatment in this study was limited to one meeting. Before the treatment, each student was given a pre-questionnaire. Then, students were divided into small, heterogeneous groups before the learning process began. Each group received worksheets as part of the cooperative learning treatment. Instruction, supervision, and guidance were provided for the students during the STAD cooperative learning treatment in their class. Students were also reminded that they must actively contribute to their group during the learning activity. After the treatment, each student was given a post-questionnaire as a final step in data collection.

The data gathered was analyzed using descriptive analysis techniques. A paired sample t-test was utilized for comparing the questionnaire mean scores of two samples (before and after) taken from the same population. The requirement to be able to carry out a paired sample t-test is that the data distribution has to be normal. Therefore, to ensure that the data is distributed normally, a normality test was carried out first before the paired sample t-test.

The normality and paired sample t-tests in this study were conducted using SPSS 20. In the present study, Cohen's d effect size calculation was also carried out in order to find out the effect size resulting from the STAD

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cooperative learning treatment. The outcomes of the paired sample t-test and the effect size calculation were then used as the basis for making decisions regarding the findings of the present research.

RESULTS AND DISCUSSION

Table 4. Tests of Normality

	Kolmogorov Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Pre-questionnaire	.063	35	.200	.989	35	.978
Post-questionnaire	.087	35	.200	.980	35	.760

A normality test is a requirement that must be met before carrying out a paired sample t-test. This test was implemented to find out the distribution of students' English self-efficacy scores from pre- and post-questionnaire data. According to Table 4, it can be stated that the data distribution is normal because the significance is greater than α 0.05. Thus, a paired sample t-test can be carried out.

Table 5. Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Pre-questionnaire – Post-questionnaire	-2.000	27.177	4.594	-11.336	7.336	-.435	34	.666

The basis for decision-making in the present research is: 1. If the significant value is > 0.05, then Ho is accepted or Ha is rejected (the difference is not significant); 2. If the significant value is < 0.05, then Ho is rejected or Ha is accepted (the difference is significant). Based on Table 5, a significant t-value of 0.66 was obtained from a paired sample t-test. Thus, the t-value is greater than α 0.05, which means there is no significant influence of the STAD cooperative learning treatment on students' English self-efficacy.

Table 6. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-questionnaire	112.31	35	31.727	5.363
	Post-questionnaire	114.31	35	33.108	5.596

The analyzed average difference between the pre-questionnaire (average = 112.31) and post-questionnaire (average = 114.31) proved not statistically significant. However, it is noteworthy to acknowledge a slight change in those scores (see the mean score difference in Table 6). Knowing the size of the effect of the intervention is essential as a basis for decision-making and the implications of this research. Therefore, after the paired-samples t-test was implemented, the effect size calculation was carried out by dividing the mean difference (post-mean score subtracted by pre-mean score) by the standard deviation of the difference. According to Arbaniah *et al.* (2018), the Cohen d formula can be carried out as follows:

$ES_{diff} = (M_{post} - M_{pre}) / SD_{diff}$

Es_{diff} = (114.31 - 112.31) / 721.4857143

= **0.002772057659**

Cohen suggested 0.2 as a "low" effect size. Meanwhile, the calculation shows that d = 0.002. Regarding this result, an effect size of 0.2 was described by Cohen (1988), cited in Pogrow (2019), as “hard to detect."

This means that if d is less than 0.2, the effect size difference is negligible because it cannot be seen with unaided eyes. Therefore, d = 0.002 can be ignored, or, in other words, STAD cooperative learning does not produce any effect in terms of English self-efficacy improvement.

Regarding the research results in the present study, a large number of previous studies have shown the positive repercussions of implementing cooperative learning on students' self-efficacy in various fields. In chemistry class, Lago & Nawang (2007) confirmed a significant distinction in students' self-efficacy after the cooperative learning intervention. An experimental study conducted by Garcia (2021) proved that jigsaw cooperative learning had a beneficial effect on novice programmers' self-efficacy, attitude, and knowledge. This was supported by the research preceding it conducted by García-Almeida & Cabrera-Nuez (2020), which stated that cooperative learning had a positive effect on students' self-efficacy at the university level.

In the context of mathematics learning, Rachmah (2017) showed that the cooperative jigsaw type had noteworthy impacts on students' self-efficacy as well as their motivation to learn. Moreover, In'am & Sutrisno (2021) found that the cooperative TGT (Team Games Tournament) model indicated a positive impact on students' self-efficacy in mathematics learning. In other fields, a study conducted by Kwon & Yang (2022) confirmed that jigsaw cooperative learning showed a beneficial effect on nursing students' self-efficacy. In the dental hygiene students' context, research conducted by Park & Song (2012) indicated significant gaps in the charge of self-efficacy after the students engaged in cooperative learning. Meanwhile, in the context of English learning, research conducted by Saunders-Wyndham & Smith (2020) revealed that student self-efficacy was significantly increased by cooperative learning. In brief, all of the prior studies mentioned indicated that cooperative learning can produce a beneficial influence on students' self-efficacy and provide great potential for enhancing students' English self-efficacy.

Concerning all of the findings from the preliminary studies mentioned, the present study showed different results from those findings. The present experiment shows no statistically significant effect on English self-efficacy scores before and after treatment. Thus, it is indicated that the present research is not consistent with the former research, which discovered that STAD cooperative learning had a beneficial effect on student self-efficacy.

In addition, the present study is similar to the prior study conducted by Lantajo & Tipolo (2019), which revealed an insignificant pre- and post-test mean difference between students who were engaged in STAD cooperative learning and students who were engaged in inquiry-based learning. Moreover, an insignificant effect of cooperative learning was also found in the Nigerian College of Education, in which Mari & Gumel (2015) examined the effect of jigsaw cooperative learning on chemistry students' academic performance and self-efficacy as formal and concrete reasoners. In that study, despite the latter group's achievements being noticeably higher than the former's, students' self-efficacy in either group was not significantly affected when exposed to a cooperative learning model. In addition, a recent study carried out by Ardianty *et al*. (2023) found that STAD cooperative learning, combined with the Identify, Define, Explore, Act, Look Back learning strategy, was not effective in increasing students' self-efficacy in the setting of thermochemistry.

Besides the insignificant results in the paired sample t-test, the effect size calculation in the present study also reveals a negligible effect of STAD cooperative learning in order to enhance students' English self-efficacy because the effect cannot be seen with unaided eyes. In making this decision, the researchers considered the need for real-life effects to upgrade the quality of education. Therefore, the present research outcomes suggest that STAD cooperative learning is not useful for increasing students' English self-efficacy.

Present research outcomes might be caused by some students who do not participate fully in their groups and the large class size, as stated by Mukuka *et al*. (2019). This makes sense because it is not easy to instruct and supervise students in their group work. Thus, cooperative learning requires effort and time for lesson preparation, as mentioned by Abramczyk & Jurkowski (2020) in their meta-analysis study. Another factor might be, as stated by Sharan (2010), that students might not always see their teachers' instructions as being sufficiently

clear. Moreover, Moges (2019) shared knowledge about the challenges of implementing cooperative learning. Based on his study, the ineffectiveness gained in the present study might be caused by a lack of teacher or instructor knowledge and skills with regard to applying cooperative learning in the classroom. Based on the students' perspective in his study, the major challenges identified were the students' unwillingness to participate in cooperative learning because they prefer to learn through traditional methods. This might be because students felt more comfortable working individually than in groups. According to Gillies & Boyle (2010), some teachers struggled to teach students through cooperative learning. Their study also emphasized the urgency of providing knowledge for teachers about how to use cooperative learning properly.

According to the difficulties and challenges identified by prior research, it can be said that the effectiveness of cooperative learning depends on two factors. The first factor is teacher knowledge regarding the use of cooperative learning and their ability to execute it. The second factor is the student's willingness to engage in cooperative learning classes. Thus, teacher training before implementing cooperative learning is important for the success of teaching and learning activities. It is also essential for teachers to know about the learning styles of their students in order to adjust the teaching techniques that will be applied to their class.

The implication of the present research is that teachers or instructors can consider other learning models or other types of cooperative learning besides STAD cooperative learning in order to enhance students' English self-efficacy in teaching English for EFL students. This research provides new findings that contribute to the field of education, specifically for teaching English as a Foreign Language (TEFL), and can be given some consideration by English teachers in determining the learning model to be used in their class. In addition, this research treatment was limited to one meeting. This limitation gives the possibility of increasing students' English self-efficacy with STAD cooperative learning if treatment time is added. Based on this limitation, more investigations are needed to show a better understanding of STAD cooperative learning in order to raise students' English self-efficacy. Future research can examine the same problem in a different context or with different cooperative learning types by extending the treatment time. Future research can also investigate other learning models besides cooperative learning that presumably can improve students' English self-efficacy.

CONCLUSION

Based on the outcomes of paired sample t-tests, STAD cooperative learning is not statistically significant in terms of increasing students' English self-efficacy. The trivial effect size of STAD cooperative learning in enhancing students' English self-efficacy was also discovered in the present study. These results lead to the conclusion that STAD cooperative learning is not useful for enhancing students' English self-efficacy in the present study. Despite these outcomes, it should be noted that this research treatment was limited to one meeting. This limitation gives the possibility of increasing students' English self-efficacy through STAD cooperative learning if treatment time is added. To increase students' English self-efficacy, STAD cooperative learning is not advised to be carried out in large classes with more than 30 students. This is because dividing students into small groups will be less efficient in large classes. In addition, teachers are required to monitor, provide direction, and ensure that all students work in order to achieve a positive learning environment in their classroom. It will not be easy for a teacher to do these with more than 30 students at once. Goals, benefits, or rewards from learning also have to be communicated clearly to students from the start. By doing this, it is expected that students will be more engaged and motivated during English learning. Moreover, class settings play an important role in making it easier for teachers to supervise students' work. Before class starts, the teacher must instruct students to arrange their seats neatly according to their groups. This must be done so that learning time is not wasted on class arrangements.

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