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The Effect of the Peer Tutoring Method in Online English Grammar Learning among Health Science Students

Atur Semartini*
Sekolah Tinggi Ilmu Kesehatan Nasional, Grogol, Indonesia
E-mail: atur_semartini@stikesnas.ac.id

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Abstract

The peer tutoring method is a student-centered learning approach. This method offers numerous benefits not only in terms of students' academic performance but also in their personal development. While the peer tutoring method has been widely implemented across various classroom settings, research exploring its effect in online English grammar learning, particularly among health science students, remains limited. This study aims to investigate the effect of implementing peer tutoring in online English grammar learning for health science students. A mixed-methods approach, combining both quantitative and qualitative methods, was employed in this study. A total of 58 health science students participated. The quantitative method involved distributing pre-tests and post-tests, with the resulting data was analyzed to assess the effect of peer tutoring. The qualitative method consisted of distributing questionnaires to obtain students' perceptions of the peer tutoring implementation. The questionnaires included both open and closed questions. The findings revealed a statistically significant improvement in students' performance, as indicated by an increase in average pre-test and post-test scores ($p < 0.05$). Additionally, the questionnaire responses indicated that students felt more motivated to engage in learning, as the class became more engaging and the material easier to comprehend through the peer tutoring method. Another reported benefit was that students felt more confident to ask and answer questions when peer tutoring was employed. In conclusion, the implementation of the peer tutoring method in online English grammar learning enhanced students' comprehension, motivation, and self-confidence in classroom interactions.

Keywords: *Effect, Peer Tutoring, English, Online Class, Health Science Student*

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INTRODUCTION:

Contemporary teaching methods have shifted toward student-centered approaches, moving away from traditional teaching approaches. Student-centered learning is believed to foster the development of two critical

components for academic success: intellectual capacity and internal motivation. Student-centered learning has been shown to enhance both academic performance and students' motivation to learn (Wang, 2023). One of the student-centered method is peer teaching or peer tutoring. (ARSYAD et al., 2023) asserted that this learning method is increasingly popular.

Peer tutoring is a student-centered learning strategy in which students work in pairs or small groups to support and complement each other's learning (Hidayat et al., 2023; Topping, 2020). The core principle of peer tutoring is that students take on the role of teachers for one another, fostering a learning environment that empowers students as active contributors (Prisila & Rufinus, 2024). This method has been proven beneficial for not only the students being tutored (tutees) but also the peer tutors themselves.

The advantages of peer tutoring have been widely promoted through various studies and have been implemented across numerous countries. Peer tutoring is considered more effective than conventional teaching methods. A study by (Anbreen & Lateef, 2025) demonstrated that students who participated in peer tutoring performed significantly greater improvement than those who did not receive such method. (Tonukari, 2022) discovered that peer tutoring enhanced learning outcomes among advanced French language learners, regardless of gender. The effectiveness of peer tutoring lies in its ability to foster collaboration among students, thereby improving academic results. (Dorji & Lhamo, 2022) noted that peer tutoring not only positively influenced students' academic performance in Bhutan but also enhanced their communication skills. Moreover, (Mennim, 2017) asserted that peer tutoring increases students' motivation, improves academic achievement, and encourages communication. Additional benefits include the development of teamwork, empathy, psychological well-being, social competence, and self-esteem (Parra et al., 2023). For peer tutors, the method also strengthens long-term or retention knowledge (Zhang, 2023).

The implementation of peer tutoring in English language learning has been widespread globally. (Akhtar et al., 2019) demonstrated that peer tutoring significantly improved English writing skills among both male and female students in Pakistan. Those who received peer tutoring outperformed their mates who were taught using traditional methods.

In the Philippines, ninth-grade students showed notable improvement in reading comprehension through peer tutoring. Students in the experimental group achieved significantly higher scores compared to those in the control group, who did not participate in peer tutoring (Gubalani et al., 2023).

In Indonesia, several studies have examined the implementation of peer tutoring in English language classrooms. (Ariesinta & Widyantoro, 2024) demonstrated that peer tutoring significantly influences students' speaking abilities. The use of peer tutoring has been proved to improve various skills such as fluency, grammar, vocabulary, and content. In addition, it positively affects students' self-confidence, collaboration, and learning acceleration. Peer tutoring has also

been proven effective in enhancing writing skills among eighth-grade students in Lamongan (Labib Al Halim, 2021).

The peer tutoring strategy is effective in improving test scores among both undergraduate and diploma-level students. This method contributes to a more enjoyable and effective learning experience. Peer tutors are given the opportunity to develop and present materials in ways that align with their strengths, while learners benefit from clearer understanding and more open engagement in discussions (Eliza, 2024).

Despite the growing research, studies focusing on the effect of peer tutoring in the learning of English grammar and sentence structure in Indonesia remain limited, especially within the context of online learning environments. Grammar, while being a fundamental component of English language learning, is often perceived as one of the most challenging areas to master. (Komara & Tiarsiwi, 2021) claimed that Indonesian learners of English as a foreign language viewed grammar as both essential and difficult. Teacher-centered approach and reliance on standard textbooks were identified as major obstacles to grammar acquisition, prompting students to prefer more varied and interactive learning methods.

Meanwhile, online English learning presents its own unique challenges. Since the COVID-19 pandemic, online learning has become increasingly widespread. Compared to traditional face-to-face learning, online education offers certain advantages, such as flexibility in terms of time and location (Rahmat, 2022) as well as the use of diverse media to increase student participation and engagement (Berber, 2022). However, it also poses notable difficulties for both students and teachers. In addition to technical barriers, internal factors, such as limited interaction between students and teachers and low student motivation, often hinder the effectiveness of online learning (Berber, 2022; Hidayah et al., 2021; Lukas & Yunus, 2021). This study aims to investigate the effect of the peer tutoring in online English grammar learning among health science students.

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METHOD

This study aims to investigate the effect of the peer tutoring method in online English grammar learning among health science students. To investigate the effect of this learning method, a mixed-methods research design, incorporating both qualitative and quantitative approaches, was employed.

Qualitative data were collected through a combination of open and closed questionnaires to explore students' perceptions of the peer tutoring implementation. The questionnaires were distributed to both peer tutors and tutees, thereby enabling the study to evaluate the effects and perceptions of the peer tutoring method from both perspectives.

The questionnaire was presented in Bahasa to help participants understand the questions well and expressed their opinion well in Bahasa. These data were then analyzed and presented descriptively using English. Quantitative data were obtained through the distribution of pre-tests and post-tests conducted before

and after the peer tutoring sessions. All collected data were analyzed and presented in tables and diagrams.

The participants in this study were 58 undergraduate students enrolled in a health science program at a college in Surakarta. A group of eight students was assigned as peer tutors for the remaining 50 students. The tutor group was given two weeks to prepare the learning materials, under the guidance of the lecturer, prior to delivering the grammar lessons.

The classes were conducted online via Google Meet. Before the session began, students completed a pre-test distributed through Google Forms. During the pre-test, students were required to keep their cameras on, and the test was time-limited to prevent the possibility of consulting external sources or seeking assistance. Following the pre-test, the peer tutors conducted the grammar learning using the peer tutoring method. Each student in the tutor group had his/her own roles in tutoring. After the peer tutoring session, a post-test was distributed through another Google Form, also under timed conditions to ensure the validity of the results. Upon completion of the peer tutoring implementation, 58 respondents, consisting of both peer tutors and tutees, were asked to complete a questionnaire consisting of both closed-ended and open-ended questions. The aim was to explore students' perceptions of the peer tutoring method, from the perspectives of both peer tutors and tutees.

RESULT AND DISCUSSION

Three sub-sections are presented in the Results. The first presents an increase in student scores before and after the implementation of the peer tutoring method. Next, the results of a closed-ended questionnaire are reported, which reflect students' perceptions of the implementation of the peer tutoring method. Finally, the results of an open-ended questionnaire are presented in table 2 and table 3, highlighting both the challenges and the interesting aspects of the peer tutoring implementation as perceived by both the tutors and the tutees.

The Improvement of Learning Outcomes using Peer Tutoring

Table 1. Paired t-test analysis result

	PRETEST	*POSTTEST*
Mean	61,90	78,79
Variance	436,69	133,61
Observations	58,00	58,00
Pearson Correlation	0,37	
Hypothesized Mean Difference	0,00	
df	57,00	
t Stat	-6,49	
P(T<=t) one-tail	0,00	
t Critical one-tail	1,67	
P(T<=t) two-tail	0,00	
t Critical two-tail	2,00	

The table above indicates an improvement in test scores among the participants. The average score on the pre-test was 61.90, while the average

post-test score increased to 78.79. These results suggest that the peer tutoring learning method contributed to the enhancement of students' performance. Additionally, the table shows a significance value of $p < 0.05$, indicating that the peer tutoring method had a statistically significant effect on English grammar learning in an online setting.

Students' Perception of Peer Tutoring Implementation

The charts below present data from the questionnaire distributed to students to explore their perceptions of peer tutoring implementation.

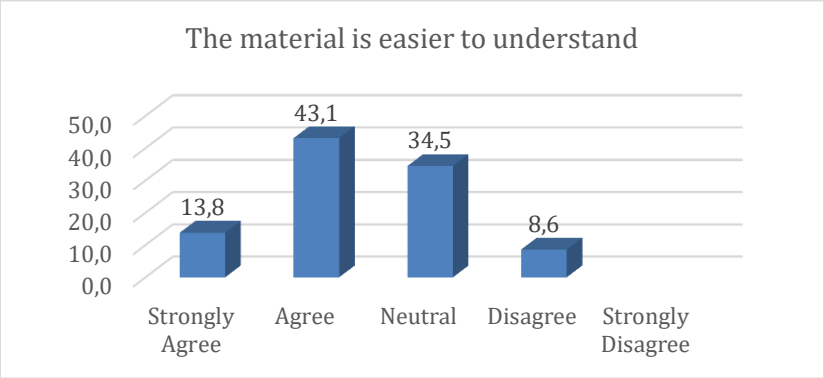

Figure 1. Students' perception on the material comprehension

The findings of this study indicate that respondents perceived several benefits from the peer tutoring method. These benefits extended beyond improvements in academic performance to include the enhancement of soft skills. According to the questionnaire results, more than 50% of respondents reported that the peer tutoring method made it easier for them to understand the material. 13,8% of respondents strongly agreed and 43,1% agreed that the material was easier to undertand through this learning method.

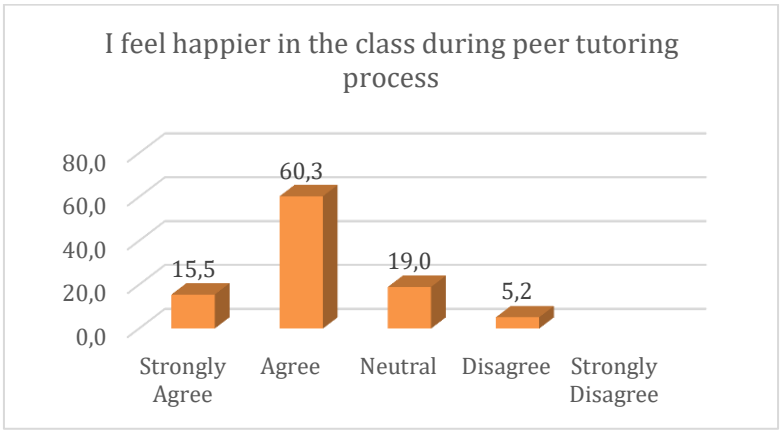

Figure 2. Students' perception on their feeling in class

A total of 75,9% of respondents reported that the peer tutoring method made the class in more enjoyable so that they were more enthusiastic in class, with 15,5% strongly agreeing and 60,3% agreeing with this statement.

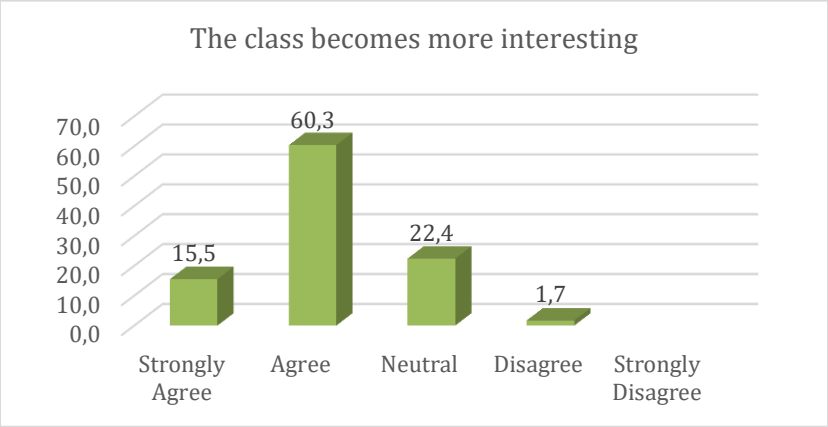

Figure 3. Students' perception on the class situation

A significant 75,9% of students indicated that the class became more interesting when peer tutoring was used, with 15.5% strongly agreeing and 60,3% agreeing.

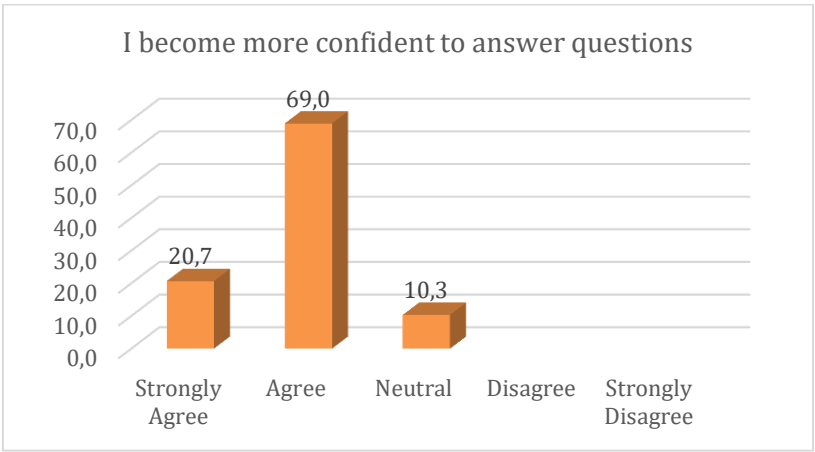

Figure 4. Students' perception on their confidence in answering questions

Furthermore, 89,7% of respondents indicated that they felt more confident asking questions in class compared to when taught using conventional methods, 20,7% strongly agreed and 69% agreed.

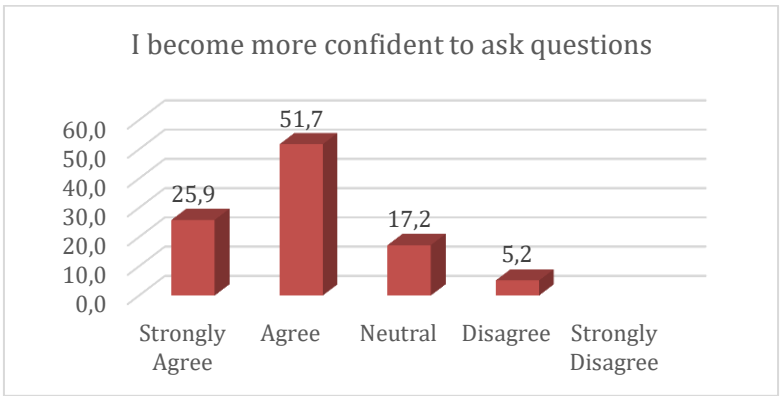

Figure 5. Students' perception on their confidence in asking questions

Finally, 77.6% of respondents reported feeling more confident in asking questions during class as a result of peer tutoring, with 25.9% strongly agreeing and 51.7% agreeing that peer tutoring encouraged them to be more courageous in raising questions.

The diagrams above illustrate that students perceive peer tutoring as having a significant impact on transforming the classroom atmosphere, making it more engaging. Consequently, they reported greater enthusiasm in participating lectures and increased confidence in classroom interactions.

The open questions in the questionnaire further explored both the positive effects and the challenges encountered by tutors and tutees throughout the implementation of peer tutoring. Based on the analysis of these responses, several key findings emerged.

Table 2. The effect and barriers of peer tutoring based on tutees' perspective

What is the most pleasing/interesting from peer tutoring method?	1. During the question-and-answer sessions, I did not feel awkward because I was interacting with my own classmates. 2. What made the class engaging was the absence of boredom; the class was more active in both asking and answering questions. 3. The most enjoyable aspect was having classmates explained the material. It made the learning experience more relaxed and enjoyable. 4. The class felt more relaxed and comfortable; I wasn't afraid of making mistakes when asking questions.
What are the difficulties you experience during the peer tutoring learning process?	1. When a classmate explained something unclear 2. Some classmates explained in convoluted language

Table 3. The effect and barriers of peer tutoring based on tutors' perspective

What is the most interesting/pleasing in being a tutor?	1. Students had the opportunity to practice public speaking and take on the role of a lecturer. 2. It helped me become more confident when speaking in front of public. 3. I was able to understand the material more thoroughly and teach it to my classmates. 4. I felt that I was able to contribute and be helpful to others. 5. I became braver.
What are the difficulties of being a tutor?	1. There were some challenges, but the explanations could be repeated to ensure that

	my classmates fully understood the material. 2. Speaking in front of the class was challenging, as my intonation tended to become faster, making it seem rushed. 3. I experienced overthinking due to the fear that my explanations might not be easily understood by some classmates.

Based on the data presented in Table 2, students reported that the class atmosphere became more relaxed and comfortable, as they did not feel afraid of making mistakes when asking or answering questions during the sessions. Table 3 illustrates that peer tutoring offered various benefits for the tutors, including increased self-confidence in speaking before an audience, a sense of fulfillment from being able to teach their classmates, and a deeper understanding of the learning material.

However, certain challenges were identified during the implementation. One issue arose when tutors were unable to explain the material clearly, resulting in confusion among the tutees. From the tutors' perspective, psychological barriers such as overthinking also emerged, particularly due to the pressure of speaking in front of others. Tutors expressed concerns about their ability to explain the material effectively and to ensure their classmates' comprehension. These anxieties often manifested during the teaching process, leading tutors to speak in a convoluted language or with excessive speed and haste.

These findings suggest that to perform effectively as peer tutors, students must not only be equipped with well-prepared and engaging learning materials but also be mentally prepared for the role. Psychological readiness is essential to ensure clarity, confidence, and composure during the teaching process.

Discussion

Quantitative data revealed that peer tutoring had a positive impact on improving English grammar learning outcomes in an online setting. These findings align with those of (Palaming, 2016) who reported that students' learning outcomes increased following the implementation of peer tutoring. The peer tutoring method significantly enhanced students' grammar performance. (Watcharapunyawong, 2018) proved that online peer tutoring had a positive effect on grammar achievement among first-year English major students in Thailand. In addition to academic outcomes, students' satisfaction with the peer tutoring method was also notably high. Several factors contributed to the improvement in learning outcomes. First, the learning materials became easier to understand. Participants perceived that the peer tutoring strategy facilitated better comprehension, which subsequently enhanced their academic performance. Second, the enjoyable and relaxed learning environment contributed to improved understanding. Students reported feeling more comfortable and engaged during the sessions.

An engaging learning method also fostered increased motivation to learn. This heightened motivation encouraged students to actively engage with the topic being taught. Peer tutoring was claimed to enhance both students' confidence and their motivation to learn English. It also played a role in reducing language learning anxiety, as noted by (Ab. Latif & Zulkifli, 2020). Students with higher motivation levels demonstrated improved academic performance in English (Yulfi & Aalayina, 2021). Motivation is widely recognized as a key determinant of language acquisition success; therefore, fostering motivation is critical to improving both the learning process and its outcomes (Alizadeh, 2016; Hamimed, 2024).

The peer tutoring method also encouraged students to ask and answer questions more freely. This increase in active participation allowed students to clarify their misunderstandings, resulting in a more comprehensive grasp of the material. These findings demonstrate that peer tutoring promotes active student engagement in online learning environments. This method addresses one of the primary limitations of online learning that is the lack of interaction between teacher/ lecturer and students (Oktoma et al., 2023).

Although peer tutoring has been proved to be effective and beneficial in numerous studies, its success ultimately depends on proper structuring and implementation (Topping, 2020).

CONCLUSION AND RECOMMENDATION

Based on the findings of this study, it can be concluded that peer tutoring has a significant effect on online English grammar learning. This impact is reflected in the improvement of students' test scores as well as their increased motivation and self-confidence. The peer tutoring method contributes to creating a more engaging and enjoyable classroom atmosphere, which in turn enhances students' willingness to learn. Additionally, peer tutoring increases greater classroom participation, as students feel more confidence asking and answering questions when their classmates serve as tutors. In other words, peer tutoring presents itself as an effective alternative learning method for online classes, where student motivation and interaction are often low and present significant challenges.

Despite the improvements in learning outcomes, the implementation of peer tutoring is not without its challenges for both tutors and tutees. In some cases, unclear or convoluted language used by peer tutors hinder the tutees' comprehension of the material. Moreover, excessive anxiety or overthinking prior to teaching sessions often affects tutors' ability to deliver content effectively. To address these challenges, teachers or lecturers must provide adequate preparation and support to peer tutors, both psychologically and pedagogically, to ensure the effectiveness of the teaching process.

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