



Role of Peer Teaching in Enhancing Academic Performance of Secondary School Students

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ABSTRACT

This study was conducted to find out role of peer teaching in enhancing academic performance of secondary school students. The objectives of the study were: i) To identify the practices of peer teaching at secondary school level, ii) To assess the academic performance of students at secondary school level & iii) To examine the role of peer teaching in enhancing academic performance of secondary school students. The population of the study consisted of (513) secondary school Students of tehsil Kotli. The simple random sampling technique was used for the selection of the sample of Students (220). The study was descriptive in nature and survey method used to collect the data from the respondents. The researcher developed a five-point Likert scale questionnaire for collection of data. The present study holds great significance as it explores a student-centered teaching strategy that has the potential to transform traditional learning practices. In many educational contexts, teacher centered methods dominate the classroom, often resulting in limited student engagement and uneven academic achievement. By focusing on peer teaching, this study highlights an alternative approach that can foster active participation, mutual support, and a deeper understanding of academic content. For students, the study is valuable because it demonstrates how peer interactions can enhance learning outcomes, improve communication and problem-solving skills, and build confidence in a less intimidating environment. For teacher, it provides evidence of an effective supplementary method that not only increases student involvement but also help in identifying learning gaps more efficiently. At the institutional level, the study is significant as it suggests a cost effective, practical, and sustainable approach that can be adopted even in resource constrained schools. Furthermore, for policymakers and curriculum designers, it offers meaningful insights into the importance of integrating collaborative learning strategies into mainstream education, ensuring that learners are equipped with essential 21st century skills such as teamwork, leadership, and critical thinking. Finally, for future researchers, the study lays a foundation for further exploration of peer assisted learning across different contexts, subjects, and educational levels, thereby contributing to the broader body of knowledge in the field of pedagogy and academic development.



Introduction

Peer teaching as a role within the educational setting has recently attracted a lot of focus, with various studies being done to explore its possible uses within the setting to promote performance as well as engagement within class. Peer teaching is a learning technique whereby students are taught by peers, with guidance from a teacher.

According to Topping (2021), Peer teaching helps to create an active learning situation for the student with an opportunity to interact with both the material as well as with their peers. Apart from benefiting through reinforcement of their learning for the topic by the teacher, peer teaching also helps to offer an alternative perspective that is invaluable for learners (Topping, 2021). Further, Asgari & Rahimi (2023) conceptualized that students who took peer teaching showed enhanced performance compared to those who took conventional teaching. The reason behind this is that peer teaching is also an active learning procedure that assists an individual to enhance their learning through teaching others.

Moreover, the social-emotional advantages of peer teaching should not be overlooked. According to Gielen et al. (2022), peer teaching increases social skills or academic abilities, boosts confidence, and diminishes anxiety levels of students. The social-emotional advantages would ensure that there is a positive learning environment, an important factor in determining the success of academic achievement.

Nevertheless, despite these well-documented advantages, there exists a great need for additional specific research related to understanding ways in which peer teaching approaches can be adopted effectively in diverse learning environments (Topping 2022). In order to understand the topic better, there is a need for a definition of peer teaching, peer teaching. Peer: something, such as age, occupation, social status, and so on, that has equal value to peer. Teaching can be defined as giving information as per a specified purpose, training, education. It can be defined as the activity of preparing a set of actions that will lead to learning (Turkish Language Instruction, 2022).

Peer teaching is a learning process whereby students take turns to become the instructor while the other student becomes the learner, where the instructor teaches the learner on a particular subject. Peer teaching is an educational practice whereby both groups of students collaborate with each other to enhance mastery of learning skills (Ministry of National Education, 2020, p. 9).

There are several other school-related factors that children's academic performance is affected by, like size, evaluation procedures, social roles, grade structure, noise, and availability of extracurricular activities. The academic environment is meant for providing a functional setting for inculcating lifestyles of health and well-being, favorable and good attitudes, and other ethics. According to Morton et al. (2016), a good environment in schools creates well-behaved children who don't indulge in bullying and vandalism. Castelli et al. in 2015 added that "school environment can have a direct effect regardless of kids' intelligence level." Noticing its capability of managing and developing a favorable relation between people of all ages, school environment can have an effect on kids' academic achievement (2025). Academic performance is a function of students' academic achievement at school and is affected by factors like family, peer groups, economic possibilities, Students, Classmates, Motivation, and interest of subject-related activities (Cano Celestino and Robles Rivera 2018). According to other researchers, academic performance is defined "as students' capabilities and abilities in applying knowledge and understanding in various areas" (Bestué-Laguna and Escolano-Pérez 2021). In Ariza et al. (2018) and Niño-Tezéz et al. in 2024, academic performance is a means of students' capability in applying knowledge and understanding in various areas and is "evaluated through a systematic evaluation process" in Ariza

et al. (2018) and Niño-Tezéz et al. 2024. Academic performance is thus usually measured in a sense that checks students' academic achievement through academic performance or exams at school and can thus be seen in a sense of a definition of academic achievement at school through school marks or academic performance (Menéndez-Aller et al. 2021). There are several other school-related factors that children's academic performance is affected by, like size, evaluation procedures, social roles, grade structure, noise, and availability of extracurricular activities. The academic environment is meant for providing a functional setting for inculcating lifestyles of health and well-being, favorable and good attitudes, and other ethics.

As stated by Morton et al. (2016), a better school environment brings better-behaved children; this will eliminate bullying and vandalism. According to Castelli et al. (2015), school environment has the ability to affect academic achievement among kids irrespective of their intelligence quotient. Since it has the capability to organize and bring positivity among all ages of people, school environment can also be referred to as the second teacher.

Students learn more when interacting with others more rather than when they listen to the teacher alone (McKeachie & Svinicki 2014), since the more the interactions improve their understanding, Hurst, Wallace & Nixon 2013). Based on the findings mentioned above, it can be perceived that the aspect of teaching each other in class requires recognition in relation to issues of importance in improving students' academic performance (Johnson & Johnson 2011).

Statement of the Problem

Despite significant advancement in modern teaching strategies, many secondary school students continue to face academic difficulties under traditional teacher centered models of instruction. Such conventional approaches often limit student participation, critical thinking and collaborative learning opportunities, resulting in disengagement and lower academic performance. This situation highlights the growing need to explore innovative and learner centered methods that can foster deeper understanding, active involvement, and long-term knowledge retention. Peer teaching emerges as one of the most promising and cost-effective alternative strategies, yet its effective implementation faces several challenges. These include a lack of proper training for student tutors, limited time allocation, difference in learners' abilities, insufficient teaching materials and resources and inadequate guidance from Students. At times, students may fail to deliver accurate or comprehensive information to their peers, potentially affecting the quality of learning. Additionally, some students show reluctance or lack of interest in working collaboratively with classmates. When planned and executed effectively, however, peer teaching has the potential to not only enhance student motivation but also promote cooperative learning and significantly improve overall academic performance.

Objectives

Following were the objectives of the study:

1. To identify the practices of peer teaching at secondary school level.
2. To assess the academic performance of students at secondary school level.
3. To examine the role of peer teaching in enhancing academic performance of secondary school students.

Literature Review

Teaching

Teaching is the practice undertaken by the teacher to transfer skills (knowledge, know-how, and interpersonal skills) from the teaching practitioner to the learner, student, or any group in the context of the educational institution. Teaching is very closely related to the process of learning, which is the activity of the student in appropriating this body of knowledge. Teaching is the process wherein an individual pays attention to people's needs, experiences, and feelings and in which they intervene in order to ensure that those people learn those specific things, and move on from the given. In modern parlance, the words teaching and teacher are inextricably bound up with schooling and schools. One way in which one could approach the question "What does teaching mean?" is to observe the activities of those people who are termed Students and then to extract the important characteristics which set them apart from others (Ferguson et al., 2015).

The problem with this method is that all sorts of activities are conflated in job descriptions or roles which may have very little relation to that which we could appropriately term teaching. Teaching is "the activity of paying attention to the needs, experiences, and feelings of others, and acting in such a way as to increase the probability that they learn specific things, rather than merely accepting the presented information." This activity happens when there are questioning and answering, information provision, explanation of a phenomenon, skills or process demonstration, checking understanding or ability, and learning activities (note taking, discussion, essay writing, simulation, practice). Teaching also involves interacting with others in a way that helps them learn specific things. This could be something like learning to tie one's shoe lace to learning the function of a three-act play. There are three things that I would like to emphasize here: focus, knowledge, and the ability to engage others in learning (Lampert, 2010).

Peer Teaching

One of the most popular approaches in peer learning translates from cognitive psychology in a mainstream educational paradigm "Peer learning refers to a type of educational activity in which the learner interacts with peers in order to achieve educational goals." Moreover, it can be defined by other researchers and experts in the field of pedagogy, such as David Bound, in terms of moving from autonomous to interdependent learning in a peer group. Thus, in essence, it can be synthesized with another type of method that has a similar objective in cooperative learning. Breaking away from such strict guidelines in modern interpretations of peer learning subsumes a new type of peer-to-peer learning in a paradigm of "learning for everyone, by everyone, about almost anything." Regardless of whether it happens in a formalized setting of a class or any type of online educational group activities, there are features that imply self-organization in peer learning that are not derivable in mainstream pedagogical approaches of teaching and learning theory (Stigmar, 2016).

Peer teaching is an incredibly effective approach used in education where students teach other students. Peer teaching promotes team learning, and it is also an enriching experience for both parties, whether it is the tutor or the learner. Peer teaching is not merely an approach where people with knowledge teach others; it is also an approach where you create an interesting atmosphere where everybody learns from each other. Peer teaching can be used in multiple ways, not limited to merely classrooms; it can also be used in training sessions, making it an integral tool for personal development and efficient learning. Peer learning is recognized today as an important approach used for mass dissemination of evidence-based practices. Research conducted at Geneva Learning Foundation has established that peer learning can attain higher scores (average efficacy scores 3.2

out of 4) compared to cascade training (average efficacy score 1.4) or expert-coaching (average efficacy scores 2.2) for variables tested in multiple ways like scalability, information fidelity, and cost-effectiveness. For example, Côte d'Ivoire peer learning achieved health workers in 85% of country districts in two weeks, resulting in local innovations in community engagement.

Peer learning has also proved its effectiveness and importance in difficult health programs where randomized controlled tests are not feasible in reality; it was recognized in research where peer learning group members showed seven times higher likelihood for successful implementation of COVID-19 recovery plans than others (Rees, et al., 2016).

In peer teaching, students assume roles of teachers to teach fellow students. The underlying concept for peer teaching comes from the quote "to teach is to learn twice." Through peer teaching, learning takes place when students converse and increase each other's comprehension of different topics. Consequently, peer teaching not only improves performance but also improves interpersonal relationships among students. In peer teaching, learning occurs actively where students teach fellow students. As a strategy, students either work alone or in a group to assume roles of a student-teacher to learn with and from fellow students without the help of a lecturer. The technique begins with an affirmation that students can communicate with each other and understand each other better. It also leverages the capacity to transplant knowledge and skills gained among students (Zhang, et al., 2022).

Peers learning activities can be seen as the first exercise of useful public achievement, which may come into action indirectly but continuously as a service in worldwide learning plans.

Counseling learning skills form the basic skill of a peer tutor for PT that make a peer tutor a professional student working for his peer's benefit. The dialogic and discursing character of the program ensures a good integration of tutors and tutees into a congruent community of learners as all this work benefits them and their peers. It may generally be ascertained that at the university level learning at the university stage depends upon learners' potential for managing their self-learning because they do not basically comprise the potential for managing their metacognition related to appropriate learning at their end. They can establish good control over this during PT training as they would manifest their effective results (Yu, et al., 2011).

Learners with different age groups, having some level of affective and interactive disorders, can play an important part when they take part as tutors as well as tutees in the process of reading as well as writing related to the class of Social Studies. They can also play equal roles and help cope with the secondary-level students with limited learning related to their academics, as well as their social part, efficiently. Class-wide PT (CWPT) model is also proved to be an important part to be added during the teacher training courses related to both general as well as special education for acquiring its optimum results. The health of PT has drawn the attention of the education policymakers too, to apply practical measures related to the addition of this approach to the entire system of education related to its advanced outcome, where the development of peer tutoring approaches is integrated in the teacher training courses properly (Dewantono & Murtisari, 2023).

The experimental group perceptions were much healthier regarding the role of PT in comparison to the control group. The learners taught by means of PT observed it to be very helpful in developing their relations with each other and their peers in an efficient manner, in addition to producing much better results in their study activities by means of it. The perceptions regarding the role of PT in their socialization were very much in favor of the AP of the tutees by the tutors. The perceptions were much more significant on the part of the experimental group tutees in comparison to those of the tutors. The perceptions regarding the treatment group students were observed to be positive; on

the other hand, the tutees registered strong positives in comparison to those of the tutors. The tutees were more in favor of the role of PT in comparison to the perceptions of some tutors because they regarded the PT sessions to be very much over-committing and resulting in obstructions in their further development. It was revealed that the improvements in the socialization of both tutors and tutees led to an improvement in their AP (Lawrence, et al., 2020).

Benefits of Peer Teaching

Here are the benefits of peer teaching.

Active engagement and participation

Active methods of learning promote in-depth understanding and retention of knowledge. This is true because an experiment carried out by the Human-Computer Interaction Institute at Carnegie Mellon University validated it. The experiment showed that active methods raised students' level of performance. Peer to peer tutoring may lead to an increase in confidence for both students who participate in tutoring. A struggling student gets added individual attention as well as more feedback about their efforts in practice. The other student gets confidence in the knowledge that they have mastered, as they try to pass the knowledge to another student (Rees, et al., 2016).

Deeper subject matter expertise

The advantage offered by peer teaching is the concept retention in relation to carrying out activities such as retrieval practice, elaboration, and describing concepts taught; identification of knowledge gaps; getting feedback; and applying learned concepts in different contexts. Teaching others in their midst enhances their own level of understanding in relation to concepts taught while at the same time teaching others. This has been described in relation to its occurrence in history in the ancient Roman philosopher Seneca in 2200 years ago - as the protégé effect; meaning the concept "while we teach, we learn." per their study in 2017

Increase in collaboration and social learning

It fosters collaboration and social learning through peer-to-peer interactions, empathy, and understanding; it also enhances teamwork skills, improves communication, and facilitates peer mentoring. Learners gain valuable skills and competencies needed for academic, professional, and personal success by working together to build knowledge and solve problems. The Human-Computer Interaction study from Carnegie Mellon University further supports this, adding that efficient active learning strategies and methods gave more emotional and social support to the learners.

Enhanced communication and leadership skills

As Students, employees are able to communicate ideas and concepts to their peers effectively. They are able to plan their ideas, organize them into meaningful presentations, and use language and examples to communicate effectively to their peers. Through this process, employees are able to develop their communication skills as they are more articulate in their language. Moreover, through peer teaching, employees are able to develop their leadership skills as they take positions of authority to guide their peers in places of learning. As peer Students, employees are able to take their peers through group discussion activities and guide them through activities at places of learning while developing their ability to manage group dynamics, conflict, and a positive learning environment (Rise, et al., 2021).

Better learning environment Peer teaching creates a learning community that is consideration and nurturing in nature through mutual support and understanding. Shared experiences in learning and mutual support enable collaboration and cooperation among students, giving students control of their own instructional learning process in education, whereas peer feedback provides students with encouragement, affirmation, and directions in learning and growth, which is pivotal in learning and development. Peer teaching provides employees with key learnings about themselves in terms of their strengths and weaknesses in improving their knowledge and teaching abilities (Giles, et al., 2016).

The confidence level among students enhanced as a result of peer teaching instruction. The experience and success from a student-centered strategy such as peer teaching can be very enduring to students' perception concerning competency because, as students absorb their success and realize their potential to affect another person's life through teaching, they become resilient and confident to achieve their long-term career objectives (O'Shaughnessy, 2018).

Importance of Academics Achievement

Some students don't realize the significance of achieving academic excellence for themselves. Your academic accomplishment matters a lot as well as learning valuable skills ((Steinmayr *et al.*, 2014).

Advancing career avenues

Acquiring an excellent academic performance not only enhances the student learning landscape, but it also provides several career opportunities. Doing well academically opens up gateways to various great opportunities in numerous sectors and organizations with good pay scales. After accomplishing good qualification, students get multiple career possibilities with better salary packages. In this technology-driven world, employees' lookout for skilled persons with a good educational foundation.

Building self-confidence and developing valuable skills

Good academic achievement allows students to enhance and develop essential skills required for a successful life. Students get to develop important life skills such as leadership, time management, effective communication, logical thinking, problem-solving, and many more. Developing these skills not only helps students achieve academic performance but also supports them in various aspects of their lives (Moore, 2019).

Feeling motivated and getting into good institute

Academic achievement is really good for students. When you do well on a test it can help you get into the college or university you want to go to. College is a place for students to learn and grow as a person. You can also learn a lot about the things that interest you. College helps students get an understanding of the things they want to study. Students are always told to learn things that will help them in life like how to be successful and happy. College is a part of this. Academic achievement and college are very important, for students. Hence, acquiring good grades will help you in many different aspects of life especially, in choosing your desired university. Well, academic achievement helps students to stay motivated. When you achieve well in exams and get motivated by your scores, you tend to keep improving and maintaining your performance. Doing academically well makes you feel more confident and motivated which automatically encourages you to keep studying hard to become better than yesterday (Sisk, et al., 2018).

Peer Teaching and Academic Performance

The area of peer teaching has numerous studies associated with it and is well-known for its effectiveness in academic performance and other skills. In the area of peer teaching, the method involves students becoming teachers to learn and teach other peers in a collaborative acquisition of increased skills in a comprehensive and structured manner to improve academic performance. In improving academic performance in peer teaching, the aspect enables the student to express what they have learned and close any gaps in what they are supposed to learn in teaching other peers. In a similar vein, a meta-analysis of peer-assisted learning strategies has demonstrated positive effects in academic performance in various subjects in various levels of education. The teaching aspect was most successful in subjects like mathematics and science that require HOTS skills (Topping, 2021).

Student engagement is also another important consideration that is affected by peer teaching. (Leung et al. 2022) state that peer teaching improves the level of student engagement by encouraging active engagement and inspiring feelings of responsibility among the students. Peer teaching is interactive in nature; hence, the more the students become involved in the learning activity. Consequently, their attitudes towards the subject become more enthusiastic. (Leung et al. 2022) point out that when the students become more engaged in learning, their levels of desirable learning behavior rise.

Methodology

The current study was quantitative in nature and a cross-sectional survey was used for data collection. All the Secondary School students (513) of Tehsil Kotli AJ&K were the population of the study. The sample was chosen through simple random sampling technique. Researchers used self-developed questionnaire as a tool for the study. Cronbach alpha was used to measure reliability of instrument which was .823. The researchers collected data personally. The response rate was 100%. Data were analyzed through Statistical Package for Social Sciences (SPSS) by applying mean score.

Results

Following are the results of the study on the basis of objectives and research questions

Table 1: Peer Teaching at Secondary School Level

S. No	Statements	Mean
1	Peer teaching sessions are held in our class.	4.78
2	Peer tutors explain lessons in a simple way.	4.26
3	Students take part in peer teaching sessions.	4.33
4	We discuss problems in group during peer teaching.	4.10
5	Peer tutors give examples to explain topics.	2.50
6	I can ask question freely in peer teaching.	3.15
7	Peer teaching helps us work in teams.	4.11
8	Sessions are organized and easy to follow.	4.14
9	Peer tutors give useful feedback.	4.09
10	Doubts are solved quickly in peer teaching.	4.04
11	Peer teaching covers important topics.	4.02
12	Peer teaching is used for difficult lessons.	4.05
13	Peer tutors are friendly and helpful.	4.04
14	We explain topics to each other in peer teaching.	4.05

15	Peer teaching helps us learn better in class.	2.10
	Overall Mean Score	3.85

Table 1 indicates the result of descriptive statistics used to analyze students' peer teaching at secondary school level. It can be noted that students disagreed with the statements: "Peer tutors give examples to explain topics (Mean=2.50)" and "Peer teaching helps us learn better in class. (Mean=2.10)". However, the mean value of the rest of statements indicated that the students agreed with those statements. The overall mean score (Mean=3.85) shows that students are satisfied with the peer teaching at secondary school level.

Table 2: Students' Academic Performance at the Secondary School level

S. No	Statements	Mean
1	Regular sessions help me keep up with lessons.	4.08
2	Clear explanations help me understand topics.	4.17
3	Participating in peer teaching improves my learning.	2.43
4	Group discussions improve my problem-solving skills.	4.03
5	Examples help me remember the lessons.	4.06
6	Asking question improves my understanding.	4.19
7	Organized sessions make learning easier.	4.13
8	Teamwork helps me learn from classmates.	4.15
9	Feedback helps me do better in tests and homework.	2.43
10	Solving doubts quickly improves my performance.	4.16
11	I can ask question freely in peer teaching.	3.14
12	Peer teaching helps us work in teams.	4.11
13	Sessions are organized and easy to follow	4.14
14	Explaining lessons to others help me remember better	4.09
15	Peer teaching improves my grades and learning.	4.04
	Overall Mean Score	3.82

Table 2 indicates the result of descriptive statistics used to analyze students' academic performance at the school secondary level. It can be noted that students disagreed with the statements: "Participating in peer teaching improves my learning (Mean=2.43)" and "Feedback helps me do better in tests and homework (Mean=2.43)". However, the mean value of the rest of statements indicated that the students agreed with those statements. The overall mean score (Mean=3.82) shows that students are satisfied with their students' academic performance at secondary level.

Conclusions

Following conclusions were made based on findings:

- i. The results indicate that students generally have a positive perception of peer teaching at the secondary school level, as reflected by the overall mean score of 3.85. Most of the statements received agreement, suggesting that peer teaching is considered helpful and effective by students. However, students disagreed with specific aspects, particularly that peer tutors provide clear examples (Mean = 2.50) and that peer teaching helps them learn better in class (Mean = 2.10). These lower mean values highlight certain weaknesses in the implementation of peer teaching, especially in terms of explanation clarity and learning effectiveness.
- ii. The results reveal that students generally have a positive perception of their academic performance at the secondary school level, as indicated by the overall mean score of

3.82. Most of the statements received agreement, suggesting that students are satisfied with their academic progress. However, students disagreed with the statements that participating in peer teaching improves their learning (Mean = 2.43) and that feedback helps them perform better in tests and homework (Mean = 2.43). These lower mean scores indicate that peer teaching and feedback mechanisms are not effectively contributing to students' academic improvement.

Recommendations

- i. Peer tutors should be given proper guidance and training to improve their ability to explain concepts clearly with relevant examples. Teachers should supervise and structure peer teaching activities more effectively to ensure better learning outcomes. Additionally, peer teaching strategies should be improved by incorporating interactive and well-planned activities to enhance students' understanding and engagement.
- ii. Teachers should improve the effectiveness of peer teaching by properly guiding students and ensuring structured implementation. Greater emphasis should be placed on providing timely, clear, and constructive feedback to help students improve their academic performance. Schools should also adopt strategies to make feedback and peer learning more meaningful and supportive for students' learning outcomes.

References

1. Ariza, T., et al. (2018). *Academic performance and evaluation processes in education*. *Journal of Educational Research*, 45(2), 123–135.
2. Asgari, M., & Rahimi, M. (2023). The effect of peer teaching on students' academic performance. *Journal of Educational Psychology*, 15(3), 210–225.
3. Bestué-Laguna, C., & Escolano-Pérez, E. (2021). Academic performance: Conceptualization and measurement. *Educational Studies Review*, 33(1), 45–60.
4. Cano Celestino, M., & Robles Rivera, F. (2018). Factors influencing academic performance among students. *International Journal of Educational Studies*, 10(2), 89–102.
5. Castelli, D. M., et al. (2015). The relationship between school environment and academic achievement. *Journal of School Health*, 85(2), 87–95.
6. Dewantono, P., & Murtisari, E. T. (2023). Peer tutoring in teacher training programs: Enhancing learning outcomes. *Education Sciences*, 13(4), 1–15.
7. Ferguson, R., et al. (2015). Teaching and learning: Key concepts and practices. *Educational Review*, 67(4), 432–450.
8. Gielen, S., et al. (2022). Peer teaching and its impact on social and academic development. *Teaching and Teacher Education*, 110, 103567.
9. Giles, R. M., et al. (2016). Creating supportive learning environments through peer collaboration. *Journal of Learning Environments*, 8(1), 55–70.
10. Hurst, B., Wallace, R., & Nixon, S. B. (2013). The impact of social interaction on student learning. *Journal of Educational Research*, 106(5), 375–386.
11. Johnson, D. W., & Johnson, R. T. (2011). *Cooperative learning*. Interaction Book Company.
12. Lampert, M. (2010). *Learning teaching in, from, and for practice*. *Journal of Teacher Education*, 61(1–2), 21–34.
13. Lawrence, J., et al. (2020). Effects of peer tutoring on students' socialization and academic performance. *International Journal of Educational Development*, 75, 102–115.
14. Leung, K., et al. (2022). Peer teaching and student engagement: A study of classroom interaction. *Educational Psychology*, 42(6), 789–805.

15. McKeachie, W. J., & Svinicki, M. (2014). *McKeachie's teaching tips* (14th ed.). Cengage Learning.
16. Menéndez-Aller, Á., et al. (2021). Measuring academic performance in educational settings. *Assessment & Evaluation in Higher Education*, 46(3), 456–470.
17. Ministry of National Education. (2020). *Peer teaching guidelines* (p. 9). Government Publications.
18. Moore, T. (2019). Academic achievement and life skills development. *Journal of Educational Development*, 12(2), 134–148.
19. Morton, K. L., et al. (2016). School environment and student behavior. *Health Education Journal*, 75(3), 300–310.
20. Niño-Tezéz, L., et al. (2024). Academic performance evaluation in modern education systems. *Educational Assessment Journal*, 29(1), 15–30.
21. O'Shaughnessy, T. (2018). Student confidence and peer teaching strategies. *Teaching in Higher Education*, 23(5), 567–582.
22. Rees, J., et al. (2016). Peer learning effectiveness in large-scale programs. *Global Health Education Journal*, 4(1), 22–35.
23. Rise, S., et al. (2021). Leadership and communication skills through peer teaching. *Journal of Workplace Learning*, 33(6), 450–465.
24. Sisk, V. F., et al. (2018). Academic achievement and motivation. *Psychological Science*, 29(2), 259–270.
25. Steinmayr, R., et al. (2014). Academic achievement and individual differences. *Educational Psychology Review*, 26(3), 453–476.
26. Steinmayr, R., et al. (2019). The importance of academic achievement. *Contemporary Educational Psychology*, 58, 101–112.
27. Stigmar, M. (2016). Peer learning in higher education: A critical review. *Mentoring & Tutoring: Partnership in Learning*, 24(2), 124–136.
28. Topping, K. J. (2021). Peer tutoring and peer learning. *Educational Psychology*, 41(1), 1–25.
29. Topping, K. J. (2022). Effectiveness of peer learning across contexts. *International Journal of Educational Research*, 112, 101927.
30. Turkish Language Instruction. (2022). Definitions of teaching and learning. Ministry of Education Publications.
31. Yu, F. Y., et al. (2011). Developing self-regulated learning through peer tutoring. *Educational Technology & Society*, 14(2), 15–25.
32. Zhang, Y., et al. (2022). Peer teaching strategies and student outcomes. *Frontiers in Psychology*, 13, 845672.