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Research Article

Role of Peer Learning in Enhancing Academic Achievement of Students at University Level

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Article Info.	Abstract
	This study was conducted to find out the role of peer learning in enhancing the academic achievement of students at university level. This study was descriptive in nature and survey method was used for the collection of data. The population of the study consisted of three hundred (300) students of department education, Arid Agriculture university Rawalpindi. The researcher selected universal sampling technique for the selection of the sample. The researcher constructed a five-point Likert-scale questionnaire as a research tool for this study. Data were collected by personal visits of the researcher. The collected data were analyzed through SPSS by using mean score. It is concluded that peer learning helps students in understanding subject matter, identify area for improvement and help in difficult topic. It is recommended that teacher may use different peer learning strategies in classroom. Teacher may utilize peer support group, collaborative project and group work.
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Introduction

Learning is a change in behavior brought about by relatively enduring experience. It is the process of acquiring knowledge, expertise and information. People often associate learning with formal education received in childhood and early adulthood. However, learning is an ongoing process that occurs outside the classroom and throughout life (Alam, 2022).

Peer learning is a teaching strategy where students assist one another in solidifying their knowledge. Improved learning and retention may arise from one student mentoring another in a monitored setting. Because one must completely comprehend an idea before being able to teach it to another. Reiterating an idea aloud and imparting knowledge to a colleague helps to solidify the understanding acquired (Ouyang & Hu, 2021).

The Constructivism Learning Theory is one of the learning methodologies that best supports peer learning. Peer learning improves social skills, patience, cooperation and teamwork. Each student's unique strengths complement the team and enhance learning in a peer learning environment. Learning how to collaborate with peers and absorb knowledge can start at an early age in the classroom. Pupils are unable to identify gaps in their understanding. However, when they learn together with their peers, they are able to see new ways to solve problems and provide imaginative collaborative solutions. It is important to note that as students progress academically, they will bring these new perspectives and be prepared to seek and receive criticism (Loh & Ang, 2020). Whether it is formal or informal, peer learning usually entails cooperation between two or more peers. The main advantage of work shadowing and lunch-and-learn sessions is that all participating employees gain knowledge from the interaction (Markowski & Bower, 2021).

Academic accomplishment is the quantity of academic content a student learns in a specific length of time. Any strategy that a student has used to fulfill short- or long-term learning goals in a classroom can be included in this. Usually, assessments and exams are used to find out how well a child is performing academically (Arici & Yildirim, 2019).

Exams and ongoing assessments are frequently used to measure academic progress, but opinions on how best to assess it and what constitutes declarative knowledge—such as facts—versus procedural knowledge—such as skills—are divided. Additionally, there are conflicting findings regarding which individual aspects accurately predict academic performance. Therefore, when creating models of school achievement, factors such test anxiety, environment motivation, and emotions must be taken into account (Namoun & Alshanqiti, 2020).

Intelligence and personality variations have been related to academic achievement. Higher conscientiousness, which is associated with effort and achievement motivation, and higher mental ability, as measured by IQ tests, are associated with higher academic achievement. In addition to intelligence and conscientiousness, a recent meta-analysis revealed that mental curiosity, as indicated by usual intellectual engagement, has a significant impact on academic accomplishment (MacCann & Jian, 2020).

Peer-led learning results in improved performance, more favorable attitudes toward the learning task, and higher levels of self-efficacy among students. Peer learning has been shown to be beneficial in raising student accomplishment as well as self-efficacy, learning goal orientation, and intrinsic task value (Fan, 2022).

Review of Literature

Learning
Learning is an ongoing process that begins the moment of an individual's birth and lasts until their death. To build our capacity for adaptation in response to the demands of a changing environment, we are all involved in learning initiatives (Case & Deaton, 2021). From the 17th to the middle of the 20th century, learning theorists worked to establish a scientific basis for a set of principles that underpinned all learning processes. In an effort to understand the behavior of all species under a single set of laws based on those proposed in the physical sciences, a rigorous, objective methodology was tried. However, by the 1970s, many psychologists came to the conclusion that learning could not be captured by a single theory due to defects and holes in these expansive ones single universal theory (Oliverio, 2022).

It is impossible to see someone else learn something. Nonetheless, we are able to witness the effects of learning in both ourselves and others, which is why evaluation is such an important component of the teaching process in formal learning environments (Adarkwah, 2021). The outcomes of academic assessments, essays, tests, and other assignments are merely efforts to gauge a person's level of learning; they are unable to gauge the real process of learning (Lazareanu & Apetracheoae, 2023).

We act, think, or feel differently about ourselves, other people, and the environment around us when we acquire new knowledge. Depending on our personal assessments of the significance and applicability of the knowledge acquired, these modifications could be either permanent or transient (Drigas, Mitsea, & Skianis 2022)

Peer learning

Peer learning, as defined by Gurbanov & Amirkulova (2023), is the process by which students learn from and with one another. Typically, peer-to-peer learning partnerships, study groups, student-led seminars, and group work are used as instructional strategies to help with this. Among the advantages are the growth of students' communication and teamwork abilities, their increased self-assurance, and their capacity to take charge of their own education (Bond, 2003). Because they feel more at ease working with their peers, students are more likely to interact, ponder, and delve deeper into topics than they would in a classroom setting (McCowan, 2023).

Martinez-Molina (2022) describes peer learning as an instructional strategy that enables students to reinforce their own knowledge by instructing one another. Better learning and retention can arise from one student mentoring another in a monitored setting (Bakare & Orji, 2019). Because one must completely comprehend an idea before being able to teach it to another. Reiterating an idea aloud and imparting the knowledge to a colleague helps to solidify the understanding (Wang, 2022). Peer learning in the classroom has a very straightforward concept. It occurs when students collaborate to share their knowledge and experience in order to pick up new abilities, concepts, or procedures (Salmons & Wilson, 2019). Whether it is formal or informal, peer learning usually entails cooperation between two or more peers. The main advantage of the program is that everyone of the students who participate gain something from the exchange, whether it is through lunch and learns with fallows or shadowing someone else at work (Boud, & Bearman, 2022).

Elements of peer learning

The following four components are crucial for any reading program utilizing peer-assisted learning methodologies to include or take into account:

Promote a Supportive Classroom Atmosphere

An environment that is cooperative and helpful is the first and most important component of a successful peer assisted learning program. Learning cannot flourish and not much else can happen without it. Motivate students to establish and foster a cooperative learning environment with clear objectives, positive vibes, and a constant sense of teamwork. Students will be more motivated, feel more excited and hopeful, and have less behavioral issues in this type of environment (Zhang, & Maconochie, 2022)

Start with Small, Supervised Groups

Group your pupils into no more than five groups and have them collaborate with one another to gradually introduce peer supported learning to your students. Give each of them an opportunity to lead the group, and remain accessible if anyone needs help or has questions. After observing the groups, provide each student with guidance on how to lead and instruct more skillfully. Try out other group arrangements after that. As well as combining children's reading levels into groups, try putting them in similar reading levels. You can then assign more capable students to tutor the pupils who require assistance in particular subjects (Fasya Asmara, 2023).

Blend Reading and Writing Lessons

Combining writing and reading exercises is another excellent strategy for raising pupils' reading comprehension. Students can practice several effective peer-assisted learning practices together, and the two go hand in hand. Students could, for instance, read a section of a book or tale before summarizing it in writing. This can be done jointly by a stronger and a lesser student, after which they can share notes. Students can illustrate what they've written to add even more excitement (Kheirzadeh, & Birgani, 2018).

Independent Work

The majority of the reading curriculum will be provided by you, but you can also provide students time and space to choose books and materials that they want to bring in for reading class or read at home and report on in class. One of your ideas for peer-assisted learning Pairing or grouping students who are reading the same (or comparable) books could be used during reading sessions. Because they can select part of the books they read in class, they will feel more independent and be able to analyze and compare notes on the literature they are reading (Adams & Kaczmarczyk, 2023).

Peer support is an effective way to help children understand and advance their reading skills. These are just a few of the tools and techniques that teachers can use to create an engaging and successful peer-assisted learning environment in the classroom. Peer-assisted learning techniques help youngsters learn to read even more quickly and efficiently, and they also seem to make learning fun for them (Qodir, 2023). According to the Readingrockets.com organization, peer-to-peer tutoring and instruction is a very successful approach for struggling readers. pupils from difficult socioeconomic circumstances, pupils with learning difficulties, and underprivileged minority students can all benefit

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from it. There is little doubt that peer assisted learning can be a great supplement to any read (Guallasamin Simbana, 2023).

Factor affecting peer learning

Learning environment
The physical space plays a crucial role, affecting how comfortable and conducive it is for peer learning. The level of interactivity and engagement among peers can be influenced by the overall atmosphere. Access to resources and technology within the learning environment also impacts the effectiveness of peer learning. Lastly, the design and flexibility of the space can either encourage or hinder collaborative efforts among learners (Ramu, Taib, & Massoomeh, 2022).

Attitude

Attitude shapes peer learning dynamics, influencing openness to new ideas and collaboration. A positive attitude fosters a conducive environment, while negativity or resistance hinders the exchange of knowledge among peers. Cultivating a supportive attitude is key to maximizing the benefits of peer learning (Chen, & Yu, 2019).

Subject knowledge
Subject knowledge greatly influences peer learning as it determines the depth and accuracy of information shared. A strong grasp of the subject enhances communication, fosters meaningful discussions, and promotes a more effective exchange of ideas among peers. Conversely, a lack of subject knowledge may hinder the learning process and limit the quality of interactions within the peer group (Salam, & Farooq, 2020).

Motivation
The motivation of individuals within the group is key. If all members are motivated to learn and contribute, it can create a positive and stimulating learning environment. On the other hand, lack of motivation from some individuals may hinder the group's progress (Bagheri, Chitsazan, & Ebrahimi, 2019).

Communication skills

Effective communication skills play a pivotal role in enhancing peer learning experiences. When individuals possess strong communication skills, they can express their ideas and thoughts clearly, fostering a more comprehensive understanding among peers (Ehsan, Vida & Mehdi, 2019).

Cooperation

Cooperation among peers in learning is influenced by the level of trust established within the group. Open communication and a supportive environment enhance cooperation, while competition or lack of inclusivity can hinder collaborative learning experiences. Ultimately, a positive and trusting atmosphere is key to fostering effective peer learning through cooperation (Duraku, & Hoxha, 2020).

Involvement in activities

Active involvement in activities enhances peer learning by providing hands-on experience and practical application of concepts. It fosters collaboration, encouraging students to share insights

and learn from each other's perspectives. Additionally, it promotes a dynamic and engaging learning environment, making the educational process more interactive and effective (Ambarita, Yunastiti, & Indriayu, 2019).

Confidence

Confidence in peer learning is influenced by the openness of the learning environment, where individuals feel accepted and respected. Positive feedback and constructive interactions among peers enhance confidence, fostering a supportive atmosphere for collaborative learning. On the flip side, judgmental attitudes or a lack of encouragement can hinder confidence, impeding the effectiveness of peer-based educational experiences (Peacock, & Cowan, 2019).

Peer strategies

Peer learning is influenced by the level of engagement among peers, as active participation fosters a dynamic exchange of ideas. The quality of communication within the peer group plays a pivotal role, impacting the effectiveness of collaborative learning strategies. Additionally, a supportive and inclusive learning environment enhances peer strategies, encouraging open dialogue and shared understanding (Dao, 2020).

Time management

Efficient use of time is essential for successful peer learning. Balancing individual and group activities, setting realistic timelines, and managing deadlines contribute to a productive learning experience (Yates, Starkey, Egerton, & Flueggen, 2021).

Discipline

Discipline serves as the backbone of effective peer learning, ensuring a focused and respectful environment. When peers maintain discipline, discussions stay on track, everyone gets a chance to contribute, and the overall learning experience becomes more fruitful. It fosters a culture of mutual respect, making peer learning a collaborative journey driven by shared goals (Koul, & Nayar, 2021).

Academic achievement

Academic performance that shows the extent to which a student achieves learning goals is called academic achievement. Reaching an academic milestone, such as earning a bachelor's degree, can be called academic achievement. Examinations and ongoing assessments are often used to measure academic success (Alhadabi & Karpinski, 2020). Academic achievement, often across multiple disciplines, is progress toward the goal of acquiring educational skills, resources, and information. It does not refer to general knowledge acquisition in a non-academic setting but to achievement in an academic setting (Beneroso, & Robinson, 2022).

The quantity of academic material a student learns in a given length of time is referred to as academic achievement. This can include any method by which a student has succeeded in meeting short- or long-term learning objectives in a classroom. Typically, tests and evaluations are used to determine how well a kid is doing academically (Wahono, Lin, & Chang, 2020).

Academic achievement is a measure of performance outcomes that show how well a person performed in relation to particular objectives that were the main focus of activities in educational settings, such as schools, colleges, and universities. Academic achievement is a measure of

performance outcomes that show how well a person performed in relation to particular objectives that were the main focus of activities in educational settings, such as schools, colleges, and universities. Most educational systems set forth cognitive objectives that are either general (like critical thinking) or include learning and comprehension in a particular intellectual field (like numeracy, reading, science, or history). As a result, academic achievement ought to be viewed as a complex concept including several learning domains. The concept of academic achievement varies depending on the indicators used to quantify it because the field is quite broad and encompasses a wide range of educational outcomes. There are a variety of criteria that can be used to determine academic achievement, including more curricular ones like grades or performance on tests, cumulative indicators like degrees and certificates, and more general ones like declarative and procedural knowledge gained through education. All of the criteria are similar in that they are intellectual pursuits, which essentially reflect a person's ability for thought (Mimrot, 2016).

Objectives of the Study
1. To identify the factors which affect the peer learning of students at university level.
2. To find out the strategies to improve the peer learning of students at university level.
3. To examine the role of peer learning in enhancing the academic achievement of students at university level.

Delimitations

Due to limited resources and time the current study was delimited to faculty of Social Sciences, Arid Agriculture University Rawalpindi.

Research Methodology

In this study quantitative research approach was used to conduct the study. A descriptive method was used to conduct the research. In descriptive method survey technique was used to collect data from respondent. All the three hundred (300) students of Education Department, Arid Agriculture University Rawalpindi were the population of study. The researcher selected universal sampling technique for the selection of the sample. The researcher selected all three (300) students from education department were the sample of the study. The researcher constructed a five-point Likert-scale questionnaire as the sample of the study. There were total thirty-three (33) statements of the questionnaire. The questionnaire was validated by three experts of the department of education, Arid Agriculture University Rawalpindi. The researcher conducted pilot testing to check the accuracy and reliability of the instrument. Using a pilot study, the questionnaire was distributed among 30 students of department education who were the part of population and were not the part of the sample. A self-developed questionnaire was used in this study for the collection of data from the respondents. The reliability of the instrument was 0.89 which was acceptable for conducting the final survey. The researcher personally visited department of education, Arid Agriculture University Rawalpindi and collected the data from the respondents. Statistical Package for Social Science (SPSS) was used for the analysis of data. The researcher applied mean for the analysis of data and interpretation of data. The results were presented in the form of tables.

Results

Table 1

Mean analysis of factors of peer learning

S. No.	Statements	Mean
1.	The classroom environment is conducive for teamwork	4.29
2.	Students positive attitude towards learning improve peers performance	4.30
3.	Good subject matter knowledge helps in group discussions	4.35
4.	Motivation drives my active engagement with classmates	4.27
5.	Good communication helps me share ideas during group work	4.27
6.	Cooperative attitudes lead to better outcomes in group tasks	4.22
7.	Involvement in group tasks positively impacts my understanding	4.30
8.	Confidence boosts my willingness to contribute to peers discussions	4.30
9.	Peer study strategies enhance my learning	4.24
10.	Balancing my schedule impacts my engagement in group study	4.25

Table 1 shows the mean analysis of factors of peer learning. The table further depicted that all the respondents were agreed with all the statements of factors of peer learning. The highest mean value of the statement "good subject matter knowledge helps in group discussion" M= 4.35.

Table 2

Mean analysis of strategies of peer learning

S. No.	Statements	Mean
1.	Peer teaching by experienced students helps students understand the subject better	4.35
2.	Discussing topics with peers deepens my understanding	4.28
3.	Peer support groups motivate me to study regularly	4.28
4.	Peer assessment helps me identify areas for improvement	4.13
5.	Collaboration learning helps me understand difficult topics	4.13
6.	I find it easy to explain concepts to my peers in groups	4.48
7.	Mentoring from classmates has improved my academic performance	4.07
8.	Two way discussions improve my ability to learn from others	4.07
9.	Group works increase the involvement of each student's in learning	4.34

Table 2 indicates the mean analysis of strategies of peer learning. The table further presented that all the respondents were agreed with all the statements of the strategies of peer learning. The highest mean value of the statement "I find it easy to explain concepts to my peers in groups" M= 4.48.

Table 3

Mean analysis of peer learning and academic achievement

S. No.	Statements	Mean
1.	I have learned from my peers during my studies	4.26
2.	Peer learning has helped me understand difficult subjects	4.23
3.	Studying with classmates has improved my grades	4.23
4.	I believe peer learning positively impacts academic success	4.28
5.	I often discuss coursework with my classmates	4.31
6.	Peer study groups have benefited my learning	4.33
7.	Collaborating with peers has boosted my confidence in exams.	4.26
8.	I prefer studying with friends over studying alone	4.30
9.	Peer teaching helps me remember and apply concepts	4.26
10.	I feel more engaged in my studies when learning with peers	4.29
11.	I find it easier to ask questions and seek help from classmates	4.24
12.	Academic performance improves when I study with peers	4.29
13.	Peer learning sessions are a regular part of my study routine	4.17
14.	I believe peer learning is beneficial for academic achievement	4.36

Table 3 presents the mean analysis of peer learning and academic achievement. The table further showed that all the respondents were agreed with all the statements of the peer learning and academic achievement. The highest mean value of the statement "I believe peer learning is beneficial for academic achievement" M= 4.36.

Discussion
The study's findings demonstrated that: there is a positive and significant relationship between peer group influence and students' academic achievement in chemistry; there is a significant difference in academic achievement between students who belong to peer groups and those who do not; there is no significant difference in academic achievement between male and female chemistry students who are involved in peer groups.
In their study on the effects of peer learning on students' performance in an architectural sustainability course, Andres, Molina, Modrego, and Suk (2022) make this claim. This study presents and investigates the use of peer tutoring as a peer learning pedagogy to teach sustainable design to architecture students. The results of the qualitative and quantitative data analysis verify that students' knowledge, motivation, and dedication to sustainable design grew as a result of the suggested peer learning through peer tutoring. Additionally, compared to earlier courses that used standard teaching methods, participants' academic grades improved by more than 25% and they gained confidence in implementing sustainable design abilities.
In their 2015 study, Mohammed, Hassan, and Jalil examined the factors that significantly predicted undergraduate students' academic success in online peer learning. The study offered a conceptual model that includes self-efficacy as well as other independent variables that affect academic accomplishment, such as engagement, performance expectancy, social impact, peer feedback, and teamwork. Regression analysis results indicated that performance expectancy was the best predictor of academic accomplishment in online peer learning, followed by involvement,

collaboration, and social impact. Academic attainment is substantially influenced by online peer learning.

Conclusions

1. Students think that students can better learn through peer learning in the classroom and students improve their group work, communication skills, encourages them to share their ideas, and active engagement with classmate through the different factor of peer learning, Moreover, these factor promote students positive attitude toward learning.
2. Students perceived that peer learning strategies helps students in understanding subject matter, identify area for improvement and help in difficult topic. Furthermore, by using peer learning strategies students easily explain their concept to peers in group and also peer support motivate them to study regularly.
3. Students accepted that peer learning develop positive effect among student's academic achievement, because peer learning improve their grades, boost students confidence in exam and they easily ask question and seek help from classmates, Moreover, peer learning is beneficial for academic achievement.

Recommendations

1. Teacher may use different peer learning strategies in classroom that help students in understanding subject matter, improve academic performance, improve their ability to learn from other and easily explain their concept to peers.

2. Students may use different techniques of peer learning that help them to develop essential social skills, teamwork skills, improves the retention information, clarify doubts, and create a positive and supportive learning environment. Students may utilize actively participate in study group, ask questions, set clear learning objective, provide constructive feedback and set time limit.

3. University administration may utilize professional development workshop, collaborative project, guest speaker series, and promote cross departmental collaboration.

4. Teacher may use peer learning strategy. These strategies provide opportunities for to enhance their skills, encourages teacher to reflect on their own practices, reducing feeling of professional isolation and refine their teaching method. Teacher may utilize resource sharing, action research group peer feedback session, collaborative lesson planning, allows for knowledge transfer and professional guidance and adapt to diverse learning style.

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