

## Peer Assisted Learning; The Perspective of Peer Tutors

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<sup>1,2</sup>Substantial contributions to the conception or design of the work, the acquisition, analysis, or interpretation of data for the work, Final approval of the version to be published and supervised

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## ABSTRACT

**Objective:** To determine the perspective of PAL tutors regarding the effectiveness of PAL in promoting knowledge and skills among the undergraduate students using small group discussions in an integrated module.

**Methodology:** A prospective qualitative method study was conducted at Rawal Dental College, Islamabad, from April to June, 2021, for 12 weeks. Students from the second year of BDS (n = 50) were divided into five small groups. Five students' volunteers were chosen from those who completed the previous units with more than 80% summative assessment score and with good communication skills. The group discussion centered on the application of core knowledge and skills in pathology. Responses from the tutors for the qualitative data were obtained using in depth one-on-one semi-structured interviews with audio recorded. The verbatim in the form of audio and notes were transcribed, and the qualitative analysis was performed by two independent investigators, generating codes, themes, and subthemes.

**Results:** The results showed the comprehensive understanding of the insights of tutors and the motivational elements for achieving academic goals and improving teamwork and teaching skills. Many factors encouraged their participation as tutors, including the acquisition of knowledge and leadership skills. The students felt that their compassionate attitude encouraged active participation by the fellow students, increasing their confidence and learning. The students perceived that they had attained essential attributes that would benefit them in professional life in the future.

**Conclusion:** The students enjoyed the Peer-assisted learning experience and recognized its importance for their academic and professional development. While learning in a relaxed environment, the students achieved their basic learning goals, developed leadership skills, improved communication skills, and gained confidence.

**Keywords:** Peer Group, Integrated curriculum, Near-Peer tutoring.

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## Introduction

Peer-assisted learning (PAL) is increasing in popularity as a teaching and learning strategy in which students act as peer teachers and help other students to learn and learn themselves by teaching.<sup>1</sup> Peer learning provides powerful support for learners' cognitive and psychomotor development, resulting in improved exam scores and professional development.

Many educational, social, and psychological theories have been recommended to explain the utility of PAL.<sup>2</sup> The main reason for the utilization of the PAL method is the need for students to learn basic facilitation skills and gain knowledge through participation in tutor training programs. PAL triggers the readiness to learn and assesses the gaps in the learning. Active learning is based on the idea of self-learning and encourages active participation by the students in the attainment of

knowledge. The engagement of the student in the process of self-learning forms the basis of PAL.<sup>3</sup> Small group discussion is a student-centered methodology allowing active participation by the students discussing and sharing concepts.<sup>4,5</sup>

Studies over the past two decades in health education document the advantages of PAL in laboratory and clinical medicine.<sup>7,8</sup> The idea of learning with peers is well accepted in the health professions as a framework where students enhance their knowledge and improve their clinical skills in a conducive environment.<sup>9</sup> In addition to the educational benefits for the PAL tutors and tutees using peer-assisted learning programs, the staff resource issue has also been addressed in minimal staff presence. The PAL activity, if successfully accrued, provides additional support to the institution by sharing the workload among the faculty members.<sup>10</sup>

The current study was done to attain perceptions of students regarding the effectiveness of Peer-assisted learning in improving knowledge, organizational skills, and professional development. The aim of the study is to implement a teaching-learning unit in pathology using PAL intended to generate interest, understanding, collaboration, and coordination among students and to enhance teamwork, communication, leadership skills, and better understanding of the subject by the students.

## Methodology

The prospective interventional, mixed-method study was conducted at Rawal Dental College, Islamabad, from 1<sup>st</sup> April to 30<sup>th</sup> June 2021. After approval from the ethical review board of Rawal Institute of Health Sciences, Islamabad. 2<sup>nd</sup> year BDS students were included by convenience sampling for the PAL study. Five students from the volunteers who completed the previous units with their 75% summative assessment results and with good communication skills were selected as PAL tutors by purposive sampling. Supplementary students were excluded from the study.

Keeping in mind that the main objective was comprehensive understanding of the concept of PAL and its utility, the entire class constituted the sampling frame. The total number of participants were 50 divided into 5 batches of 9 students each and 1 peer-tutor.

A 2-hour formal training and preparation session was taken before the module for the tutors and the tutees. A pilot study was conducted before the study to acclimatize

the students to the teaching and learning methodology. The students were exposed to the module of the modified teaching-learning program dispersed over 12 weeks having 8 sessions of 2-hour duration, each accentuating the PAL. Half an hour before and after the session were utilized for the pre and post-tests.

The learning objectives and study guide was already provided to the tutors and tutees in the form of handouts. The sessions took place separately in a private, protected environment. The tutees brought the case notes, presented the summary, and the tutors agreed upon the area to focus on. The tutors tried to explore and direct the tutees' thinking and encouraged reflection by the tutees.

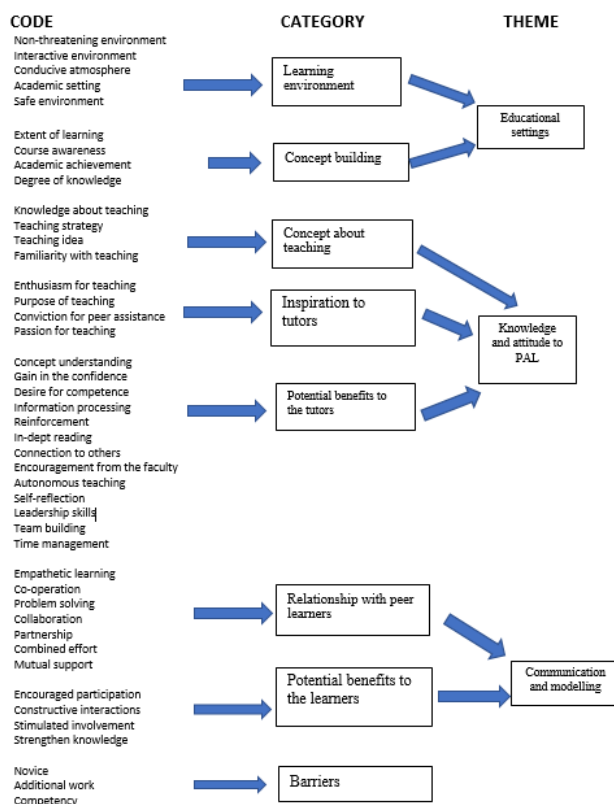
The responses were taken by one-on-one interview with the tutors by the principal author and the fellow investigator, to convey their perceptions and experiences related to emergent themes from the pilot study regarding PAL. The interview was voice recorded using mobile phones and the questions were modified to capture the perceptions of tutors regarding teaching and learning, including the educational setting, knowledge, attitude to peer-learning and the impact on the peer learners and themselves (peer tutors).

The notes were transcribed and analyzed to discover patterns, ideas, explanations, and a deeper understanding of the concept of peer assistance by the tutors. Two authors (Principal Author and the Supervisor) independently read the qualitative data, defining common patterns using a continuous comparative approach, based on the concepts of primary, secondary, and tertiary coding, the identification of trends, and use of participants' shared opinions. The participants were asked to review the notes to confirm the findings and provide clarification. This allowed participants to confirm, correct, or elaborate on their comments. The students' reflections were analyzed and coded by hand analysis to elucidate student perceptions of the peer teaching experience and PAL. The topics identified were coded independently to allow for a comparison of participants' responses. Similar codes were overlapped, reducing the codes into three themes based on their comprehensive meaning. The extracted themes were learning environment, concept building, teaching concepts, tutor inspiration, potential benefits to tutors, tutor personal development, relationships with peer learners, potential benefits to learners, and barriers. The themes were sorted as educational settings, knowledge and attitude to peer learning, communication, and modelling. Various

subthemes were extracted from these themes. The data was analyzed, and the findings were interpreted to draw the inference. A certified colleague with experience in medical education and qualitative research was included to review the notes to interpret the data. To avoid bias, the colleague had no connection with the research.

## Results

Coding and analysis of the data received from the student-tutors resulted in the emergence of three themes, educational settings, Knowledge, and attitude to peer assisted learning and communication and modeling. Some of the codes and verbatims are mentioned below (Flow chart 1) (Table I)



**Flow chart 1. Coding tree-perceptions of peer tutors regarding PAL with MIBAS**

## Discussion

Observations regarding the learning environment were affirmative. The peer tutors described the setting of the peer sessions as more relaxed and comfortable. The students perceived that the environment was friendly, easy-going, and socially interactive. Studies have shown that pairing of similar age groups enriches emotional and psychological support, which is essential to creating an

interactive atmosphere, and the students learn more in a relaxed atmosphere.<sup>11</sup>

The safe learning environment appeared to be the fundamental building block that boosted the confidence of both the learner and the tutors. Muazam et al also reported that the PAL technique creates an atmosphere that allows the learners to achieve goals in a stress-free manner.<sup>12</sup> Burgess et al also reported that PAL provided a respectful learning environment for the students with different abilities.<sup>13</sup>

The PAL program was highly valued by the student-tutors with measurable benefits to the learners. The sessions were more enjoyable than anticipated and they felt comfortable in covering the content of the sessions. Castelyn et al showed similar results where PAL was appreciated by the tutors keeping in view the involvement of the learners and achieving learning objectives.<sup>10</sup> Grover et al also reported that "all the performers showed complete involvement in the study" showing high satisfaction of PAL tutors with the PAL activity.<sup>14</sup>

Lehrer et al. reported positive perceptions for the PAL program as it a valuable method to foster communication and enhance the interest of the students.<sup>15</sup> Rebeiro et al also reported positive perceptions towards various strategies for encouraging student participation.<sup>16</sup> Peer tutors commented on their previous knowledge of teaching, especially peer-assisted teaching and learning methodology. Most of the students were a novice. Muazam et al also reported that while going through the sessions, the concepts of student tutors changed altogether. One of the students stated, "teaching is a technique and a skill".<sup>12</sup>

The student tutors commented positively on the quality of the learning experience with their peer tutors. The tutors felt motivated to take the task as they believed they had the confidence to lead the team.<sup>17</sup> Regarding participation as a tutor, most of the studies reported "intrinsic motivation" and "extended benefits" as motivational sources.<sup>18</sup> A tutor in our study reported that the inherent interest in teaching motivated her as a tutor.

The student tutors in various studies showed positive perceptions towards knowledge acquisition and concept building. The tutors engaged in the PAL program displayed the elements of metacognition and analyzed their learning supported by the statements as observed by Musbahi et al.<sup>19</sup> The students were perceived to have achieved basic principles of teaching and multitasking. A

**Table I: Perceptions of peer tutors regrading PAL, category, themes and few verbatims**

Category	Subtheme	Verbatim
<b>Theme 1 Educational settings</b>		
Learning environment	Easily manageable	It was interactive I felt more connected to my peers in learning the topics
	Safe environment	The environment was sort of non-threatening, as they were not being judged and we were all on the same boat
	Encouraged participation	It provided with a respectful learning environment
Concept building	Heightened awareness of course content	The session was according to my ease level ...helped in learning the concepts
<b>Theme 2 Knowledge and attitude to peer learning</b>		
Concept about teaching	Teaching is a skill	It involves strategic learning and makes the participants more focused.
Inspiration to the tutors	Achievement of leadership skills	I believed that working as a teacher would provide me with leadership and coaching skills.
	Intrinsic motivation	Being a position holder, I felt confident in taking the role. ... I always want to help my colleagues; it will help me in learning the concepts too.
Potential benefits to the tutors	Knowledge acquisition	Preparing before the sessions keeping in view the course content made me more knowledgeable in the course matter  I used to study beforehand, and it helped me in getting good marks... “...made me better in communication, polished my teaching skills and improved my knowledge”
<b>Theme 3 Communication and modelling</b>		
Relationship with the student learners	Positive association	a friendly experience ... felt engaged by the passionate students
Potential benefits to the learners	Active participation	...encouraged active learning by interactive activities I was just there to support them and stimulated their involvement
	Consolidation of knowledge	Serving as a tutor was particularly helpful in enhancing my academic skills. I had more conceptual learning than the regular lectures
	Self-confidence	...didn't find any barrier in discussing their views
	Goal-oriented	...got more focused on learning the actual content of the course
Barriers to PAL	Novice	... most of us were novice and had little knowledge about the use of technology ...workshop beforehand could have helped
	Additional work	...extra effort was needed, and additional work needed to be taken to home ..this was an additional task that required overtime and excessive preparation.
	Competency	sometimes I felt less competent as my knowledge isn't enough to satisfy the students I think I didn't know as much as my teachers and couldn't reach the desired competency

tutor in the study was perceived to have developed the skills of a self-regulator learner; similar findings by Tai et al.<sup>20</sup>

The confidence and trust created in the sessions were perceived to have produced a perfect environment for the learning process.<sup>14</sup> The PAL tutors believed that the students learned compassion "and optimistic attitudes towards their team partners.

Regarding their own learning experience, while going through PAL sessions, the student-tutors found it beneficial and encouraged such constructive interactions

and supported these activities with different statements. Loda et al also reported that the interactive sessions and discussions played a positive role in the development of student learners.<sup>21</sup>

The student-tutors felt that the quality of the information provided by the PAL activities were more valued by the student learners as they perceived it to be relevant and useful. The students showed "active participation" in the discussions. The students reported to "felt safe" in talking amongst each other.<sup>22</sup>

Peer tutors believed that the PAL activity brought a different and valuable perspective to learning due to its

proximity with the teaching content and the student-like means of the tutors. Various studies contrasted the dynamic and active involvement of the students in PAL with the lack of engagement they had experienced in the other teaching methodologies.<sup>23</sup> Ala et al. also reported PAL as a mutually beneficial activity for both the tutors and tutees.<sup>24</sup>

Findings from the tutors showed that most of the benefits of PAL on learners involved improvement of knowledge and skills. However, they further identified some limitations related to individual constraints in preparation and maintaining group dynamics.

The peer tutors were concerned about the fact that they were not aware of the potential learning difficulties. Lack of training regarding PAL was considered as a barrier in utilizing it effectively was also found by Havens et al.<sup>25</sup> Burgess et al also insisted on the importance of training the tutors prior to PAL to foster the teaching and learning process.<sup>26</sup> Recommendations for training and instructional implications were suggested by Hill et al to deliver guidance to the students to face these teaching challenges.<sup>27</sup>

## Conclusion

The peer tutors utilized diverse teaching methods, yet constantly focused on increased participation and personal interaction. PAL in adjunct with these teaching methods was highly valued by the PAL tutors and they perceived it to have increased participation, coordination, teamwork, shared responsibility, and group dynamics as compared to expert assisted large group interactive session. PAL tutors helped to identify and overcome the barriers to student engagement in learning most important being insecure environment and communication gap. PAL tutors reported that the safe learning environment in the PAL provided a flexible atmosphere to the students, fostering innate motivation to participate actively in the class activities. All these factors directly impacted and enhanced the assessment scores of the students.

The limited number of sessions constrained the study to some extent, and further studies with more sessions and an increase in the number of participants is suggested to improve statistical power.

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