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## PERCEPTION OF PEER LEARNING, AS AN INNOVATIVE LEARNING STRATEGY AMONG FIRST YEAR MEDICAL STUDENTS LACKING SENIOR GUIDANCE.

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**ABSTRACT... Objectives:** To know the perception of peer-learning among first batch of 1<sup>st</sup> year medical students in CMH Kharian Medical College. **Study Design:** Cross-Sectional study. **Setting:** CMH Kharian Medical College. **Period:** June 2018 and September 2018. **Material & Methods:** Questionnaire was distributed among hundred first year medical students on self-reflection and feedback after 15 min power point presentation given by their fellow students based on different pathophysiological scenarios. **Results:** Out of 100 students, 85 filled out questionnaire form completely. 60% of students were of the opinion that peer-learning facilitated them to perform better in the exam, and can be continued for future batches. 50% of students agreed that this innovative learning modality was conducted in a systematic manner, helped them to improve their understanding of the subject and learning was fostered based on the principles of self-reflection and feedback. Problem solving ability was improved by peer learning format according to 49% of students, while 47% of students reported that this innovative learning strategy provided them with a tool to improve their learning through interaction, while research capabilities of 37% students were improved. **Conclusion:** Majority of first year medical students lacking senior guidance learned better in a comfortable environment from their peers, and improved understanding of the core subject by realizing the implication of the concept of self-reflection and feedback.

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### INTRODUCTION

Peer assisted learning is defined as “People from similar social groupings who are not professional teachers helping each other to learn and learn themselves by teaching”.<sup>1</sup> Peer learning is gaining a lot of focus internationally both at undergraduate and postgraduate level, as shift in paradigm is emphasizing more on opting student centered learning strategies. Learning pyramid depicts that student’s retention capability increases by 90% if they are engaged in teaching the subject to their fellow students in small groups.

In accordance with reports published in Medical Education annual feature “ Really good stuff” or in AAME annual conference, Ten Cate O and Durning S identified following reasons to apply peer learning in teaching process; “ reducing

faculty teaching burden, providing role model for fellow students, enhancing intrinsic motivation and preparing students for their future role as teachers.<sup>3</sup>

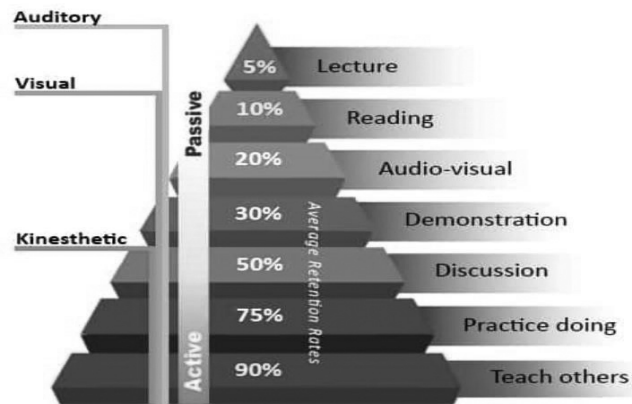


Figure-1. Adapted from NTL institute of behavioral sciences learning pyramid<sup>2</sup>

It is documented that peer learning conducted in a supportive environment fosters student confidence and further enhance their collaborative learning skills.<sup>4</sup> Further Buckley and Zamora stated that this innovative learning strategy equip the students better to overcome their fears during lecture.<sup>5</sup> Peer learning not only improves student confidence level, but also enhances presentation techniques, decision making, and nurture more sense of responsibility.<sup>6</sup> Further it helps students to develop critical thinking and improve test scores.<sup>7</sup>

Reciprocal peer learning provides platform for students to learn and contribute to other students at the same time.<sup>8</sup> Several studies found that peer learning has positive outcome on student performance in tutorials both in Physiology and Anatomy courses.<sup>9-11</sup> Main aim of the study in professional education is to increase student's interest and participation in academic activities.<sup>12</sup> Mutual understanding in a friendly atmosphere helps the students to learn better and it has been noticed that even silent students participate easily in informal atmosphere.<sup>13</sup> However there is lack of clarity about role of peer learning effecting learning process in first year medical students lacking senior guidance in medical schools in Pakistan. Current study was conducted with an aim to know the perception of first year medical students regarding peer learning as a learning technique, who lacks senior guidance.

## MATERIAL & METHODS

This cross-sectional study was conducted at CMH Kharian medical college between June 2018 and September 2018 on pioneer MBBS batch of college, lacking senior guidance. Students allocated in small groups presented given task (clinically correlated basic physiology) in power point format to their fellow students, followed by self-reflection and feedback from peers.

Class of 100 students was divided into 4 subgroups, each group containing 25 students. Subgroup of 25 students was allocated one facilitator. 5-6 students from each group were given tasks, a week prior to presentation. Whole class participated in this learning strategy,

completed in one module (8-10 weeks). Students were supposed to make power point presentation on the given topic.

Each student delivered a 10-15 minute presentation, followed by 5 min question answer session and focus on self-reflection and feedback in the end. Inclusion of applied physiology along with basic core concepts of physiology was included in the tasks. Activity was marked based on relevance of material presented in an organized fashion, not too much material on one slide, ability of the presenter to engage the audience, ability to negotiate queries from their colleagues and finally how they sum up, reflect and respond to feedback.

## RESULTS

Questionnaire Performa was distributed among hundred 1<sup>st</sup> year MBBS students. Out of 100 students, 85 students responded. Their responses was evaluated as Agreed, Neutral, and Disagreed. 60% of students were of the opinion that peer-learning facilitated them to perform better in the exam, and can be continued for future batches. 50% of students agreed that this innovative learning modality was conducted in a systematic manner, helped them to improve their understanding of the subject and learning was fostered based on the principles of self-reflection and feedback. Problem solving ability was improved by peer learning format according to 49% of students, while 47% of students reported that this innovative learning strategy provided them with a tool to improve their learning through interaction, while research capabilities of 37% students were improved.

## DISCUSSION

There is growing interest in peer teaching in both medicine and applied medical sciences.<sup>14</sup> In current study we distributed questionnaire to get opinion of medical students who lacks senior guidance regarding peer assisted learning.

Self-reflection has got central stage in learning process, reflection gives self-directed evaluation insight to both the candidate and tutor as well.

No:	Agreed %	Neutral %	Disagreed %	Total
Method used in teaching was useful	61%	34.11%	4.70%	85
Helped in improving understanding	56.47%	34.11%	67.05%	85
Facilitated more interaction among students	47.05%	40%	12.94%	85
Promoted improved problem solving ability	49.41%	40%	10.58%	85
Presentations helped to learn better	38.82%	41.17%	20%	85
Opportunities to express	32.94%	54.11%	16.47%	85
Learnt the significance of feedback in promoting learning	55.29%	32.94%	11.76%	
Learning strategy was improved by employing self-reflection	57.64%	30.85%	11.76%	85
Conducted in a systematic manner	51.76%	32.94%	15.29%	85
Can be continued for future batches	60%	27.05%	12.94%	85
Helped to perform better in Exam	60%	28.23%	8.23%	85
Helped to improve research capabilities	37.64%	35.29%	27.05%	85

**Table-I. Perception of students about peer assisted learning strategy**

In current study students were supposed to reflect upon what are their strong and weak points in their presentation? And how they can improve? In current study students agreed that their learning was enriched by employing self-reflection. Study conducted by Collins documented that recording of peer learning teaching session consolidated learning process by employing self-reflection.<sup>15</sup>

Task allocation followed by presentation to their fellow students prompts them to learn proactively. Zimmerman documented that proactive learners are aware of their strengths and weaknesses.<sup>17</sup> Self-realization further enhances student motivation to adapt to different situations and challenges even if they didn't perform up to mark. This strategy helps students to be more opportunistic in approach and transform them into life-long learner.<sup>16</sup>

When it comes to understanding core of the subject, majority of students were in view that peer learning helped them to improve understanding of the subject. Dandavino et al. documented that medical students with a better understanding of teaching and learning principles may become better learners.<sup>17</sup>

Fifty one percent of the students agreed that this innovative learning strategy is conducted in a

systematic manner. Variation in the experience of facilitator might have led thirty two percent of students to not comply with above statement. When it comes to formulation of task, there is uniformity, as one person is involved, however lack of assessment review committee might have resulted in an increasing percentage of students defying systematic conduction of task.

Students were motivated to give feedback, no doubt it is a challenging task, learned by observing facilitator providing feedback and keenly following presenters work. Focus was not just praising or criticizing candidate, but to tell them which areas they can improve upon. Too much criticism and judgmental remarks were avoided, as it can have demoralizing on part of the learner.<sup>18</sup>

Le Baron and Jernick introduced sandwich feedback concept, where negative feedback is sandwiched between positive feedback such that first and last comments are positive.<sup>19</sup>

Majority of first year MBBS students (55.29%) agreed that they learnt the significance of feedback in promoting learning.

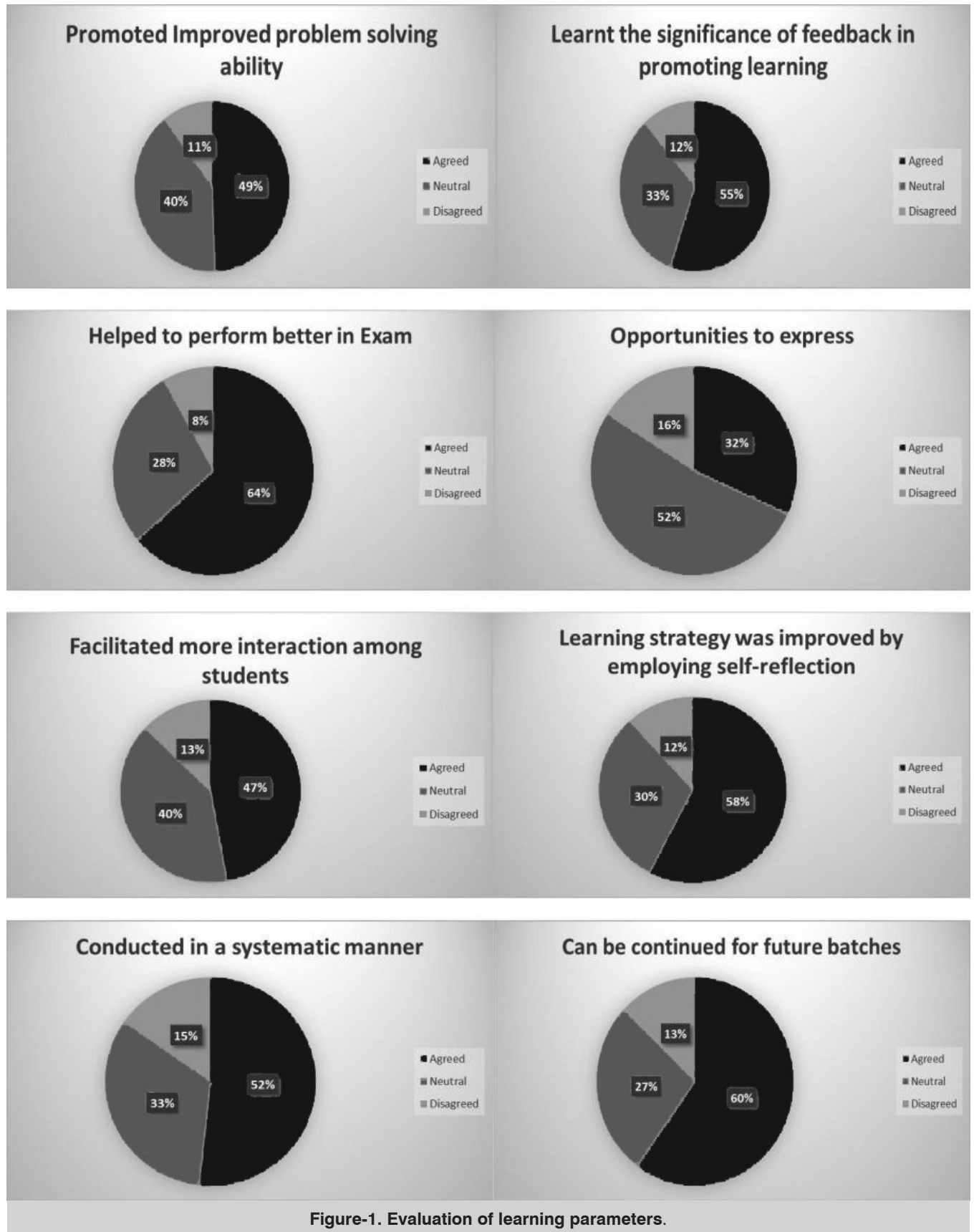


Figure-1. Evaluation of learning parameters.

Although taking and receiving feedback is challenging process and is affected by personal likes and dislikes among students, but insight into it at early stage of their professional study can provide platform to further nurture and use it effectively to guide and motivate students.

Hwang GJ documented that peer assessment game based development approach improved students learning achievements, motivation and problem solving skills.<sup>20-21</sup> Our students responded that their problem solving ability was fostered through this learning modality. Tutor led guided learning facilitate problem solving through knowledge exchange, hence promoting culture of interaction among students.

Diana Wood; 2010 reported that student finds student-student interaction more interesting, and more responsive as compared to instructor led discussions.<sup>22</sup> 47.05% students were of opinion that this mode of learning strategy facilitated more interaction among students. 12% disagreed, while 40% were neutral. This trend is alarming and might be related to students coming from different school background. In most of Pakistani schools classrooms are overcrowded and it is very difficult to foster students learning capabilities, students follow less interactive lecture sessions, not promoting critical and individual thinking, students adopting to plagiarism, leading to academic failure. So teachers should promote culture of teacher-student interaction and student-student interaction right from early school years. As documented by Flanders in 1967, main role played by a teacher in classroom is to interact with students and through actively engaging them in different activities.<sup>23</sup>

De Silva NL documented that most common method of peer learning in form of mass lectures by batch fellows of 2<sup>nd</sup> year medicine students or seniors led to more focused, interactive and active learning.<sup>24</sup>

Very low percentage of students mean that this teaching strategy helps to improve their research modalities. This might be secondary to lack of uniformity of orientation sessions for students

to guide them about how to formulate a good research question and introduction to basics of research methodology. Zehra N documented that over 50% of first year students and 21.53% of final year students had poor knowledge of research methodology. Despite the fact that students had shown keen interest and were motivated to get engaged in research activities, neither first year, nor final year students were engaged in the active research process.<sup>25</sup> Medical institutions need focus on formulating plan for regular review of research articles, helping students to formulate appropriate research question.

This innovative strategy not only benefitted peer teacher but also learner, this is in line with finding by Bene KL.<sup>26</sup> Srivastava TK et al further documented that peer learning promoted active learning, increased interaction owing to more comfortable environment between learner and teacher, better retention of knowledge and improved communication skills of medical students.<sup>27</sup>

## CONCLUSION

Peer assisted learning is an innovative learning strategy in a newly established medical institution, among students who lacks senior guidance. Interactive sessions conducted in a systematic manner fosters students learning process. Future comparative surveys in newly established medical colleges could provide a better picture.

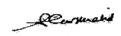



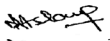



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5	Misbah Aslam	Data collection	
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7	Ghulam Hussain	Proof reading	
8	Shoaib Naiyar Hashmi	Proof reading	
9	Mahjabeen Safdar	Statistical analysis	