

OPINION ARTICLE

"To teach is to learn twice" Added value of peer learning among medical students during COVID-19 Pandemic [version

2]

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Abstract

This article was migrated. The article was marked as recommended.

In medical education, peer learning has a significant impact on deeper learning and considered an effective method of collaborative and deeper learning. This article highlights the adjustment of the final year medical students to the peer learning style during the COVID-19 pandemic. It explores the additional benefits of peer learning style and recommend key points that can help medical students to combat the current stressful situation. Adaptation to peer learning strategy may help to overcome this stressful situation and motivate each other to focus on studies. This approach can assist medical students to stay in touch with each other, collaborate, communicate, and boost each other morally. The peer learning style provides an opportunity for students to share thoughts and emotional reactions freely and friendly. This way can help to reduce stress and develop resilience. Students get rapid adaptation to technology-enhanced learning smoothly and effectively by helping each other to learn new skills. The feeling of staying connected with peers during the online sessions significantly augmented the ability to combat the crisis and augment social interactions.

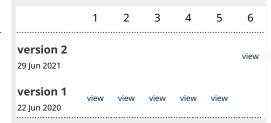
Keywords

Peer learning style, Adaption to the COVID-19 Pandemic, Learning strategies during COVID-19, Collaborative learning, Medical student's learning styles

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Any reports and responses or comments on the article can be found at the end of the article.

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Corresponding author: Shazia Iqbal (iqbalian2002@hotmail.com) **Competing interests:** No competing interests were disclosed.

Grant information: The author(s) declared that no grants were involved in supporting this work.

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Introduction

Recently, the COVID-19 pandemic has significantly affected almost all ages, races, and categories of professionals worldwide. Because of the current situation, there is an instinct for transformation to a rapidly changing environment physically, psychologically, and emotionally. This adaptation has effects at personal, institutional, and national levels. We observe a considerable transition in teaching strategies at medical institutions. These amendments have a significant impact on medical students learning styles.

In medical education, peer learning has a substantial impact on deeper learning and considered an effective method of promoting higher-order thinking and metacognition (Coffman, McConkey, and Colee, 2020). Most of the final year medical students adopted the peer learning style to adjust a new learning paradigm and distance learning through learning management systems. Although few students used to work in pairs and small groups before the pandemic, the significance of this learning style was unrecognized for most students.

Settings

In Alfarabi college of medicine, the formal teaching strategies are interactive lecturing, problem-based learning, practicals, tutorials, skill lab sessions, and seminars. To avoid the spread of coronavirus, all on-campus teaching activities were suspended. The eruptions of pandemic affected the medical students learning on campus and distressed them more than any other partner of the education cycle. Final year medical students were facing more challenges than another level of students because they have to graduate and secure their career. Because of tough situations, the final year's medical students adapted to peer learning strategies during March and April 2020.

Since medical campuses were closed and final year medical students made pairs and small groups according to their own choices. Our facilitators encouraged us to study in pairs, small groups, and assigned tasks as teams. The aim was to encourage students to help each other academically, socially, and mentally (Varalakshmi, 2020; Rastegar *et al.*, 2020). We divided our class into groups, including three to six students in each group. Regular online meetings, sharing ideas on original subjects and topics significantly improved our sense of responsibility for our learning.

In this article, students have reflected on the peer learning experience and mentioned the best practice points for optimal learning during this crisis. The representatives of the peer group conducted seven focused groups online interviews and each group was having four to six students. For analysis, they coded data and identified themes based on grounded theory. The reporters took an iterative method of concurrent data collection and analysis until they reached time saturation. Authors highlighted the change to peer learning style, explored the additional benefits of peer learning style during COVID-19 chaos, and recommended key points that can help medical students to combat the current stressful situation.

Peer learning beyond collaborative learning

Peer learning improves the learning process through active discussion, sharing ideas, and encourages students toward higher-level thinking through challenging questions (Elhawary *et al.*, 2019). Students develop their skills to work in groups and collaborate to fulfil the task. This enhances teamwork skills and task executive abilities (Hunt, Jones, and Carney, 2020). Students learn self-management, time handling skills to boost their energy towards the task (Zheng and Zhang, 2020). Additionally, it provided them the convenience to learn the skills of conflict resolution during teamwork.

During exams in April, our better achievement during formative evaluations and online written assessments depicted the quality of our learning through this approach. We noticed an improvement in our problem-solving potential through critical thinking by recalling our group discussion. The students' observation of high performance during formative assessments and comparison of their current results with the previous summative results showed the real value of peer learning.

Significance of peer learning during COVID-19 Pandemic

A famous writer Joseph Joubert was true in his vision when he uttered the golden words, "To teach is to learn twice". In peer learning groups, it was an opportunity to enhance our communication skills through group discussions on decided topics (Gelis *et al.*, 2020). Communication skill is of utmost importance in the workplace because one has to set the tone for how people perceive you and your ideas during teamwork. Our motto was "you teach me, I teach you". Therefore, we had a suave transition from on-campus to online learning. The moral support with pair and shared approach encouraged the smooth adaptability to a new learning paradigm. Figure 1 summarises the impact of peer learning benefits during the COVID-19 crisis. It high lights the impact of change agents on the development of key traits and skills among medical students through peer learning strategies.

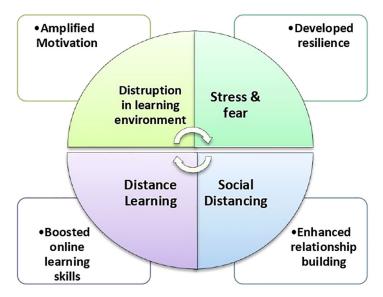


Figure 1. Impact of change agent on the development of key traits and skills among medical student peer learning among medical students during COVID-19 Pandemic

Impact on Motivation

One of the major advantages of peer learning during COVID-19 was keeping the morale high by motivating each other. As the ongoing situation was very tough to modify the schedule, weekly timetable amendments, change in the mode of assessment (online exams). Our peer groups motivated and morally supported each other. It was convenient to understand each other's emotions and levels of anxiety as all of us were sailing the same boat. We focused on learning objectives and worked on the philosophy "Alone we can do so little; together we can do so much."

This was a marvellous opportunity for group leaders to polish leadership qualities (Szteinberg et al., 2020). This way of learning stimulated us to enhance our emotional intelligence, discipline, and integrity among group members. We developed more confidence to speak during informal discussions that empowered our self-esteem. Building a safe and friendly environment pushed us to generate active discussion on the topics (clinical scenarios). Eventually, we could spend more time discussing the depth and width of topics; leading to deep learning.

Stress management

Experiencing anxiety during a pandemic is rational, but sometimes it is overblown depending upon one's personality traits. The pandemic caused significant anxiety among medical students in the initial phase (Jin, Wang, and Lan, 2019). Among vulnerable students, there was continuous stress, and anxiety led to a pounding heart, sleep disturbance, a change in eating habits, impaired performance, and depression. However, through peer learning style students shared thoughts and emotional reactions freely and friendly. This shared approach assisted us to measure the level of anxiety and aided to find more emotionally vulnerable and fragile personalities.

We supported each other affectionately and avoided engaging in the infodemic of COVID-19. We commended each other to have minimum information about morbidities and mortalities around the word. The purpose was to stay informed about the situation but not to stimulate fight and flight response or limbic systems stimulation, which causes extreme anxiety. We urged each other to focus on our studies and stay safe rather than spend our energy on a rapidly changing environment. Few of us experienced mindful body practice to train the mind for maximum focus and stress management strategy (Crowther, Robertson and Anderson, 2020).

We motivated each other to energise our body by keeping healthy habits, for instance, eating a healthy diet which is important for the plasticity in the brain. We encouraged each other to take slight breaks and eat small snake during the planned study session. Besides, we stimulated each other for online virtual exercise practices to boost immunity. We encouraged normal sleep hours and reduce screen time on phones to avoid fatigue due to blue rays and sickness of computer screens. Coping with stress through peer learning style developed resilience among students and helped to come out of the paralyzed state of anxiety (Walsh *et al.*, 2020).

Online learning skills (Technology-enhanced learning)

This pandemic is teaching all of us in different dimensions and how to cope with our circumstances. As it switched all teaching activities to technology-enhanced learning, we found ourselves in the beginning zone of a hundred percent online. We needed technical support to get used to the learning management system. Peer learning helped us to adapt to technology-enhanced learning more smoothly and effectively. If we faced any issue in soft skills, we seek help from each other promptly. Most of us recognised the improvement in the online teaching skills through peer learning style.

Improving students' social interactive learning

Although there were instructions by health care professionals to keep social distance during the COVID-19 crisis, peer learning encouraged us to engage more deeply with each other. Through this way of informal discussion, we had closer social interaction virtually. Although we had been together for five years in the same class, we had never got to know about our peers before. We encountered various behaviours and learning attitudes. It was a natural opportunity to develop a friendly relationship with our peers. This approach helped students who live in a different region and away from the home city. Saying connected with our peers during the online sessions augmented the ability to combat the crisis.

Challenges

The effectiveness of peer learning needs to be investigated through qualitative and quantitative studies. It will help us to establish the authenticity of the peer learning strategy during the adaption process to a new learning paradigm. Additionally, it is important to enquire about the views of those students who could not adjust in this way of learning. It is imperative to identify the additional factors which hinder adaptation to peer learning. An in-depth analysis is required to determine the barriers and shortcomings of peer learning.

Conclusion

During the COVID-19 pandemic, medical students are facing substantial challenges in terms of graduation, securing an internship placement, and entry in professional life smoothly. A major disruption in the learning environment, social distancing, fear of disease, and uncertainty about the future have a great impact on learning. Adaptation to peer learning strategy may help to overcome this stressful situation and motivate each other to focus on studies. This approach can assist medical students to stay in touch with each other, collaborate, communicate, and boost each other morally.

Take Home Messages

- Peer learning improves the learning process through active discussion, sharing ideas, and encourages students toward higher-level thinking.
- During the COVID-19 crisis, peer learning is a very effective learning approach by motivating each other.
- The peer learning style provides an opportunity for students to share thoughts and emotional reactions freely and friendly. This way can help to reduce stress and develop resilience.
- Students get fast adaptation to technology-enhanced learning more smoothly and effectively by helping each
 other to learn new skills.
- The feeling of staying connected with peers during the online sessions significantly augmented the ability to combat the crisis and augment social interactions.

Notes On Contributors

Sara Mohammed Sami Hamad is a final year medical student in Alfarabi College of Medicine, Riyadh and main author of this manuscript.

Dr Shazia Iqbal is working as Assistant Professor/Director of Medical Education Unit, Clinical faculty in Alfarabi College of Medicine, Riyadh, Saudi Arabia. She is keenly involved to recognize gaps in medical education with a special interest in pedagogical techniques and technology enhanced learning. She is co-author of this manuscript. ORCID ID: https://orcid.org/0000-0003-4890-5864

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Manal Abdullah Ali Alghamadi is final year medical student in Alfarabi College of Medicine, Riyadh. She was involved in editing and reviewing this manuscript.

Manal Khalid Kamal Ali Elhelow is final year medical student in Alfarabi College of Medicine, Riyadh. She is a representative of peer group leader and gathered information from groups to complete this piece of opinion.

Declarations

The author has declared that there are no conflicts of interest.

Ethics Statement

This is a Personal Opinion piece and did not require Ethics Approval.

External Funding

This article has not had any External Funding

Supplementary Files

Supplementary file 1 - Peer learning style by medical students during COVID-19 VERSION 2.docx

Acknowledgments

The authors of this article are thankful to final year medical students who agreed to provide their opinions anonymously and voluntarily. Authors appreciated their contribution to share their experiences, opinions and views regarding peer learning strategy during the COVID-19 pandemic.

Figure 1: Author is Dr Shazia Iqbal; the creator/owner of copyright.

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Reference Source

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Reviewer Report 08 October 2021

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Julie Hunt

Lincoln Memorial University

This review has been migrated. The reviewer awarded 3 stars out of 5

I commend this group of student authors for their contribution. The pandemic has been a challenging period of time for both educators and students, and the perspective of students is helpful to educators. I would have preferred that the authors include the year when listing dates, as their publication could be read or cited into the future, and this is clearer to readers. The article would have been stronger if the authors had spent some time describing the peer learning groups. Were they chosen or assigned? How large were the peer groups? Were the same peer groups used for all subjects, or did groups shift for different subjects? Were the peer groups the same for an entire semester, or was there any shifting? The authors comment on their improved performance on formative assessments and online written assessments as compared with summative assessments, but I wonder, did that occur because formative assessments and written assessments might be easier than the previous summative assessments? More detail is needed to allow readers to understand how and why test performance was improved. Finally, the authors included only a single sentence in the challenges section to mention that there were students who didn't adapt easily to the new learning methods. Many educators have observed that there are students who have not flourished in the new e-learning period. As the entire article is very favorable to the transition, I think it is important to discuss also that there are students who have not adapted, and why that may have occurred, how it was addressed (if at all), etc.Overall it is refreshing to hear students' voices explaining some of the beneficial adaptations made during the pandemic.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 29 June 2021

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Ronald M Harden

AMEE

This review has been migrated. The reviewer awarded 4 stars out of 5

Student engagement with students as partners in the learning process is high on today's agenda in medical education. In this paper the authors provide a student perspective. They describe in the context of the Covid pandemic the perceived benefits with reference to the literature. Although there is no objective evidence given, the students' views are convincing and I recommend you to read this article. There are places where the text could be improved and the occasional mistake such " eat small snake" rather than " small snack". The reference to the literature is not extensive and no mention for example of Tippings classic text - Effective peer learning. This article is however a recommended read.

Competing Interests: No conflicts of interest were disclosed.



Reviewer Report 27 July 2020

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Mildred López

Tecnologico de Monterrey, School of Medicine and Health Sciences

This review has been migrated. The reviewer awarded 3 stars out of 5

First, I would like to congratulate the students on getting involved in medical education and sharing their personal views on a manuscript. I also would like to recognize the educators and research groups that support those practices. The manuscript presents broad concepts: "peer-learning" and "traits and skills", but it needs to explain the connection on the impact on traits and skills, developed through peer-learning. I believe it is not written as an opinion piece. At the beginning, it starts as if it was going to describe an innovation implementation of peer-learning. However, it lacks the documentation or assessment to analyze the "added value" of the experience. The authors should commit to which approach to take:1) the "opinion piece" of their learning of this pandemic. The authors could revise the

manuscript and focus on describing how final-year students experienced the distance education transition during the COVID19, or 2) describe the experience of peer-learning during the pandemic. It could be that the contributions that they perceive, are presented in a model (such as the one presented in figure 1). I think that more than presenting it as a cycle, it should be a table that relates each distance education element to a benefit/advantage perceived by the students. These claims should also be supported by literature and examples given by students. I would encourage the authors on revising the manuscript and upload a version that integrates the comments made by other reviewers.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 26 July 2020

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P Ravi Shankar

American International Medical University

This review has been migrated. The reviewer awarded 4 stars out of 5

This is an important article on peer learning and support during the significant disruption caused by the COVID-19 pandemic. I am happy to note that most of the authors are medical students. The authors describe what was done clearly. I am not sure about the use of the term 'peer learning style' as learning styles have a specific connotation. The authors can provide more information about the final year medical students at the university. What is the student strength? Are there international students? The authors mention about both student pairs and student groups. As the groups were self-selected, I assume those who knew each other well formed pairs and groups. The process of group formation can be described in greater detail. I assume that this is a college only for women and all groups consisted only of females. This is an important point to confirm as gender could influence relationships and group dynamics. The advantages of peer learning have been well described. Were there any challenges? The stress students were going through can affect groups and group dynamics? Did faculty members have any role with regard to group formation and maintenance? In certain areas of the manuscript language and grammar corrections can be carried out.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 07 July 2020

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Poh-Sun Goh

National University of Singapore

This review has been migrated. The reviewer awarded 3 stars out of 5

Thank you to the authors for nominating me to review this paper. I reviewed this paper with interest and anticipation, as it represents, and gives visibility and a voice to the perspectives of medical students, who are the future healthcare practitioners that we as educators strive to support, assist, guide and instruct. The key messages, as well as proportion and percentage of text given to each one of the key messages was particularly striking. The title, and first sentence of the abstract alludes to deeper learning, and more effective learning as the major impact of peer learning during the COVID-19 pandemic; while the bulk of the paper focused on the human side of interpersonal interactions, providing motivation and support to engage in learning activities, with an outcome of better assessment performance being briefly mentioned during April exams. I feel this paper would be significantly improved by providing more information, for example - 1) more background information about the setting; 2) how the COVID-19 pandemic disrupted previous practice; 3) how the reflective exercise was performed with the students, and much more detailed breakdown on participation rates, qualitative and quantitative responses, and how the reflective exercise was facilitated, and how the data/responses were analysed; including whether further iterative follow up engagement with the student cohort was undertaken; 4) more details on how exam performance was improved, and whether this was due in fact to deeper learning, and how peer learning assisted this - was this merely by improved motivation, or deeper knowledge and skill learning, and a reflection and analysis of how and why this took place; 5) more details on how peer learning was felt to improve and deepen knowledge and skill learning, to supplement the bulk of the paper focused on emotional and social support. I look forward to engaging with the authors on this discussion platform, and reading an updated version of this paper in the future.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 01 July 2020

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sathyanarayanan varadarajan

SRM Medical College, SRM University

This review has been migrated. The reviewer awarded 4 stars out of 5

This interesting article by a final year medical student highlights the adjustment of the final year medical students to the peer learning style during the COVID-19 pandemic. The authors have explored nicely on the learning experience of adapting peer learning strategies and various benefits of adopting peer learning in this rapidly changing environment. One significant observation they made during peer learning process was that the students felt staying connected with peers during the online sessions, which significantly augmented the ability to combat the crisis and augment social interactions. They also felt motivated and it helped them to adopt to technology-enhanced learning more smoothly and effectively. I congratulate the author for her writing style, expressing complex things in simple words. Though the effectiveness of peer learning needs to be investigated through qualitative and quantitative studies, this article makes an important contribution in the field of new learning and teaching strategies, in this significant transition period.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 25 June 2020

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Shahzad Ahmad

Fatima Memorial medical and dental college Lahore Pakistan

This review has been migrated. The reviewer awarded 5 stars out of 5

I enjoyed reading this paper consisting of the reflection of the medical students regarding their approach to peer learning during COVID-19. The manuscript has been well written and we need to hear the voice of medical students during current situation. The reflection highlights the natural adoption to critical situation and brings the new version of peer learning (pedagogical techniques) in medical education. It explored the extraordinary benefits of peer learning such as learning of new technology skills; powerful impact on motivating each other and enhancement of inter-professional relation despite of social distancing during COVID-19. For better adoption to current situation, the given recommendation can be applied as unique way of learning (peer learning) in medical education. I do think that this paper should be read by all medical students, faculty and medical educators.

Competing Interests: No conflicts of interest were disclosed.