

## Facilitating acquisition of critical thinking skills using jigsaw instructional method

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### ABSTRACT

For a successful professional career as a medical practitioner, it is vital that students must be trained in critical thinking during their period of undergraduate training. Critical thinking enables students and healthcare professionals to analyze clinical features, comprehend patient history, and prescribe specific laboratory or radiological tests to reach a correct diagnosis. The employment of the jigsaw method in theory or clinical training plays a crucial role in the acquisition of critical thinking skills by medical students. In conclusion, the employment of the jigsaw method for teaching-learning as one of the pedagogical approaches in medical training is crucial in the development of critical thinking skills. It is the need of the hour that medical teachers understand its scope and significance and utilize this approach to develop and refine critical thinking among medical students and thereby empower them for their future clinical practice.

### KEYWORDS

Critical Thinking, Jigsaw Method, Medical Education

### INTRODUCTION

For a successful professional career as a medical practitioner, it is vital that students must be trained in critical thinking during their period of undergraduate training (1). Critical thinking enables students and healthcare professionals to analyze clinical features, comprehend patient history, and prescribe specific laboratory or radiological tests to reach a correct diagnosis (1,2). In-fact, doctors can compare the potential risks and benefits of different treatment modalities, owing to which they can make evidence-driven decisions (2). These skills also aid in solving complex clinical cases, and minimizing medical errors as they adopt a structured approach to ensure safe patient care (2,3). Further, these skills are crucial in preparing medical students to stay flexible and respond to the dynamic needs of patients and evolving changes in

the treatment protocol (2,3,4). Moreover, these skills are also useful in providing collaborative care and rationally dealing with ethical dilemmas and legal situations (3,4).

**Developing critical thinking: Lectures versus Jigsaw method:** Conventional lectures have been widely used across different medical colleges for imparting knowledge tend to have limited interaction with the students, with maximum focus on memorizing the knowledge given to students (5). In contrast, the jigsaw method of training ensures that students are actively engaged in the learning process, and the emphasis is on the application of the provided knowledge for the benefit of patients in authentic settings (2). In addition, because lectures follow a structured plan, there is limited scope to accommodate the viewpoints of different students (5). In contrast, the jigsaw method enables

consideration of various perspectives of students and they all play a vital role in the development of critical thinking (3,4). Further, as compared to lectures that revolve around the lecturer, jigsaw methods enable student-centered learning, which has its share of benefits (5,6). Finally, in comparison with lecture methods, the jigsaw method prepares students for problem-solving in real-time, which augments their confidence levels (1-3).

**Jigsaw method and development of critical thinking:** The employment of the jigsaw method in theory or clinical training plays a crucial role in the acquisition of critical thinking skills by medical students (7-10). This method enables active involvement of the students in the learning, teaching, and discussion of various aspects of the given problems with their peers, and this active engagement promotes deeper understanding (7,8). As students are expected to teach a specific sub-component of the given topic to their peers, this essentially requires that they must thoroughly understand the content themselves (viz. critically analyze it before integrating it with the broader topic), and in this process, they learn the art of dividing complex concepts into simplified ones (8,9). In this method of teaching-learning, it is expected that students not only understand their own allocated portion but even understand how it integrates with the entire topic, and this skill carries immense significance in clinical decision-making (7,8,9).

As students are expected to learn in small groups in this method, once they hear arguments of other peers, they learn the ability to evaluate their own thinking critically, which significantly aids in improving their problem-solving skills (6,7). In addition, they also realize that the same problem can be approached from different angles and that theirs is not the only correct solution (10). During the methods, peers are encouraged to ask questions to the presenting student in rotation and in the process, challenge their understanding of each other (8,9). This questioning becomes vital in promoting curiosity and motivating students to think deeply and critically analyze the given learning resources (7). This aspect of explanation and defending their material and understanding plays a defining role in the development of logical reasoning (viz. as students must support their explanations with appropriate evidence) (10,11). Once students explain the learned concept to their peers, they get an opportunity to reflect on their own understanding, and this reflection process is further strengthened by the feedback that they receive from others (7-9). We must understand that this reflection is an integral component of critical thinking, as it encourages self-assessment and

continuous improvement (12). Finally, as this method simulates the collaborative approach that is practiced in medicine, wherein healthcare professionals from different specialties join their hands together to complex cases, such kind of exposure in classroom settings prepares medical students for real-world settings (13,14). To summarize, these multiple mechanisms help medical students to develop critical thinking skills with the help of jigsaw method, which cannot be accomplished by the conventional teaching-learning approaches (7-14).

## CONCLUSION

In conclusion, the employment of the jigsaw method for teaching-learning as one of the pedagogical approaches in medical training is crucial in the development of critical thinking skills. It is the need of the hour that medical teachers understand its scope and significance and utilize this approach to develop and refine critical thinking among medical students and thereby empower them for their future clinical practice.

## REFERENCES

1. Kaur M, Mahajan R. Inculcating critical thinking skills in medical students: Ways and means. *Int J Appl Basic Med Res*. 2023;13(2):57-8.
2. Silldorff EP, Robinson GD. Development of critical thinking skills in human anatomy and physiology. *Adv Physiol Educ*. 2023;47(4):880-5.
3. Angelelli CV, Ribeiro GMC, Severino MR, Johnstone E, Borzenkova G, da Silva DCO. Developing critical thinking skills through gamification. *Think Skills Creat*. 2023;49:101354.
4. Scott IA, Hubbard RE, Crock C, Campbell T, Perera M. Developing critical thinking skills for delivering optimal care. *Intern Med J*. 2021;51(4):488-93.
5. Dehghanzadeh S, Jafaraghaee F. Comparing the effects of traditional lecture and flipped classroom on nursing students' critical thinking disposition: A quasi-experimental study. *Nurse Educ Today*. 2018;71:151-6.
6. Kim E. Effect of simulation-based emergency cardiac arrest education on nursing students' self-efficacy and critical thinking skills: Roleplay versus lecture. *Nurse Educ Today*. 2018;61:258-63.
7. Ulrich D, Glendon K. Jigsaw: a critical-thinking experience. *Nurse Educ*. 1995;20(3):6-7.
8. Chopra D, Kwatra G, Bhandari B, Sidhu JK, Rai J, Tripathi CD. Jigsaw classroom: Perceptions of students and teachers. *Med Sci Educ*. 2023;33(4):853-9.
9. Mohebbi Z, Mortezaei-Haftador A, Mehrabi M. Synchronous online lecturing or blended flipped classroom with jigsaw: An educational intervention during the Covid-19 pandemic. *BMC Med Educ*. 2022;22(1):845.
10. Ozkan S, Uslusoy ECN. Outcomes of jigsaw technique in nurse education: A systematic review and meta-analysis. *Nurse Educ Pract*. 2024;75:103902.
11. Goolsarran N, Hamo CE, Lu WH. Using the jigsaw technique to teach patient safety. *Med Educ Online*. 2020;25(1):1710325.
12. Ossa CJ, Rivas SF, Saiz C. Relation between metacognitive strategies, motivation to think, and critical thinking skills. *Front Psychol*. 2023;14:1272958.
13. Jeppu AK, Kumar KA, Sethi A. 'We work together as a group': implications of jigsaw cooperative learning. *BMC Med Educ*. 2023;23(1):734.
14. Yeung MM, Yuen JW, Chen JM, Lam KK. The efficacy of team-based learning in developing the generic capability of problem-solving ability and critical thinking skills in nursing education: A systematic review. *Nurse Educ Today*. 2023;122:105704.