



## JIGSAW STRATEGY AS A TEACHING LEARNING METHOD- STUDY ON FIRST MBBS STUDENTS

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### ARTICLE INFO

#### Article History:

Received 29<sup>th</sup> March, 2017

Received in revised form 16<sup>th</sup>

April, 2017

Accepted 10<sup>th</sup> May, 2017

Published online 28<sup>th</sup> June, 2017

#### Key words:

Jigsaw strategy, carbohydrate metabolism, cooperative learning.

### ABSTRACT

**Objectives** - To assess the effectiveness of jigsaw strategy.

**Methodology**- After obtaining clearance from Institutional Ethics Committee we used jigsaw technique for a group of 1st year MBBS students who learnt the topic of carbohydrate metabolism. Students were divided into study and control group. Study group was divided into 5 primary expert groups of 6 students (n=30). Each primary group was asked to prepare one specific topic from carbohydrate metabolism. After 3 days, primary groups discussed that specific topic in 30 minutes within themselves. Groups were now reorganized into secondary groups with one member from each of primary expert groups. This became the jigsaw group. Control group attended the same topic in didactic lecture. Pre and post tests were conducted for both study and control group.

**Results**- Pre and post tests were conducted for the test and control groups. Student t-test was performed to know if there was any significant difference in two groups. Mean improvement in score was 3.13 as compared to control group whose improvement score was 1.47 marks. This difference was statistically significant in test group  $p < 0.05$ .

**Conclusion**- Students liked this form of learning as it improved group learning and it was helpful in enhancing performance in examination.

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### INTRODUCTION

Cultivation of mind should be the ultimate aim of human existence - Dr B R Ambedkar. Cultivating your mind is more important than anything else you can do to prepare for personal and professional success. The ability to focus and develop a deep knowledge will help anyone stand out from the generalists. Teacher's play a challenging role to accommodate the needs of today's students.

The jigsaw technique is a method of organizing classroom activity that makes students dependent on each other to succeed. It breaks classes into groups and breaks assignments into pieces that the group assembles to complete the (jigsaw) puzzle.<sup>(1)</sup> It was designed by social psychologist Elliot Aronson to help weaken racial cliques in forcibly integrated schools.<sup>(2)</sup>

### METHODS

After obtaining clearance from Institutional Ethics Committee, we used jigsaw technique for a group of 1st year

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MBBS students who learnt the topic of carbohydrate metabolism. Students were divided into study and control group. Study group was divided into 5 primary expert groups of 6 students (n=30). Each primary group was asked to prepare one specific topic from carbohydrate metabolism. After 3 days, primary groups discussed that specific topic in 30 minutes within themselves. Now each member of this primary group became expert in that particular topic. Groups were now reorganized into secondary groups with one member from each of primary expert groups. This became the jigsaw group. Each member from this jigsaw group presented their expertise topic to other members of their group. Control group attended the same topic in didactic lecture. Pre and post tests were conducted for both study and control group. Student feedbacks were taken in question answer form.

### RESULTS

Pre and post tests were conducted for the study and control groups. Student t-test was performed to know if there was any significant difference in two groups. Mean improvement in score was 3.13 as compared to control group whose improvement score was 1.47 marks. This difference was statistically significant in test group  $p < 0.05$ .

## DISCUSSION

Modern medicine would not be practiced without understanding how human body is affected at the biochemical level. So teaching biochemistry to medical students is challenging. In this background, Jigsaw technique as an active learning module in Biochemistry was conducted for undergraduate students of First MBBS course.

We used the method of learning by teaching. Students became experts in particular topic by self study and discussion within the primary group. Then when jigsaw groups were made they were told to explain that particular topic to their colleagues. This encouraged the students to listen to each other, work as a team, build problem solving skill, improves communication. In this, each student of the group possesses a special part of this metaphorical puzzle and each piece is equally important. Everyone is assigned a particular job so that they are not included but needed for completion of the task.

This activity proved to be productive when mean improvement score was calculated and compared between study and control group. From student's point of view, this was a change from the routine which they enjoyed also because it was challenging. Not only they had to learn themselves but teach others which explored their ability of explaining concepts in different ways. Simply rote memorization can be reduced.<sup>(3)</sup> Vivid examples which will stick students to particular topic

This teaching learning module also had some disadvantages like misunderstanding the content and lack of participation. Buhr GT *et al* used the jigsaw cooperative learning method to teach medical students and found that jigsaw exercise was well-received by participants.<sup>(4)</sup> C.S. Vinod Kumar *et al* studied the effect of Jigsaw Co-Operative Learning Method in Improving Cognitive Skills among Medical Students and resulted in better achievement.<sup>(5)</sup>

As earlier said didactic lectures have no strong alternative but jigsaw is a great addition that creates a functional atmosphere in the classroom where everyone learns, everyone shares, and everyone is appreciated.<sup>(6-10)</sup>

## CONCLUSION

Jigsaw activity is a cooperative learning strategy that enables each student of home group to specialize in one aspect of a learning unit and after mastering, teach other groups that particular topic.

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### How to cite this article:

Kapila B Gaikwad *et al* (2017) 'Jigsaw Strategy as a Teaching Learning Method- Study on First Mbbs Students', *International Journal of Current Advanced Research*, 06(06), pp. 4290-4291. DOI: <http://dx.doi.org/10.24327/ijcar.2017.4291.0484>

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