



“EFFECTIVENESS OF JIGSAW TEACHING-LEARNING METHOD AMONG STUDENTS”

| | |
|------------------------------|--|
| Dr. Jayalakshmi M.K* | MD, Professor And Head, Department Of Physiology, Gadag Institute Of Medical Sciences, Gadag-582103, Karnataka. * Corresponding Author |
| Dr. Sneha Kamble | MD, Assistant Professor, Department of Community Medicine, Gadag Institute of Medical Sciences, Gadag-582103, Karnataka. |
| Dr. Chandrashekar D.M | MD Assistant Professor, Department of Physiology, Gadag Institute of Medical Sciences, Gadag, Karnataka. |

ABSTRACT **Introduction:-** Jig saw technique is a form of cooperative learning strategy which is used in education. It allows students to actively participate in learning process. It divides a class room into groups and breaks assignments into pieces and later lets the group complete the puzzle with a group leader in charge of the activity. Jigsaw is for enhancement of teaching and learning to improve current scenario. **Objectives:-** To assess the effectiveness of Jigsaw method, determine the outcome of Jigsaw and traditional didactic lecture. **Material and Methods:-** 100 students of 3rd phase MBBS were attended the didactic lecture, out of which 30 was included as study participants. IEA was taken and informed consent was taken from participants. Pre-test of 10 open ended questions was given to participants. Questions were based on the topic covered in didactic class. 40 minutes was given to answer. Next sensitization of participants to Jig saw technique was done. 30 students were divided into 5 Jigsaw groups with one group leader. Each group was assigned specific topic covered in didactic class. 30 minutes was given to groups to study. Evaluation of participants was done. At the end of programme, the same questionnaire was given to participants as post-test and scoring was given. Data was analysed by using test of significance Chi-Square **Results:-** Post test score was high in comparison with pretest. The p-value was found to be statistically significant. **Conclusion:-** Jigsaw method improves students learning.

KEYWORDS : Co-ordination; Didactic lecture; Jigsaw method; Student centred

INTRODUCTION

Jig saw technique is a form of cooperative and collaborative learning strategy which is extensively used in all levels of education. It allows students to actively participate in learning process by organizing classroom activity that makes students dependent on each other to succeed. Jig saw technique divides classes into groups and breaks assignments into pieces, and at the end of the session the group leader will present the assignment after interactive session within the group¹.

Didactic lecture is the current method of choice to cover large portion of syllabus in a classroom comprising of 100 to 250 students². Non participation and lack of interaction by students, lack of student-teacher bond and increasing number of students in one class make didactic lecture an ineffective tool for teaching³. As the students shift from school to college, teaching method should be changed from pedagogy to andragogy by active involvement of students in teaching.

An ideal and effective teaching is one in which students enjoy, listen, retain, recall and develop critical reasoning with proper in depth understanding. Such innovative teaching methods like think-pair share, jigsaw, team project etc. allow for the enhancement of teaching and learning to improve current scenario⁴. The primary objective of teaching in medical education is the development of clinical competency and training successful and empowered graduates with professional competency so that they can use knowledge for problem solving in their careers^{5,6}. Accordingly, professional competency in teaching and learning environment is influenced by factors such as educational content and type of teaching method employed^{7,8}. These can cause an effective learning and academic motivation in students⁶.

OBJECTIVES

1. To know the effectiveness of the Jigsaw method
2. Comparison between Jigsaw method with traditional didactic lecture class

MATERIAL AND METHODS

Study Area:- Study was conducted at Gadag Institute of Medical Sciences.

Study Design:- Cross sectional, Interventional study.

Study Population:- Among the 100 students in 3rd phase, a group of 30 students were selected randomly (simple random selection) for the study.

Pre-intervention phase:- Ethical approval was taken from IEC. Informed Consent was also obtained from participants after explaining

the purpose of study and anonymity of participants was guaranteed.

A structured pre-test:- Consisting of 10 open ended questions was given to all study participants. All questions were based on various aspects of topic- “Integrated disease surveillance project” which was covered in didactic lecture class. Participants were asked to complete questionnaire in 40 minutes under strict supervision.

Intervention phase:- Sensitization of participants about application of Jig saw technique. Allocation of participants into five Jig Saw groups. Identification of leader for each group for smooth functioning. Each group was assigned specific one segment of the topic of respective class and it was ensured that Participants of that group had direct access only to their own segment. Sufficient time (30 minutes) was given to each group to study subject matter. Evaluation of participant's knowledge was done by faculty and pre-test scores were given out of ten marks to each group

Post-intervention phase/ post-test:- At the end of programme, the same questionnaire was given to all participants and Responses were collected and scoring was given.

Feedback was taken from the students and faculty involved in the project. Likert's scale was used to take the feedback by questioner method and the % of Strongly Agreed was taken into consideration (Fig.1&2)

DATA ANALYSIS

The scoring system for each answered question was assigned for pre and post intervention. The data was entered in 'Microsoft Office Excel Sheet and analysed for frequency and percentage by using test of significance Chi-Square Test.

RESULTS

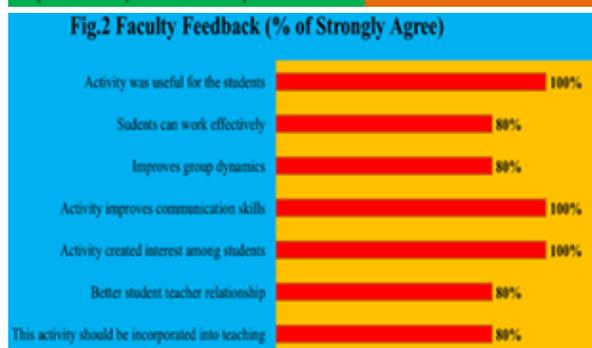
It is observed that the Post-test scores found to be high in Comparison with Pre-test, when it was tested with test of significance (Chi-Square). The p-value was found to be statistically significant (Table-1)

Students and the faculty involved in this study strongly agreed for the implementation in the curriculum (Fig.1&2). Most studies reported the following findings: an increase in students' motivation for teamwork and enjoyable learning^{9,10,11,12,13}. It helps in creation of interest, self-confidence, self-esteem among students as well as decrease in anxiety and disinterest in group activities^{14,15,16}

Table-1 Comparison of score between Didactic and Jigsaw learning

| Group (N) | Score After Didactic | Score After Jigsaw | P - Value |
|-------------------|----------------------|--------------------|-----------|
| Group - I (N-6) | 14 | 18 | <0.05, S |
| Group - II (N-6) | 08 | 16 | <0.05, S |
| Group - III (N-6) | 14 | 18 | <0.05, S |
| Group - IV (N-6) | 04 | 16 | <0.05, S |
| Group - V (N-6) | 06 | 14 | <0.05, S |

P-<0.05 S- Statistically significant



CONCLUSION

In the current scenario, active teaching methods are recommended in new curriculums, wherein students play an active role in learning. Jigsaw is one of the most important teaching methods. It improves teamwork and interpersonal communication, thinking, and problem-solving skills. In addition, it can promote learning among medical students. Both faculty and students are strongly agreed for the implementing Jigsaw method in the curriculum

REFERENCES

- Lestik, M., & Plous, S. Jigsaw Classroom 2012. Available from <https://www.jigsaw.org/> (accessed on 27th August 2016).
- Jason M Carpenter. Effective teaching methods for large classes. *Journal of Family and Consume Sciences Education*, 2006;24(2):13.
- Muneshwar JN. A questionnaire based evaluation of teaching methods amongst MBBS students. *International J. of Medical Research and Health Science* 2013; 2(1): 19-22.
- Thirunavukkarasu J, et al. A study of effectiveness of different teaching methodology in Pharmacology for undergraduate students. *Asian J. Exp. Biol. Sci.*, 2011; 2(3):487-492.
- Haghani F, Rahimi M, Ehsanpour S. An investigation of perceived feedback in clinical education of midwifery students in Isfahan University of medical sciences. *Iranian Journal of Medical Education* 2014;14(7): 571-580. [In Persian]
- Naeemi Hoseini F, Zare H, Hormozi M, Shaghagi F, Kaveh MH. A comparison of the effects of blended learning and lecture based instruction on the students' academic motivation and satisfaction. *Srtu* 2012; 7(1):13-23. [In Persian]
- Karimi Monaghi H, Rad M, Bakhshi M. Do the New Methods of Teaching in Medical? Education have Adequate Efficacy? : A Systematic Review. *SDME* 2013; 10(2):153-162. [In Persian]
- Solati SM, Javadi R, Hosseini Teshnizi S, Asghari N. Desirability of two participatory methods of teaching, based on students' view point. *Bimonthly Journal of Hormozgan University of Medical Sciences*. 2010 Oct;14(3):191-7. [In Persian]
- Leyva - moral J. Teaching research methods in nursing using Aaronson's jigsaw technique. A cross-sectional survey of student satisfaction. *Nurse Education Today*. 2016;40:78-83
- Mohammadi AS, Khaghanizade M, Ebadi AB, Amiri FA, Raesifar A. Log book a method of evaluating education and feedback strategy in nursing. *Education Strategies in Medical Sciences. Strides in Development of Medical Education* 2010 Jun 15;3(1):15
- Al- Salkhi, M. J. The effectiveness of jigsaw strategy on the Achievement and Learning Motivation of the 7th primary grade students in the Islamic education. *International Journal of Humanities and Social Science*. 2015.5 (4):111-118.
- Mogharab M, Nateghi K, Sharifzadeh Gh R. Effects of lecture and team member teaching design on nursing students learning and academic motivation. *Modern care journa (scientific Quarterly of Birjand Nursing & Midwifery Faculty)*. 2014. 10(3): 173-182.
- Saberian m. haji aghayee S. Curriculum planning in Medical Sciences. 2007. Salami

publish, Tehran. [In Persian]

- Zingone M, Franks A, Guirguis A, George Ch, Howard-Thompson A, Heidel R E. Comparing Team Based and Mixed Active-Learning Methods in an Ambulatory Care Elective Course. *American Journal of Pharmaceutical Education* 2010; 74 (9):160.
- Doymus K. teaching chemical equilibrium with the jigsaw. *Res Sci Educ*. 2008.38:246-260
- Bagheri M, azizi SH, Karimi Moonaghi H, mazlom SR, Noruzi HM. The effect of two teaching methods on nursing and anesthesiology student's Learning and satisfaction in basic concepts of Fundamental Course lessons: jigsaw and feedback. A Thesis Presented for the Master of Sciences Degree in nursing education. 2016.