



ORIGINAL RESEARCH PAPER

Nursing

IMPLEMENTATION AND FEEDBACK ANALYSIS OF JIGSAW ACTIVE LEARNING METHOD AMONG NURSING STUDENTS: ACTION RESEARCH STUDY

KEY WORDS: Active Learning; Jigsaw based Learning; Nursing students; soft skills; Student performance.

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ABSTRACT

BACKGROUND OF THE STUDY: Despite the advent of online and mobile technologies, teaching and learning in institutions of higher learning has not drastically changed in decades, Pedagogies often ardently remain the same. Making the teaching and learning strategies more students friendly has helped to retain student's attention and instil in them the interest to learn and perform better. Jigsaw Technique is one of the cooperative learning technique in which students equally participate, prepare and lead a group.

OBJECTIVE: To investigate the effect of jigsaw-based cooperative learning method on students' performance & determine the students satisfaction and feedback towards this type of cooperative learning.

DESIGN: Action Research-Quasi-Experimental Design,

SETTINGS: Selected Nursing College, Mumbai,

PARTICIPANTS: Twenty Eight 3rd year B.sc Nursing students.

METHODS: Participants were selected by purposive sampling technique. The action plan of Jigsaw was carried out in the classroom. Post intervention knowledge, satisfaction and feedback of students were taken using Semi structured questionnaire and rating scale.

RESULTS: The calculated p value (13.21) was more than the table value (1.70) at 0.05 level of significance, hence research hypothesis was accepted. This shows that Jigsaw technique is an effective way of learning. Feedback analysis showed that student developed or improved various skills such as enhancing communication (92.86%), analytical ability (82.14%), motivation (92.86%), enhanced skills (96.43%), teamwork (96.43%), problem solving (89.29%), overcome shyness (92.86%), teaching skills (100%).Satisfaction index was highest (93.57) for item 1,emphasizing the fact that students are confident that the knowledge through thus activity could be applied in clinical practice and lowest (75.7) for item 2, indicating that the activity did not help much for in depth coverage of the topic.

CONCLUSION: The findings of the study indicated that jigsaw-based cooperative learning method is effective wherein students were able to develop various soft skills along with knowledge acquisition.

INTRODUCTION

Over past several years active learning methods have come into practice in order to improve the skills of students who are required to adapt to the rapidly evolving world in which we live. The basic difference between the active learning method and traditional teaching style is that: active learning methods are student centric whereas traditional teaching methods are teacher centric. Student attention or involvement can be achieved by adapting active learning methods to serve the purpose of learning.

A research study analysed the source of stress among the nursing students and one of them was academic overload and poor performances in examination. The professional college administration and faculties have expressed increased concern over the student disengagement and lack of interest during the sessions. Research studies have revealed that collegiate students who are adult learners expect challenges and more active involving sessions but often dismayed and feel detached with the regular monotonous lectures. Nursing Faculty needs to plan their class teachings with more active teaching methods ensuring thorough participation of students which would trigger the interest in the student to be more attentive. The more attentive the student is the more concepts are learnt which improves their academic performances.

A cross sectional study conducted in Spain showed a total of 89.6% of nursing students under 22years believed that the Jigsaw technique helped them to develop teamwork, while this figure was 79.6% in older students. Nursing students also believed it helped them to work independently, with differences according to age, 79.7% and 58% respectively (p=0.010).

Jigsaw learning helps the students to create peer support, expand deep thinking and perception with their group members. It provides equal opportunities to engage in thinking and problem solving.. Hence the investigator planned to conduct a action research study using Jigsaw technique as an intervention to keep the class more engaging and improve the students' academic performances.

METHODS

Primary objective:

To investigate the effect of jigsaw-based cooperative learning method on students' performance & determine the Students satisfaction & feedback towards this type of cooperative learning.

Based on these objectives, the study addressed the following specific research questions:

- Will the students perform better using the jigsaw-based cooperative teaching method?
- What is the student's satisfaction index towards using the jigsaw- based cooperative learning method?

RESEARCH DESIGN:

The research design used in the study is Action Research, Quasi-Experimental Design. One group pre test – post test method was used. Here the selected participants for the Pre test were given the questionnaire to assess the knowledge on Breastfeeding after attending a regular non-interactive lecture and the same group was offered the same questionnaire after they participated in the Jigsaw technique to learn the same topic.

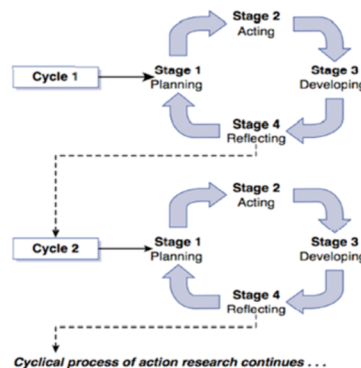


Fig 1: Action Research Process (Source: Mertler & Charles 2011)

The design of this current study employs the use of an action research cycle as shown in Fig 1. The action research is carried out in a cyclic manner, consisting of four different stages. 1) Planning for the action stage by using the information gained such as problems in teaching & learning. 2) Acting on planned lesson. 3) Collecting and analysing the data collected. 4) reflecting on the outcome of the planned lesson by looking at the benefits and possible problems. The summary of the action research process in the present study can be seen in Fig 2

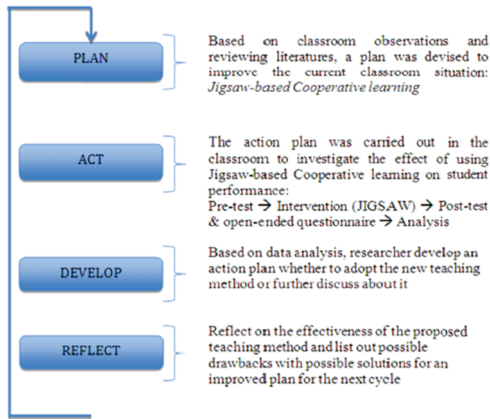
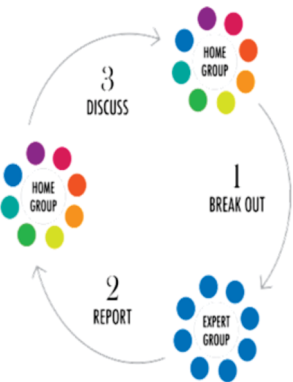


Fig 2: Summary of Applied Action Research Process (Nur Hafizah Azmin,2015)

Setting: The study was conducted at the selected College of Nursing, Mumbai

Sample Size and Sampling technique: The sample size chosen for the study was 28 through purposive sampling



Step 1: The Samples were divided into 4 "Expert Groups" with 7 samples in it.

Step 2: One sample in each group who has sound academic performance was appointed as the group leader to lead the group.

Step 3: The concepts on breast feeding were divided into 7 different segments like Physiology of lactation, Advantages, Disadvantages, technique & Positions of breastfeeding, difficulties in breast feeding, Composition of breast milk and its comparison with other milk, Role of nurse. **Figure 3:** Procedure

Step 4: Assigned each student in the expert group to learn about different topics related to the concepts of Breastfeeding. The groups were instructed to prepare the topic well, read them well, do extra reading than textual notes but at the same time to prepare simple enough to teach as well as make other students learn faster.

The assigned students were expected to shoulder the responsibility of preparing that topic well.

Step 5: Ample time was given for students to familiarize the concepts. Students were instructed not to memorize instead prepare with understanding. A day was fixed to organize the Jigsaw classroom. Students initially discussed their topics in their parent groups. Each student explained and presented their prepared topic.

Step6: Then the students with similar topics made a group and discussed their topics. Each student shared their acquired knowledge on their topics. The others noted down additional points.

Step 7: Students then returned to their expert groups and once again shared their topics having new points. The investigator who was the teacher floated between groups and facilitated the whole process. After a week, post test was conducted and student feedback was taken.

Tool: The tool used was a semi structured questionnaire. It consisted of 25 questions related to the concept of Breastfeeding to assess the knowledge. Feedback from students about the various aspects of the learning activity was taken using a Likert scale.

RESULTS

The Post test Knowledge mean value 18.03 was more than the pre test value 9.96. The calculated p value (13.21) was more than the table value (1.70) at 0.05 level of significance, hence research hypothesis was accepted. This shows that Jigsaw technique is an effective way of learning. Feedback analysis showed that student developed or improved various skills such as enhancing communication (92.86%), analytical ability (82.14%), motivation (92.86%), enhanced skills (96.43%), teamwork (96.43%), problem solving (89.29%), overcome shyness (92.86%), teaching skills (100%).

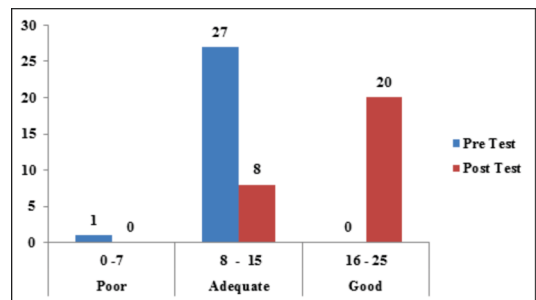


Figure 4: Clustered bar diagram showing frequency distribution of knowledge scores pre and post intervention

The satisfaction index for each item was calculated using the following formula [Leyva-Moral J.M., Riu Camps M. (2016)]:

$$\frac{[(n1 * 1) + (n2 * 2) + (n4 * 4) + (n5 * 5)] * 20}{(n1 + n2 + n4 + n5)}$$

Where, n is the total number of students gaining the score mentioned in the subscript for that particular item. The scores were rated on a 1–100 satisfaction index scale. Satisfaction index was highest (93.57) for item 1, emphasizing the fact that students are confident that the knowledge through this activity could be applied in clinical practice and lowest (75.7) for item 2, indicating that the activity did not help much for in depth coverage of the topic.

Particulars	Satisfaction index	Strongly Disagree	Disagree	Uncertain	agree	strongly agree
1.The activity was useful in comprehending the given topic.	92.14285714	17	11	0	0	0
2 The activity enabled in-depth coverage of the topic.	75.71428571	4	16	7	0	1
3 The activity helped in enhancing communication skills.	91.42857143	18	8	2	0	0
4 A thorough discussion on the topics increased analytical ability.	78.57142857	4	19	4	1	0

5 The activity helped in overcoming shyness and hesitation in the class.	83.57142857	8	18	1	1	0
6 This form of exercise should be incorporated for all the topics in physiology.	80.71428571	7	16	4	1	0
7 The exercise ingrained teaching skills in the participants.	87.14285714	10	18	0	0	0
8 You are confident that this knowledge could be applied in clinical practice.	93.57142857	19	9	0	0	0
9 The exercise was enjoyable.	90.71428571	16	11	1	0	0
10 This is an effective way of learning.	83.57142857	9	16	2	1	0

DISCUSSION

Present study findings is supported by study “The Jigsaw effect: Impact of Jigsaw learning technique on nursing students to learn the concepts of normal labor” conducted by Ms. Sumitra et.al at St.Luke’s Hospital’s College of Nursing , Shrirampur (2017) wherein the results showed significant difference between pre test 19 (47.5%) and post test knowledge score 36 (90.0%) at (p value) 0.05 level, analyzed by paired ‘t’ test and concluded that the Jigsaw Learning method proved to be an effective educational learning tool for nursing students.

Similar Exploratory Brunei Case Study “Effect of the Jigsaw-Based Cooperative Learning Method on Student Performance in the General Certificate of Education Advanced-Level Psychology” conducted by Nur Hafizah Azmin at darussalam (2016) showed a significant difference between pretest scores {(M = 52.500, SD = 14.90) and post test scores (M = 80.000, SD = 16.90) ; t(df=28)=4.730, p<0.01}.

CONCLUSION

Nonetheless, literature search could not result in any published articles on the use of Jigsaw method for teaching on breast feeding/Lactation. The positive feedback from the students has encouraged us to extend this mode of teaching-learning to other topics as well.

Knowledge, team work and communication skills are keys for being a successful registered nurse. Thus the present study facilitated the students to comprehend better, improve their analytical abilities and hone their communication skills.

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2. Conflict of Interest: No potential conflicts existed during the study.

3. Ethical statements: All procedures followed were in accordance with the ethical standards. Informed consent was obtained from all patients for being included in the study

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