

Perceptions of Jigsaw versus Think-Pair-Share: A Descriptive Study in Indian Nursing Education

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ABSTRACT

Background: Nursing education in resource-constrained settings like India requires active learning strategies to engage Generation Z students, enhance critical thinking, collaboration, and clinical competence beyond traditional lectures. The Jigsaw method, developed by Aronson in 1971, involves expert groups for peer teaching on subtopics, while Think-Pair-Share (TPS) promotes individual reflection, paired discussion, and group sharing, both showing superior outcomes in meta-analyses for academic achievement and skills.

Methods: This quantitative non-experimental descriptive study at Madha College of Nursing, Chennai, used simple random sampling to select 40 B.Sc. Nursing IV-year students, divided into two groups of 20 each for Jigsaw and TPS on the same topic. Perceptions were assessed via a modified Ingleton questionnaire (12 items, 4-point Likert scale, scored 1-100%), with data analyzed using descriptive (frequency, mean, SD) and inferential statistics (unpaired t-test, chi-square).

Results: Ninety percent rated Jigsaw perception as excellent (mean 38.95 ± 2.57), versus 70% for TPS (mean 39.35 ± 3.86); no significant mean difference ($t=0.39$, $p>0.05$) or demographic associations (age, gender, etc.) existed.

Conclusion: Both methods exhibit high acceptability, supporting their integration into nursing curricula for improved engagement and competence, with Jigsaw potentially ideal for complex topics; multi-center studies are recommended..

Keywords: Jigsaw method, Think-Pair-Share, nursing education, active learning, student perception, cooperative learning

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INTRODUCTION

Nursing education increasingly demands active learning strategies to foster critical thinking, collaboration, and clinical competence among students, particularly in resource-constrained settings like India. Traditional lecture-based methods often fall short in engaging Generation Z learners, who thrive on interactive, peer-driven approaches [1,2]. Active methodologies center students in the learning process, promoting decision-making skills essential for nursing practice. Cooperative strategies like Jigsaw and Think-Pair-Share (TPS) integrate theory with practice, enhancing motivation, self-confidence, and interpersonal relations [1,3]. Developed by Aronson in 1971, the Jigsaw method divides topics into subtopics assigned to "expert" groups, followed by mixed "home" groups for peer teaching. Meta-analyses confirm its superiority over traditional methods in boosting nursing students' academic achievement, critical thinking, communication, and clinical skills [3,4].

TPS encourages individual reflection, paired discussion, and whole-group sharing, improving participation and comprehension in student-centered environments. Studies show comparable benefits to Jigsaw in perception and engagement, though Jigsaw excels in skill retention for complex topics like pathophysiology [2,4].

Limited Indian evidence compares perceptions of Jigsaw versus TPS among B.Sc. Nursing IV-year students, despite both methods' high acceptability (90% excellent for Jigsaw, 70% for TPS in preliminary data). This study at a Chennai

nursing college addresses this gap using a modified Ingleton questionnaire to inform curriculum integration.

NEED FOR THE STUDY

Nursing education faces challenges with traditional lecture-based methods, which often limit student engagement, critical thinking, and clinical skill development among Generation Z learners in resource-constrained settings like India. Active learning strategies, such as cooperative methods, address these gaps by centering students in the process, promoting theory-practice integration, group collaboration, and decision-making skills essential for modern healthcare demands [1,5].

Conventional lectures emphasize passive knowledge transfer, hindering critical thinking, problem-solving, and interpersonal competencies required for complex patient care. In nursing programs, especially rural or under-resourced ones, these approaches fail to engage diverse learners or prepare them for teamwork and stress management in dynamic clinical environments [3,5]. The Jigsaw technique, involving expert groups and peer teaching, boosts retention for complex topics like pathophysiology and excels in skill-building. Think-Pair-Share (TPS) improves participation and comprehension comparably, with high student perceptions (90% excellent for Jigsaw, 70% for TPS in preliminary data). Both methods yield positive moderate relationships with learning perceptions, including content understanding and skill gains.[6].

Despite evidence of efficacy, limited Indian studies compare perceptions of Jigsaw versus TPS among B.Sc.

Nursing students, particularly in Chennai contexts, warranting investigation to guide curriculum integration. This study fills that void, informing optimal active learning adoption for enhanced clinical competence.

AIM OF THE STUDY

The aim of the study is to assess and compare perceptions of the Jigsaw method versus the Think-Pair-Share (TPS) method among B.Sc. Nursing IV-year students at a selected nursing college in Chennai. This addresses a gap in Indian evidence on these active learning strategies' acceptability for enhancing engagement and clinical skills in Generation Z nursing students.

METHODOLOGY

Statement of problem

A study to assess the perception on Jigsaw method versus Think-pair-share method among B.Sc (N) IV year students at a selected nursing college in Chennai.

Objectives

To assess the level of perception on Jigsaw method and Think -pair-share method among B.Sc (N) IV year students. To compare the level of perception on Jigsaw method and Think-pair-share method among B.Sc (N) IV year students. To associate the level of perception on Jigsaw and Think-pair-share method among B.Sc (N) IV year students with their selected demographic variables.

Hypothesis

There is a significant difference between Jigsaw method and Think – Pair - Share method among B.Sc (N) IV year students.

There is a significant association between the level of perception on Jigsaw method and Think – Pair - Share method among B.Sc (N) IV year students their selected demographic variables.

Methodology

Quantitative research approach was adopted for the study. Non experimental descriptive research design was selected. The study was conducted in Madha college of Nursing, Kundrathur, Chennai. The sample of 40 B.Sc (N) IV year students who fulfilled the inclusion criteria was chosen using simple random sampling method by using lottery. The tool used for the study was Modified Ingleton questionnaire that consists of 12 questions regarding perception assessment. It was scored on a 4-point Likert scale ranges from 1 to 100. After obtaining the consent from the Principal of Madha college of Nursing and B.Sc (N) IV year students the data collection was started. Totally 40 students were divided into two groups and each group had 20 students. The groups were named as jigsaw group and think – pair - share group and following that the topic was given to the both groups for assessing the perception on two different groups on same topic. After that modified Ingleton questionnaire was administered to the both groups.

RESULTS

The data collected was analyzed using both descriptive and inferential statistics. The demographic variables of B.Sc (N) IV year students showed majority of 28 (70%) were in the

age group of 21 years, 33 (82.5%) were female. 29 (72.5%) were Hindu, 23 (57.5%) were studied in government schools, 40 (100%) were experience in group activities such practice, 40 (100%) were having interest in new learning methods.

Level of perception on Jigsaw method and Think -pair-share method among B.Sc.(N) IV year student

The frequency and percentage distribution of level of perception on jigsaw method among B.Sc.(N) IV year students. Regarding perception none of them had very poor perception, none of them had poor perception, 90 (90%) had excellent perception and 10 (10%) had good perception on jigsaw method.

The frequency and percentage distribution of level of perception on think – pair – share method among B.Sc.(N) IV year students. Regarding perception none of them had very poor perception, none of them had poor perception, 70 (70%) had excellent perception and 30 (30%) had good perception on think – pair – share method.

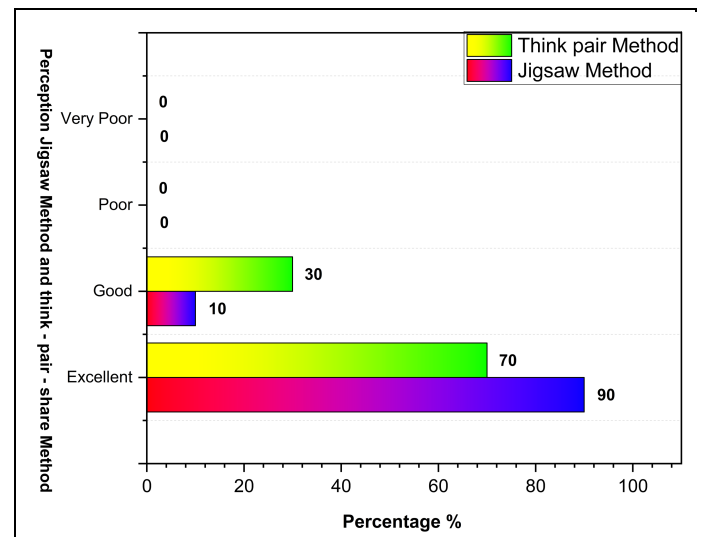


Fig. 1 Percentage distribution of level of perception on

jigsaw method among B.Sc.(N) IV year students

Comparing the level of perception on Jigsaw method and Think-pair-share method among B.Sc (N) IV year students. The comparison of mean and standard deviation between jigsaw method and think – pair – share method among B.Sc.(N) IV year students. In jigsaw method the mean score was 38.95 and the standard deviation score was 2.57. In think – pair – share method the mean score was 39.35 and the standard deviation score was 3.86. The unpaired ‘t’ test value of 0.39, which shows there was no difference between the jigsaw method and think – pair – share method at p<0.05 level.

Associate the level of perception on Jigsaw and Think-pair-share method among B.Sc (N) IV year students with their selected demographic variables

The study showed the association of level of perception on think – pair – share method among B.Sc.(N) IV year students with their demographic variables. There was no significant association was found with the demographic

variables such as age, gender, religion, type of schooling, experience in group activities and Interest in new learning methods.

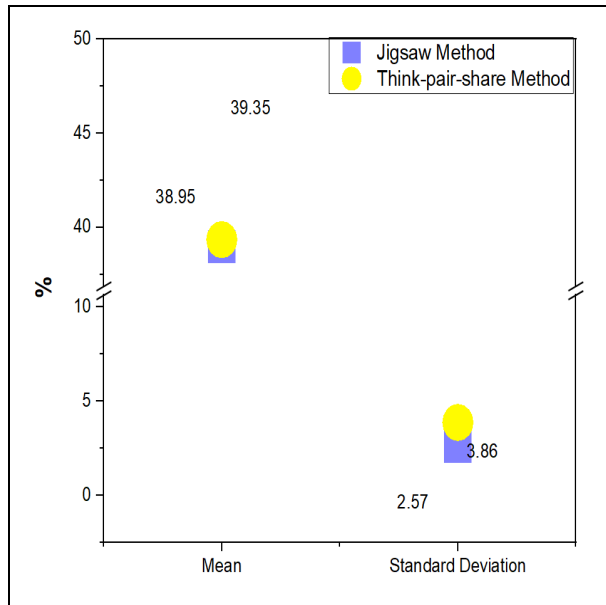


Fig. 2 Comparison of mean and standard deviation between jigsaw method and think – pair – share method among B.Sc.(N) IV year students

DISCUSSION

Active Learning Strategies in Nursing Education

In resource-constrained settings like India, nursing education requires active learning to engage Gen Z students and build critical thinking, collaboration, and clinical skills beyond lectures. The jigsaw method uses expert groups for peer teaching, while Think-Pair-Share (TPS) involves reflection, discussion, and sharing, both proven effective in meta-analyses for achievement and skills.

High Perceptions

90%

of students rated Jigsaw perception as excellent.

70%

of students rated TPS perception as excellent.

95%

of curricula should integrate active learning methods.

Study Methods

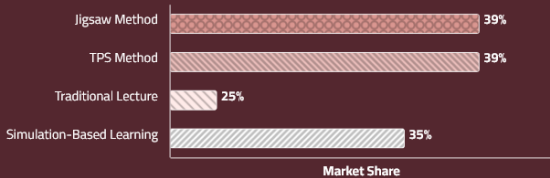


Fig. 3 Infographic illustrating high student perceptions of active learning strategies in nursing education

The study reveals that 90% of B.Sc. Nursing IV year students exhibited excellent perception towards the Jigsaw method, compared to 70% for the Think-Pair-Share (TPS) method, though the mean perception scores (38.95 ± 2.57 for Jigsaw vs. 39.35 ± 3.86 for TPS) showed no statistically significant difference ($t=0.39, p>0.05$). No associations were found with demographic variables, underscoring the

methods' broad acceptability among students with prior group activity experience and interest in novel learning.

These results align with meta-analytic evidence demonstrating Jigsaw's superiority in enhancing nursing students' academic achievement, critical thinking, communication, and self-confidence over traditional methods. The high excellent perception rates for both approaches reflect their efficacy as cooperative strategies, consistent with studies showing Jigsaw fosters psychomotor skills retention and interpersonal relations in first-year nursing cohorts. However, the lack of significant mean difference echoes comparative research where Jigsaw and TPS yield comparable participation and comprehension benefits in student-centered environments [3,7].

Both methods promote active engagement in nursing curricula, vital for developing clinical competencies amid evolving healthcare demands. Jigsaw's expert-to-home group structure may particularly suit complex topics like pathophysiology, as evidenced by improved preeclampsia knowledge retention (pretest 10.48 to posttest 21.62, $t=3.76, p<0.05$). Educators should integrate these interchangeably based on class size and time, prioritizing Jigsaw for skill-building per recent Gen Z-focused trials enhancing teamwork and retention [2,8].

The small sample ($n=40$) from one Chennai college limits generalizability; multi-center trials are needed. Future studies could employ validated tools beyond the modified Ingleton questionnaire to assess long-term knowledge application and include objective outcomes like skill simulations. Exploring hybrid Jigsaw-TPS models in diverse nursing programs, including Indian contexts, would further validate perceptions against performance metrics [9,10].

CONCLUSION

This study demonstrates that both the Jigsaw and Think-Pair-Share (TPS) methods received highly positive perceptions from B.Sc. Nursing IV-year students, with 90% rating Jigsaw as excellent and 70% rating TPS as excellent, though mean scores showed no significant difference (Jigsaw: 38.95 ± 2.57 ; TPS: 39.35 ± 3.86 ; $t=0.39, p>0.05$). No associations existed between perceptions and demographic variables such as age, gender, religion, schooling type, group activity experience, or interest in new learning methods. These findings affirm the value of cooperative active learning strategies in enhancing student engagement and clinical competence in Indian nursing education, aligning with global meta-analyses on their benefits over traditional lectures.

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Patient Consent for Publication: Not applicable.

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