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The Effect of Interactive Learning Environment on Maternity Nursing Students' Satisfaction and Self confidence in The Clinical Setting

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Abstract

Background The jigsaw teaching technique is an interactive and cooperative learning method that encourages student participation in the learning process and improves academic motivation. **Aim:** To investigate the effect of interactive learning environment on maternity nursing students' Satisfaction and Self confidence in The Clinical Setting**. Research design:** A quasi-experimental research design was used to conduct this study. **Setting:** The study was carried out at the Maternal and Neonatal Health Nursing Department, Faculty of Nursing, Al-Fayoum University, Egypt. **Subjects:** A convenient sample of 200 third-year maternity nursing students was recruited and divided into a control group (n=100) and a study group (n=100). **Tools**: Three tools were used for data collection in the present study. **Tool I:** A Structured interviewing questionnaire: Included demographic data as; age, gender, and previous educational level. **Tool II:** Students' satisfaction scale **Tool III** Students' Self-Confidence Scale**: Results:** The findings revealed that students in the study group showed a statistical significance higher score of satisfaction and self-confidence scale compared to students in the control group, who were taught using the traditional method. **Conclusion:** The study concluded that the jigsaw learning strategy significantly improves maternity nursing students' satisfaction and self-confidence and the research hypothesis could be accepted. **Recommendation:** The study recommends applying the jigsaw learning strategy as a teaching method in all nursing academic courses, both theory and practice.

Keywords: *Jigsaw learning strategy – Maternity nursing students- Students' satisfaction- Students' self-confidence.*

Introduction:

Nurses play a crucial role in healthcare teams, and with increasing demands, nurse shortages, and resource limitations, they must be at the forefront of innovation to improve patient care quality and safety. To promote nursing innovation, learning programs that foster nurses' creativity and capability to innovate are essential. Learning programs that provide a platform for interaction between individuals and the environment, enabling the transformation of experiences into new knowledge, can cultivate learners' creativity ***(Kamonmarttayakul et al., 2021).***

Undergraduate nursing students often experience severe anxiety during clinical practicums, which can negatively impact their nursing career development. The existence of clinical anxiety and lack of confidence without a long-lasting, evidence-based educational solution is a serious concern. Gaps between theory and practice are common in nursing clinical education and are challenging to address through traditional lectures ***(Yeh & Yang, 2024).***

Nursing education has undergone a paradigm shift, emphasizing cooperative learning and concept-teaching over content-teaching. Cooperative learning has been positively perceived by students in clinical settings, as it helps reduce learning anxiety, increase self-confidence and task efficiency, and expand clinical experience. Nursing students tend to prefer collaborative, interactive learning, and cooperative learning experiences that integrate academic and clinical perspectives have been shown to benefit both the technical and assessment skills of nursing students ***(Zhang & Chen, 2021).***

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Nursing student satisfaction refers to a positive or pleasurable feeling that arises from the experiences and outcomes that nursing students have encountered. While, nursing student self-confidence is characterized by their willingness to complete tasks and skills, select appropriate and successful approaches to problem-solving, and make effective decisions. Notably, the incorporation of interactive teaching methods in both the classroom and clinical settings can help to bolster nursing students' confidence in their knowledge and abilities. This increased self-confidence is an important outcome, as it empowers nursing students to navigate their educational and professional experiences with greater proficiency and composure ***(Attia et al.,2021).***

The shift towards cooperative learning approaches in nursing education is driven by factors like rapid advancements in science and technology, the dynamic knowledge landscape, and the changing healthcare system. These methods actively engage students, foster self-confidence, problem-solving, communication, and critical thinking skills, and encourage students to take an active role in their own learning journey ***(Ozkan, & Uslusoy, 2024).***

Jigsaw is a cooperative learning strategy, where each student of a “Home” group (a small group of students) chooses or is allocated a sub-topic related to the main topic to research. All the students from different “Home” groups with the same sub-topic assemble together to form an “Expert” group, where they research, discuss, and specialize in the given sub-topic. After mastering the sub-topic, the student returns from the “Expert” group” to the "Home" group and teach their allocated sub-topics to ensure holistic understanding of the main topic to the group members during the activity ***(Jeppu et al., 2023).***

The Jigsaw teaching method is an interactive approach where learners in small groups work together to achieve a common goal: learning for themselves and other group members. Studies have reported the positive effects of Jigsaw and high learner satisfaction. Jigsaw teaching improves learning, enhances knowledge, and boosts student performance by creating interest and motivation, facilitating effective communication, and promoting deep learning ***(Ahiakwo et al.,2023).***

The Jigsaw Strategy also promotes a learning environment where students enjoy learning. Another positive aspect of the Jigsaw Classroom Strategy is its ability to improve self-confidence. Self-confidence is a feeling of trust in one's abilities, qualities, and judgment, and the Jigsaw Strategy has been shown to boost students' confidence in sharing ideas and dealing with activities ***(Madrid & Deri, 2024).***

The clinical teaching role of the nurse educator encompasses guidance, support, stimulation and facilitation of learning in the range of practice settings. In the process, undergraduate nursing students get the opportunity to practice nursing care, acquire the necessary competencies, internalize professional values and develop their interpersonal skills. One of the responsibilities of the nurse educator is to convey theoretical knowledge to the nursing students in clinical practice, thus ensuring integration of theory and practice. **(Gcawu & van Rooyen, 2022).**

Significance of the study:

The dominant educational method at most universities is in the form of a lecture that 80% of educational content is forgotten within 8 weeks. Teachers like to use lectures because the applicability in large classes or due to a large number of educational topics or limited time. However, lecture is the one-way teaching and can quickly become boring and prevent the effective learning of students. The presence of qualified, competent, cooperative and interactive learning methods for maternity nursing students will make them deliver high quality maternity care, where nurses can be invaluable in preventing harm to mothers and improving the pregnancy outcomes. All of that requires obtaining high levels of knowledge and skills during the nursing academic period as the world today needs graduates who think critically and apply skills in complex patient care situations. ***(Abd El Aliem., et al 2019)***

Therefore, the demands for changing the traditional teaching strategies have escalated in the last decades to enable the learners to cope with these challenges and applying new teaching methods to improve critical thinking skills, problem-solving and widely acknowledge the students. That will be reflected in students' achievements and satisfaction and subsequently on the rank of the faculty among the other nursing faculties. Considering the lack of Egyptian studies that addressed jigsaw strategy in maternity specialty, therefore this study will be conducted to evaluate the effect of the

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utilization of cooperative jigsaw learning strategy on maternity nursing students' achievements, self-confidence and satisfaction.

Aim of study:

This study aimed to investigate the effect of an interactive learning environment on maternity nursing students' self-confidence and satisfaction in the clinical setting.

Research Hypothesis:

The current study hypothesized that the interactive jigsaw learning environment would have a more positive effect on maternity nursing students' self-confidence and satisfaction compared to the traditional teaching method in the clinical setting.

Subjects and Methods:

I. Technical Item:

Research design:

A quasi-experimental research design was used.

Setting:

The study was conducted at the Maternal and Neonatal Health Nursing Department, Faculty of Nursing, Al-Fayoum University, Egypt.

Type of Sample: A convenient sample of 200 nursing students was recruited from the Maternal & Neonatal Heath Nursing in faculty of nursing, Al Fayoum university in which categorized into two groups as the following:

1st group" control group" included all nursing students (100 students) in maternity and neonatal health nursing course in the second semester for the academic year (2022-2023) and those were already subjected to traditional educational method during labor clinical area at the lab.

2nd group "study group" included all nursing students (100 students) in maternity and neonatal health nursing course in the first semester for the academic year (2023-2024) and those were already subjected to utilize cooperative jigsaw learning strategy during labor clinical area at the lab.

Tools for data collection:

Three tools were used for data collection in the present study

Tool I: Structured Interviewing Questionnaire:

Developed by the researcher to evaluate students' personal characteristics, such as age, gender, residence, and previous level of education It took 5 minutes to be filled by students.

Tool II: Students' satisfaction scale:

This tool was designed by researcher, after reviewing the related literature and references from **(Levett- a Jones et al 2011; Ashrafalsadat, 2014& Tawiye et al., 2021).** and it was consisted of 24 items and included four parts as the following:

Part I: Satisfaction with facilitator (researchers) / educator and included 6 items (1-6).

Part II: Satisfaction with teaching method and included 6 items (7-12).

Part III: Satisfaction with teaching /training strategies and included 8 items (13-20).

Part IV: Satisfaction with teaching materials / resources and included 4 items (21-24).

Scoring system for Tool II:

Each item was scored on a 5-point Likert scale (1 = not at all, 2 = not satisfied, 3 = moderately satisfied, 4 = satisfied, 5 = very satisfied). Students considered satisfied with teaching process if students in the current total score was more than or equal 60%.

Tool III: Students' Self-Confidence Scale:

It was adapted from **(Kaliyaperumal., et al 2021)** to assess students' self-confidence in learning towards the method of teaching either traditional or jigsaw method of interactive learning at the end of the study. It included 8 statements, each item was scored on a 5-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree).

Supportive material:

"The booklet provided to the study group and instructions on the Jigsaw strategy as a teaching method. It covered the concept, objectives, advantages, and steps of the Jigsaw strategy. The researcher developed this booklet based on a review of the literature, adapting content from sources such as (***Anderson et al.,2022; Nasrabadi et la.,2021 & Tinmaz &***

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Ozturk, 2022) The purpose of this booklet was to help the students in the study group who would be applying the Jigsaw teaching technique to increase their level of understanding about the Jigsaw technique and how to effectively implement it. "

Validity:

The data collection tools were reviewed by a panel of three experts in maternal and newborn health nursing field to test the face and content validity. Each of the experts was asked to examine tools for content coverage, relevance, understanding, comprehensiveness, wording, length, format and overall appearance. Modification was done based on the comments.

Reliability:

Reliability was done by Cronbach's Alpha Coefficient Test which revealed that each item of the utilized tools consisted relatively homogeneous items

Questionnaire sections	number of questions	Cronbach's alpha	p-value
Students' satisfaction	24	0.94	<0.001
Students' self confidence	8	0.90	<0.001

This table show reliability in satisfaction, self-confidence when alpha Cronbach was >0.5

Ethical consideration:

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee Faculty of Nursing Helwan University (25-8-2022). The study methodology is safe for the students, and the media used in the study is related to the subject and built on scientific and ethical considerations. As well, the study environment motivates productive learning and the students announced their approval to participate

II. Operational Item:

Preparatory phase:

Review was done of the current, local and international related literature about various aspect of the problem using books, periodicals journal, magazines and internet Then the tools were reviewed by jury doctors Then tools were tested for being feasible and applicable through a pilot study

Pilot Study:

The total sample size for this study was 200 maternity nursing students. Prior to the main study, a pilot study was conducted on 10% of the sample, which equated to 20 students. The purpose of the pilot study was to examine the clarity of the questions, as well as the feasibility and applicability of the data collection tools. Additionally, the pilot study helped determine the time required to complete the study instruments. Based on the results of the pilot study, no modifications were deemed necessary. Consequently, the subjects who participated in the pilot study were included in the final sample for the main study.

Field work:

The study was conducted over the course of one year, from February 2023 to January 2024, during which relevant data was collected. Data collection occurred twice a week, from 9:00 a.m. to 2:00 p.m., for two weeks per rotation. The study was carried out in three phases: planning, implementation, and evaluation.

Assessment and Planning Phase

This phase began with gathering information on the jigsaw teaching strategy, the main objectives, and the techniques involved. Study materials and tools were developed based on textbooks, research articles, websites, and other references.

A. Implementation phase: for control group

- The control group consisted of 100 second-term maternity nursing students in 2022-2023 academic year, who received traditional teaching on the labor clinical area at the lab.
- The researcher first introduced herself and explained the study's purpose, and assured the participants that their participation would not affect their semester work or grades and approval was taken orally.
- The students were divided into four groups, each consisting of 25 students, for two weeks, twice a day per week (9 am - 2 pm).

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- The researcher presented the topics and procedures of the area using the traditional teaching method at the lab with the control group, followed by group discussions to clarify any content points.
- At the beginning of the area, the students completed the Structured Interviewing Questionnaire Tool (I). and at the end of the area the students of control group completed the Students' Satisfaction Scale (Tool II), and the Students' Self-Confidence Scale (Tool III).

B. Implementation phase for study group:

- The study group consisted of 100 first-term maternity nursing students in the 2023-2024 academic year, who received jigsaw learning on the labor clinical area at the lab with each rotation included four sessions.
- Implementation Phase for the study group included four teaching sessions through 2 weeks as the following consequence:

Session 1: Orientation:

- The students attended a one-hour orientation session one day before the clinical days.
- During the session, the researcher introduced the jigsaw strategy, including its advantages, steps, and importance, and distributed information booklets to the students.
- The researcher also provided an overview of the labor competency subtopics to be addressed and explained the students' roles for the following day.
- At the beginning of the labor area, the researcher administered the Structured Interviewing Questionnaire (Tool I).
- The labor area topics and procedures were divided into 5 different subtopics (pieces).
- The class of 25 students was divided into 5 heterogeneous home groups (A, B, C, D, and E) of 5 students each, considering academic achievement levels and gender diversity and assigned a team leader and recorder for each group.
- Each student in the home groups was assigned a specific subtopic to study and prepare.
- Subtopics were assigned to individual students in the home group, and relevant study material was provided.

Session 2: Expert Group Discussion

- The students who have the same number (A1, B1, C1, D1, E1) with same task in all the home groups, met together and formed which called expert groups **table (1)**. They worked together, discussed the task with each other used all available resources, shared their responses, and looked for errors in their work.
- The researcher ensured that all information of the prepared subtopics by the students was accurate and it could be corrected before the students started their discussion After a while, each student felt sure that they could explain the task to their home groups.
- The researcher ensured that each student fully participated in preparing and mastering their assigned task, becoming a true "expert" on that content area.

Table (1): Formation of jigsaw and expert groups:

	Jigsaw groups						**Topics which taught by jigsaw**
Expert groups		(A)	(B)	(C)	(D)	(E)	
	G1	A1	B1	C1	D1	E1	Definitions, factors affecting and signs of true labor, difference between false and true labor and premonitory symptoms of labor
	G2	A2	B2	C2	D2	E2	Nature, phases, characteristics and importance of uterine contraction and stages of labor
	G3	A3	B3	C3	D3	E3	Phases of first stage, signs of second stage of labor, mechanism of labor, signs and mechanism of third stage of labor
	G4	A4	B4	C4	D4	E4	Nursing management during first stage of labor and nursing management during oxytocin administration
	G5	A5	B5	C5	D5	E5	Management of second and third stage of labor and placental examination, immediate newborn care

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Session 3: Jigsaw Group Discussion

- Each member in the expert groups returned to their original home group and presented their assigned subtopic to the other members.
- The researcher observed the process and intervened if any group was having trouble (e.g., a member was dominating or disruptive).

Session 4: Evaluation

- At the end of the labor area, the students of study group completetd the Students' Satisfaction Scale (Tool II), the Students' Self-Confidence Scale (Tool III).

Evaluation Phase:

- The satisfaction, and self-confidence levels of students in both the control group and the study group were evaluated. The impact of the two instructional styles (traditional and jigsaw) was then compared to test the research hypotheses.

III. Administrative design:

An official letter to conduct the study was obtained from the responsible authorities at the Faculty of Nursing Helwan University and was directed to the dean of faculty of nursing and to the head of maternity and neonatal nursing department Al Fayoum university for conducting the study

IV. Statistical analysis:

The collected data were revised, coded, and Statistical presentation and analysis were conducted using the Statistical Package for Social Science (SPSS) version 25. Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data, the arithmetic mean (X) and standard deviation (SD) for quantitative data. chi-square test was used to compare between groups in qualitative, linear correlation coefficient was used for detection of correlation between two quantitative variables in one group.

Degrees of significance of results were considered as follows:

- P-value > 0.05 Not significant (NS)
- P-value ≤ 0.05 Significant (S)
- P-value ≤ 0.01 Highly Significant (HS).

Results:

Table (2): This table showed the demographic characteristics of the studied students. It was found that there was no statistical significance difference regarding sociodemographic characteristics except for age; the mean age among the study and control group was (20.9±0.67) & (21.5±0.64) respectively. Regarding gender 60% of the control group were males versus 58% in study group. In addition, 70% of the control group graduated from secondary school versus 60% among study group.

Table (3): The table illustrated that study group showed a statistical significance high satisfaction level regarding to the teaching methods (100%), and teaching strategies (99%) versus control group teaching methods (41%), and teaching strategies (0%) with p-value <0.001. In addition, all students in study group were satisfied in total satisfaction score with p-value <0. 001. On the other hands both control and study group show no significance difference in satisfaction with p-value >0.05 regarding to facilitator and materials & resources.

Figure (1): This figure illustrated the comparison between control and study groups regarding their self-confidence toward traditional and jigsaw teaching method and indicated that all study group show self-confidence, versus 14% only in control group.

Table (4): The table illustrated that among control group there was no statistical significance correlation between student satisfaction and self-confidence.

Table (5): The table illustrated that among study group there was no significance correlation between student satisfaction and self-confidence.

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Table (2): Distribution of the studied students according to their demographic characteristics (n= 200).

Variables	Control group (n=100)		Study group (n=100)		Test	p-value
	Mean ±SD		Mean ±SD		t-test	
Age (years)	21.5±0.64		20.9±0.67		**6.1**	**<0.001**
Sex	**No.**	**%**	**No.**	**%**	**X^2 test**	
Male	60	60%	58	58%	0.08	0.88
Female	40	40%	42	42%		
Residence						
Rural	58	58%	66	66%	1.4	0.31
Urban	42	42%	34	34%		
Previous Education level						
Secondary	70	70%	60	60%	2.2	0.18
Technical institute of nursing	30	30%	40	40%		

Table (3): Comparison between control and study groups regarding their satisfaction toward traditional and jigsaw teaching method (n=200)

Students' satisfaction scale degree	Control group (n=100)		Study group (n=100)		X^2 test T-test	p-value
	No.	%	No.	%		
Facilitator						
Satisfied	100	100%	99	99%	1	1
Unsatisfied	0	0%	1	1%		
Mean± SD	25.9	2.5	28.2	2.7	-6.09	**<0.001**
Teaching/training Method						
Satisfied	41	41%	100	100%	83.7	**<0.001**
Unsatisfied	59	59%	0	0%		
Mean± SD	18	2.5	27.9	2.9	-25.9	**<0.001**
Teaching /Training strategies						
Satisfied	0	0%	99	99%	196.04	**<0.001**
Unsatisfied	100	100%	1	1%		
Mean± SD	17.5	3.1	35.4	4.9	-30.5	**<0.001**
Teaching materials and resources						
Satisfied	70	70%	81	81%	3.27	0.10
Unsatisfied	30	30%	19	19%		
Mean± SD	13.3	1.6	14.4	1.8	-4.2	**<0.001**

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Total satisfaction score						
Satisfied	61	61%	100	100%	48.4	**<0.001**
Unsatisfied	39	39%	0	0%		
Mean± SD	74.8	5.9	105.9	9	-28.9	**<0.001**

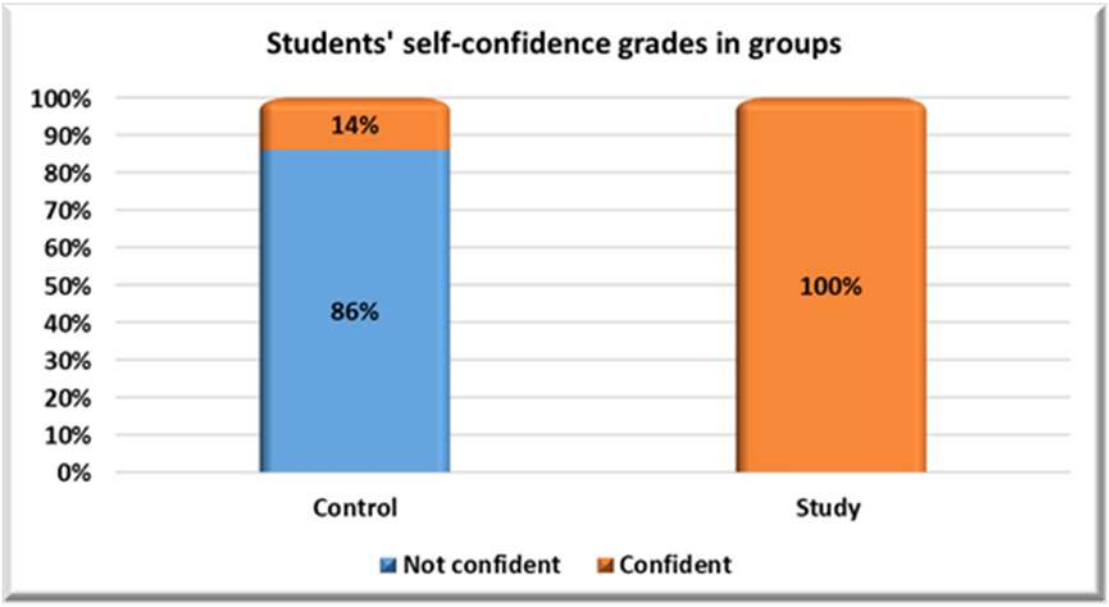

Figure (1): Comparison between control and study groups regarding their self-confidence toward traditional and jigsaw teaching method (n=200)

Table (4): Correlation between students' satisfaction, self confidence among control group

	Total self confidence	
	R	**P-value**
Total satisfaction	-0.03	0.79

Table (5): Correlation between students' satisfaction, self confidence among study group.

	Total self confidence	
	r	**P-value**
Total satisfaction	**0.09**	**0.33**

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Discussion:

Innovative teaching methods and strategies should be used, especially in nursing and health education programs, in line with students' needs. Research has shown that compared to traditional learning methods, active structuring approaches facilitate learning and skill development in nursing educations. The Jigsaw technique is a modern method that enables the creation of a positive learning environment dominated by individual accountability. Previous research on the usage of the Jigsaw technique in health education has shown that this method enhances the self-confidence, communication skills and academic success of students **(Ziyai & Dikmen, 2022).**

The aim of this study was to investigate the effect of an interactive learning environment using the jigsaw learning strategy on maternity nursing students' satisfaction and self-confidence. And the results indicated that the socio-demographic features of the two groups in the study sample were relatively similar. The findings showed that the mean age of the study group was 20.9 years, compared to 21.5 years for the control group. More than half of the studied sample in control and study group were males. In both the control and study groups, three-quarters of the students had a secondary school diploma. This consistent profile of participants helped limit the influence of extraneous factors, which could have interfered with the accuracy of the results.

Regarding the students' satisfaction, the present findings demonstrated a statistically significant difference in the level of student satisfaction between the study group, which was exposed to the Jigsaw learning strategy, and the control group that experienced the traditional teaching approach. The study group exhibited higher satisfaction scores across various aspects, including the facilitator, teaching methods, the teaching strategy, and the learning materials and resources than the control group. Furthermore, the study group as a whole reported a higher overall satisfaction score compared to the control group.

These results are consistent with the findings from the study conducted **by Amr et al. (2024),** which explored the effectiveness of the Jigsaw teaching technique on the satisfaction and academic achievements of surgical nursing students at the Faculty of Nursing, Sohag University. The study revealed that the majority of the Jigsaw group members expressed a high level of satisfaction with the implementation of the Jigsaw teaching method, and they also demonstrated greater satisfaction with the teaching technique itself compared to the control group.

The current findings also match the study by **Ibrahiem et al. (2020),** conducted at the Faculty of Nursing, Alexandria University. They reported that the majority of the study group was highly satisfied with the jigsaw strategy as a new teaching method. These results also further confirmed by the study of **Divya and Kumari (2021),** which examined the impact of the jigsaw technique on nursing students' knowledge of national health programs. Their findings indicated that the majority of students valued the jigsaw technique more than the lecture method of teaching.

The researcher considers that these parallel findings across multiple nursing studies suggest the jigsaw cooperative learning strategy may be a more engaging, satisfying, and effective instructional method compared to traditional lecture-based teaching for nursing students.

Furthermore, the present study's findings are also in agreement with the study conducted by **Parmar (2020),** who found that students who were trained in Forensic Medicine using the Jigsaw cooperative learning strategy were more satisfied with the strategy compared to those who received instruction using standard or typical teaching techniques.

This result is also compatible with a Chinese study by **Zhou et al. (2022),** which included urologists who participated in a prostate biopsy training course at Peking Union Medical College Hospital. The study finding showed that the trainees in the study group were significantly more satisfied with the Jigsaw method than those in the control group.

From the researcher point of view, the consistent positive findings regarding student satisfaction with the Jigsaw method across these diverse healthcare education specialties, including nursing, , forensic medicine, and urology, provide

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strong evidence for the incorporation of this collaborative learning approach into the curricula of various healthcare professions.

In addition, the current study found that students who were subjected to the cooperative Jigsaw learning strategy exhibited a higher level of self-confidence compared to those who were subjected to the traditional method. A significant statistical difference was present between the two groups in relation to their self-confidence level.

The result of the current study is also supported by the study conducted by **Farrag et al. (2022)** titled "Jigsaw Cooperative Learning Strategy: An Effective Tool for Improving Maternity Nursing Students' Achievement, Retention and Self Confidence", which reported a statistically significant difference in self-confidence between the study and control groups, with the jigsaw group exhibited higher levels of self-confidence compared to the control group.

This result is in congruence with the study conducted by **Ngoma et al. (2023),** which found that the Jigsaw technique appears to improve knowledge and self-confidence among healthcare professionals, including medical students, pharmacy students, biomedical science students, environmental health students, physiotherapy students, and nursing students, in HIV care. Their study reported an average of 31% improvement in clinical confidence and interprofessional education as reported by the learners.

Furthermore, the current finding also matched the findings of the study conducted by **Ng et al. (2020).** Titled "Using the jigsaw teaching method to enhance internal medicine residents' knowledge and attitudes in managing geriatric women's health," this study implemented an interactive workshop that used the Jigsaw teaching method to teach 84 categorical residents of all levels about the diagnosis and management of menopause, osteoporosis, urinary incontinence, and abnormal uterine bleeding. The results indicated that the majority of residents were more likely to report feeling somewhat confident or confident in counseling a patient on women's health issues.

The researcher concludes that these studies collectively suggest that the Jigsaw teaching method has the potential to positively impact not only student satisfaction but also their self-confidence in various healthcare education settings. The collaborative and interactive nature of the Jigsaw technique seems to foster a stronger sense of self-assurance among learners, which is crucial for effective clinical practice and interprofessional collaboration.

The consistency of these findings across different studies and educational contexts indicates the effectiveness of the Jigsaw cooperative learning approach in enhancing various aspects of student learning and development, including satisfaction and self-confidence. These insights hold significant implications for educators and policymakers aiming to design and implement effective teaching strategies that foster the holistic growth of students, especially in healthcare-related fields, to adopt jigsaw teaching technique.

Conclusion:

In the light of the findings of the current study, the current study concluded that Jigsaw learning strategy improves the maternity nursing students' satisfaction and self-confidence, as the students subjected to cooperative jigsaw strategy exhibited more satisfaction and confidence level. This means that the hypothesis of the current study was achieved. In addition, Interactive learning environment such as jigsaw cooperative learning strategy facilitated independence and student-centered learning.

Recommendations:

Based on the findings of this study the following recommendations are derived and suggested:

1. Applying jigsaw learning strategy as a teaching method in all nursing academic courses both theory and practice to achieve learning outcomes that focus on cultivating students' practical capabilities and to make learning more students centered.
2. Training workshops should also be conducted for course planners and educators (faculty staff members) to adapt the jigsaw technique as an innovative teaching and learning strategy.

3. Engaging students in the manipulation of up to-date teaching strategies to improve their cooperation skills and enhance their problem-solving skills and creativity in theory and practice courses

Further research:

1. Further research should be carried out to assess the utility and feasibility of using various models of teaching that meet the learning needs of students and enable achieving nursing learning outcomes
2. The researcher also highlights the need for further research to assess the factors that may influence the success of the Jigsaw approach in diverse educational settings, particularly in nursing education
3. This study should be replicated using larger sample sizes and in different nursing specialties to help generalize the findings.

References:

Abd El Aliem, R. S., Sabry, S. S., & Mohy El-Deen, H. F. (2019). Utilization of jigsaw cooperative learning strategy on maternity nursing students' attitude and achievement. American Journal of Nursing Science, 8(6), 361-370.

Ahiakwo, M. J., Adolphus, T., Omeodu, M. D., & Oduh, V. A. N. (2023). Effect of Jigsaw Learning Strategy on Biology Students' Inclusive Learning Attitude and Achievement in Human Respiratory System: A Small-Scale Study of Government Secondary School Abua, Rivers State. Rivers State University Journal of Science and Mathematics Education, 1(1), 10-20.

Amr, E, A., Mohamed, A, M., Ayed, M, M,A., & El-Berdan, A. G. E. M. (2024). Effectiveness of Jigsaw Teaching Technique on Surgical Nursing Students' Satisfaction and their Academic Achievements. Egyptian Journal of Health Care, 15(2), 574-588.

Anderson, B., Rymer, R., Versaskas, J., Bueter, A., & Masood, M. (2022). Assessing a Modified Jigsaw Technique with Theoretical Triangulation. Journal of Effective Teaching in Higher Education, 5(1), 53-70.

Ashrafalsadat, H. (2014). Nursing students' satisfaction about their field of study. Journal of Advances in Medical Education & Professionalism, 2(2), 82–87.

Attia, H. M., Sayed, S., Metwally, F. G., & Ata, A. (2021). Students' Satisfaction and Self-Confidence with Simulation Training about Nursing Management Skills. Annals of the Romanian Society for Cell Biology,25(4) 2058-2062.

Divya, V., & Kumari, N. (2021). Impact of jigsaw technique on knowledge regarding national health programs among nursing students. Asian Journal of Nursing Education and Research, 11(1), 129-132.

Farrag, R., Ahmed, S., & Nasr, E. S.G. (2022). Jigsaw Cooperative Learning Strategy: An Effective Tool for Improving Maternity Nursing Students' Achievement, Retention and Self Confidence. Egyptian Journal of Health Care, 13(1), 1920-1933.

Gcawu, S. N., & van Rooyen, D. R. (2022). Clinical teaching practices of nurse educators: An integrative literature review. Health SA Gesondheid (Online), 27, 1-9.

Ibrahiem, A, A., & Gohar, E. I. , Fathalla, N.F. (2020). Effect of jigsaw cooperative learning strategy on obstetric nurses' knowledge and information retention of emergency contraceptive methods. Egyptian Journal of Health Care, 11(4), 870-885.

Jeppu, A. K., Kumar, K. A., & Sethi, A. (2023). 'We work together as a group': implications of jigsaw cooperative learning. BMC medical education, 23(1), 734-742.

Kaliyaperumal, R., Raman, V., Kannan, L., & Ali, M. D. (2021). Satisfaction and self-confidence of nursing students with simulation teaching. International Journal of Health Sciences and Research, 11(2), 44-50.

Kamonmarttayakul, K., Boonyoung, N., & Phumdoung, S. (2021). Effectiveness of Modified Hybrid Brainstorming Learning Program in Increasing Innovative Work Behavior and Innovative Idea Performance among Nurses. Trends in Sciences, 18(22), 501-511.

Levett-Jones, T., McCoy, M., Lapkin, S., Noble, D., Hoffman, K., Dempsey, J., & Roche, J. (2011). The development and psychometric testing of the Satisfaction with Simulation Experience Scale. Nurse education today, 31(7), 705-710.

Madrid, A. B., & Deri, R. A. (2024). Effectiveness of Jigsaw Classroom Strategy in Learning Mathematics. United International Journal for Research & Technology, 5(7), 296-307.

Nasrabadi, A. N., Mohammadi, N., Rooddehghan, Z., Shabani, E. A., Bakhshi, F., & Ghorbani, A. (2021). The stakeholders' perceptions of the requirements of implementing innovative educational approaches in nursing: a qualitative content analysis study. BMC nursing, 20(1), 1-10.

Ng, P., Kranz, K., Abeles, R., Schwartz, D., & Lane, S. (2020). Using the jigsaw teaching method to enhance internal medicine residents' knowledge and attitudes in managing geriatric women's health. *MedEdPORTAL*, *16*, 11003.

Ngoma, C. M., Wahila, R., Makoleka, M. M., Nankamba, N. W., & Kanyanta, M. M. (2023). The impact of inter-professional education for HIV course in the preservice health care professionals using the jigsaw technique. Journal of Public Health and Epidemiology, 15(2), 114-119.

Ozkan, S., & Uslusoy, E. C. (2024). Outcomes of jigsaw technique in nurse education: A systematic review and meta-analysis. Nurse Education in Practice, 103902.

Parmar, R. D., & Parmar, D. J. (2020). Study of students perceptions for Jigsaw-collaborative learning in Forensic Medicine. IP International Journal of Forensic Medicine and Toxicological Sciences, 4(4), 105-110.

Tawiye, N. Y., Assefa, Z. M., & Zengye, A. G. (2021). Patient satisfaction and associated factors among adults attending ART clinic at Dessie refferal hospital, Amhara Region, Ethiopia. *International Journal of Africa Nursing Sciences*, 14(2021). https:// doi.org/10.1016/j.ijans.2021.100297.

Tinmaz, H., & Ozturk, Y. E. (2022). Analysis of student attitudes towards cooperative learning in a collectivist culture: a case of South Korea. Higher Education, Skills and Work-Based Learning, (ahead-of-print).

Yeh, C. H., & Yang, Y. P. (2024). Comparing the effect of assessment-simulation-animation-based against traditional education on nursing students' anxiety and self-efficacy in maternity clinical practicum. *Nurse Education in Practice*, *76*, 103932.

Zhang, J., & Chen, B. (2021). The effect of cooperative learning on critical thinking of nursing students in clinical practicum: A quasi-experimental study. Journal of Professional Nursing, 37(1), 177-183.

Zhou, Z. E., Yan, W. G., Zhou, Y., Zuo, Y. Z., & Liang, Z. (2022). Evaluation of the Jigsaw method in the training of prostate targeted biopsy. Basic & Clinical Medicine, 42(5), 844.

Ziyai, N. Y., & Dikmen, Y. (2022). The Effect of the Jigsaw Technique on the Knowledge and Skills of Nursing Students. Bangladesh Journal of Medical Science, 21(4), 820-824.