

# The degree of perceived benefits of case-based lecture by associate degree nursing students' compared to traditional lecture- a quantitative study



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## Introduction

Nursing school is a time for students to learn to think critically, apply previous knowledge with new knowledge, problem solve, prioritize care, and make decisions to deliver care that will affect patient outcomes. Nursing instructors are expected to provide instruction to students to help them understand the knowledge they need to pass the NCLEX as well as prepare them for their future careers. Traditional lecturing is still being used to educate nurses even though it has been proven to be ineffective. Instructors are being urged to modernize education to meet the learning needs of students, keep students motivated and engaged, and retain nursing students in the nursing program. Research shows that case-based learning is a technique that can be implemented in nursing programs to meet these demands.

## Aim of project

The purpose of this study is to provide Nurse Educators evidence-based research that supports using case-based lecturing. This research will explore the degree to which undergraduate nursing students enrolled in NUR 252 at Estrella Mountain Community College (EMCC) perceive an increase in benefits from a case-based lecture.

## Hypothesis

It is hypothesized that nursing students will perceive greater benefits from case-based lecture compared to traditional lecture .

- For the purpose of this project, case-based learning is defined as using active learning strategies and giving students real-life scenarios to apply their knowledge at a higher cognitive level (Yale University, 2021).

## Review of literature

- Burucu & Arslan (2021) found through interviews with nursing students from Turkey, that the students enjoyed the interaction and ability to ask questions and develop their own answers during case-based learning. Those students recognized they had a more positive attitude toward nursing practice because of their increased understanding
- Yao, Yuan, et al. (2023) found 94.2% of master nursing students interviewed to be satisfied with their experience of case-based learning. The study showed students found it particularly useful regarding teamwork and critical thinking.
- Yao et al. (2022) interviewed master's nursing students in China following case-based learning and concluded from the personal comments of the students that knowledge acquisition was found not only in strengthening students understanding, but also improving empathy, communication, holistic nursing, clinical skills, critical thinking, and cooperation as a team.
- Ma and Zhou (2022) found statistically significant improved self-confidence levels of students taught with case-based learning.
- Özdener et al. (2020) also found that 98% of the participants in their study had significantly higher motivation toward learning with case-based learning

## Methodology

Before initiation of the project, the PI completed the Collaborative Institutional Training Initiative (CITI) training in research, ethics, compliance, and safety. FHSU Institutional Review Board (IRB) and EMCC College IRB approved the project application. The target students, based on convenience sampling, were invited to participate in the study through an announcement posted on the schools digital learning application, Canvas. There were 45 potential participants. They were made aware that their participation was voluntary, they would not receive compensation for participation, and that their survey answers would be confidential. The consent for participation disclosed that no major risks were anticipated, and consent was obtained through Qualtrics survey.

The class started with the delivery of a traditional lecture by the PI as a guest lecturer, which consisted of a standard PowerPoint presentation used to educate the students. The same lecturer also educated the students for the case-based lecture. This consisted of the students rotating through five stations to work in groups to complete the active learning assignments followed by an unfolding case study.



Permission was obtained from Dr. Mostafa Bijani to utilize the project tool for this study. In Bijanis work, the tool was designed to compare characteristics of case-based learning and traditional lecturing with a 20 question 5-point Likert scale questionnaire (Bijani et al. 2019). The 5-point Likert rating was 5=strongly agree, agree, undecided, disagree, and 1=strongly disagree. The validity and reliability of the tool was confirmed. This tool was used to survey the students after traditional lecture and after case-based lecture.

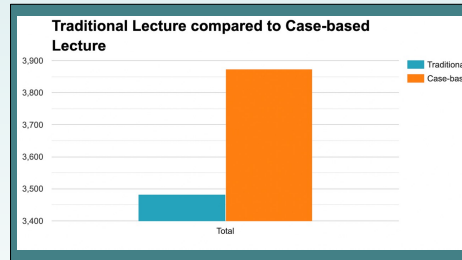
This study is a quantitative quasi-experimental crossover design. Data regarding students perceived benefits of each lecture was collected using the survey tool. Statistical analysis was performed using Statistics Kingdom (Statistics Kingdom, n.d.). A paired t-test was conducted to compare the results of each survey.

## Results

There was a total sample size of 41 participants.

The results of the paired-t-test concluded that participants had a statistically significant medium difference between perceived benefits of traditional lecture (M=87.1, SD=10.6) and case-based lecture (M=94.5, SD=7.5),  $t(40)=-4.6, p<.001$

- 100% of the students surveyed agreed or strongly-agreed that case-based learning is more interesting, allows students to actively participate in the learning process, and motivates students.
- 95% of the students surveyed agreed or strongly-agreed that case-based learning is better than traditional lecturing.



Total score of 20 question 5-point Likert 5=strongly agree, 4= agree, 3= undecided, 2=disagree, and 1=strongly disagree

These results reflect what recent research in other countries, other medical courses, and master's degree programs has shown; students are more satisfied with case-based lecture (Burucu & Arslan, 2021; Özdener et al. 2020; Yao, Yuan, et al. 2023).

## Implications for nursing education

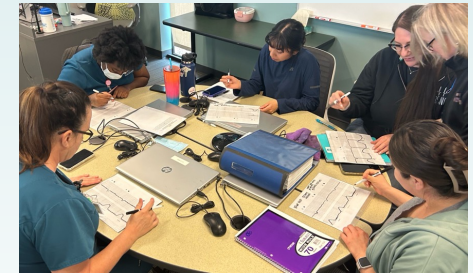
A recent study showed that only 20% of new graduate nurses felt their general nursing knowledge was very strong, and 66% of practicing nurses felt that new graduate nurses today are less prepared than in previous years (Rebelo, 2020). Research shows that a lack of communication, knowledge, and teamwork are contributing factors to the gap from nursing school to nursing practice.

With a modernized format to educate students that is evidence based in a multitude of settings, obstetric nursing education can confidently utilize case-based learning knowing that it can improve nursing students' satisfaction, motivation, and knowledge in ADN nursing programs. Implementing innovative teaching strategies such as case-based learning can only occur with the support of nursing program leadership. Faculty need leadership to recognize the benefits of case-based lecturing, provide the professional development some faculty members may need, as well as allocate time and resources for faculty to expand their teaching strategies.

## Conclusion

Dale (1964) said, "people learn 10% of what they read, 20% of what they hear, 30% of what is demonstrated, but 90% when what is said and done is combined" (as cited in Yao, Yuan, et al., 2023, p. 6556). It is concluded that there is a statistically significant increase in students perceived benefits of case-based learning. The evidence collected from this research study confirms what previous research has shown. Students perceive greater benefits from case-based learning compared to traditional learning.

Future research should look beyond perceived benefits and study actual knowledge, knowledge retention, and decision-making skills.



## Acknowledgements

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## References

Please scan QR code for references.



**\*1 graph**

**\*2 pictures**

**\*Established link between project and change process**

