

# Are Nursing Students *Really* Deep Learners?

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## Research Question

How are surface and deep learning approaches applied in human anatomy education across nursing, medicine, and allied health disciplines, and what trends exist in the use of these approaches within nursing education specifically?

## Introduction

Human anatomy is foundational in healthcare education, and the effectiveness of teaching strategies can influence clinical competence. Surface learning, characterized by memorization, often lacks long-term retention, while deep learning promotes integration, critical thinking, and conceptual understanding. Although surface and deep learning approaches are well-studied in medicine and allied health, their application in nursing, particularly in anatomy, remains underexplored. This review aims to map the scope and distribution of literature across health disciplines.

## Methods

- A scoping review was conducted using CINAHL, PubMed, and Google Scholar. Boolean search terms included 'surface learning', 'deep learning', 'anatomy education', and discipline-specific terms ('nursing', 'medicine', 'allied health').
- Inclusion criteria focused on English-language peer-reviewed articles from 2014–2024 examining educational strategies, student outcomes, or conceptual learning in anatomy education.

## Article Selection Process for Literature Review

Data Bases: CINAHL, PubMed, and Google Scholar

57 articles were chosen and 14 were excluded based on criteria

43 articles were chosen for final review

8 Nursing Articles

2: Utilized deep learning frameworks in anatomy instruction

5: Discussed surface learning or assessment-driven strategies

1: Discussed the gap between theory and application

21 Medicine Articles

12: Utilized deep learning frameworks in anatomy instruction

7: Discussed surface learning or assessment-driven strategies

2: Discussed the gap between theory and application

14 Allied Health Articles

6: Utilized deep learning frameworks in anatomy instruction

6: Discussed surface learning or assessment-driven strategies

2: Discussed the gap between theory and application

## Results

- Most medicine and allied health articles emphasized deep learning strategies such as problem-based learning (PBL), vertical integration, and case-based reasoning.
- Nursing articles more commonly emphasized surface learning, with limited application of deep learning frameworks.
- The gap between theory and clinical application was a recurring theme, particularly in nursing and allied health studies.
- Interventions promoting active learning, self-regulation, and critical integration were most effective in supporting deep learning outcomes.

## Discussion/Conclusion

There is a clear discrepancy in the volume of research between nursing and other health disciplines. Medicine and allied health more frequently employ deep learning strategies, while nursing remains reliant on traditional surface learning approaches. Given the importance of deep learning for clinical transfer, there is a strong need to explore and implement deeper pedagogical strategies in nursing anatomy education. This could improve long-term retention, critical reasoning, and clinical performance.

## References

