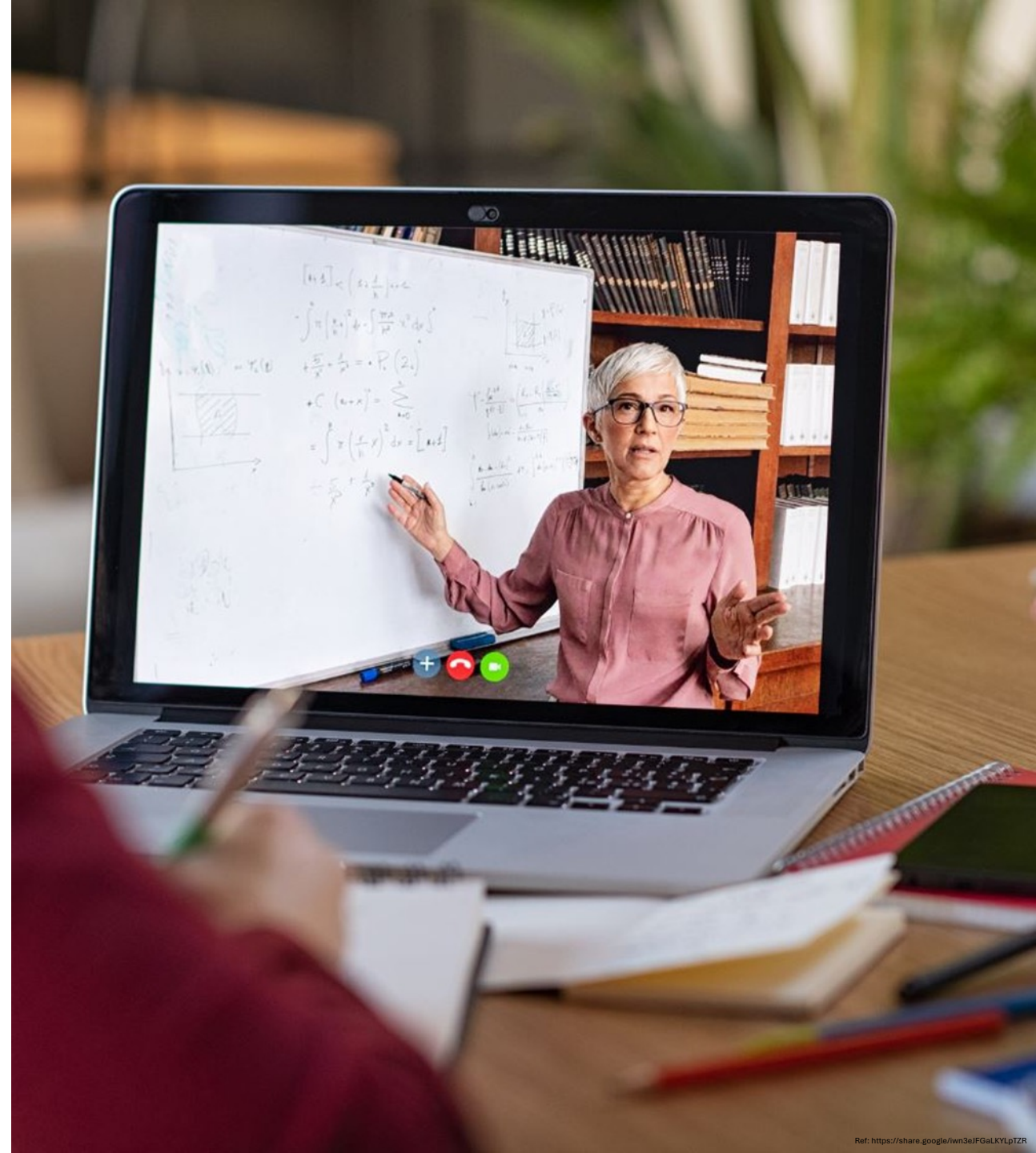


An applied occupational therapy approach to promote meaningful engagement during online education

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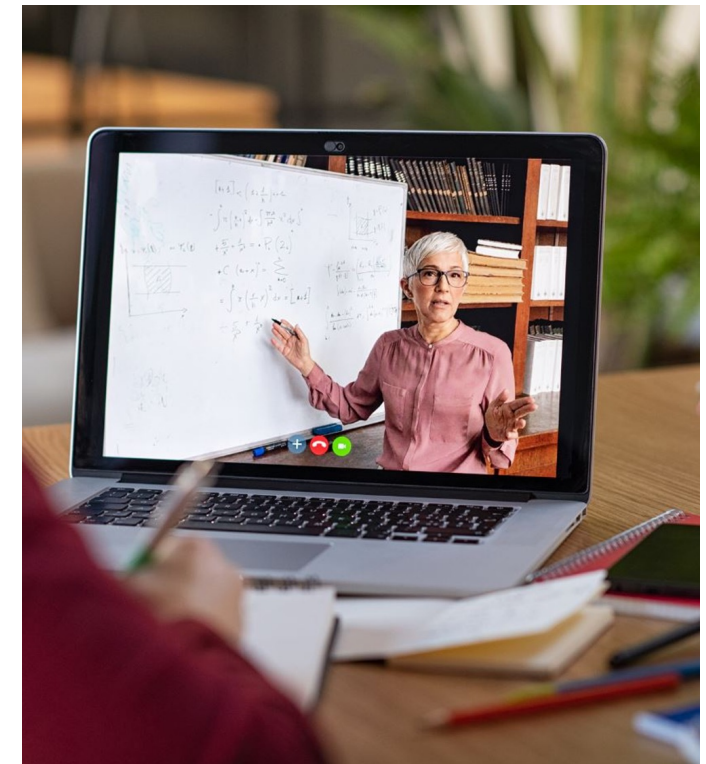
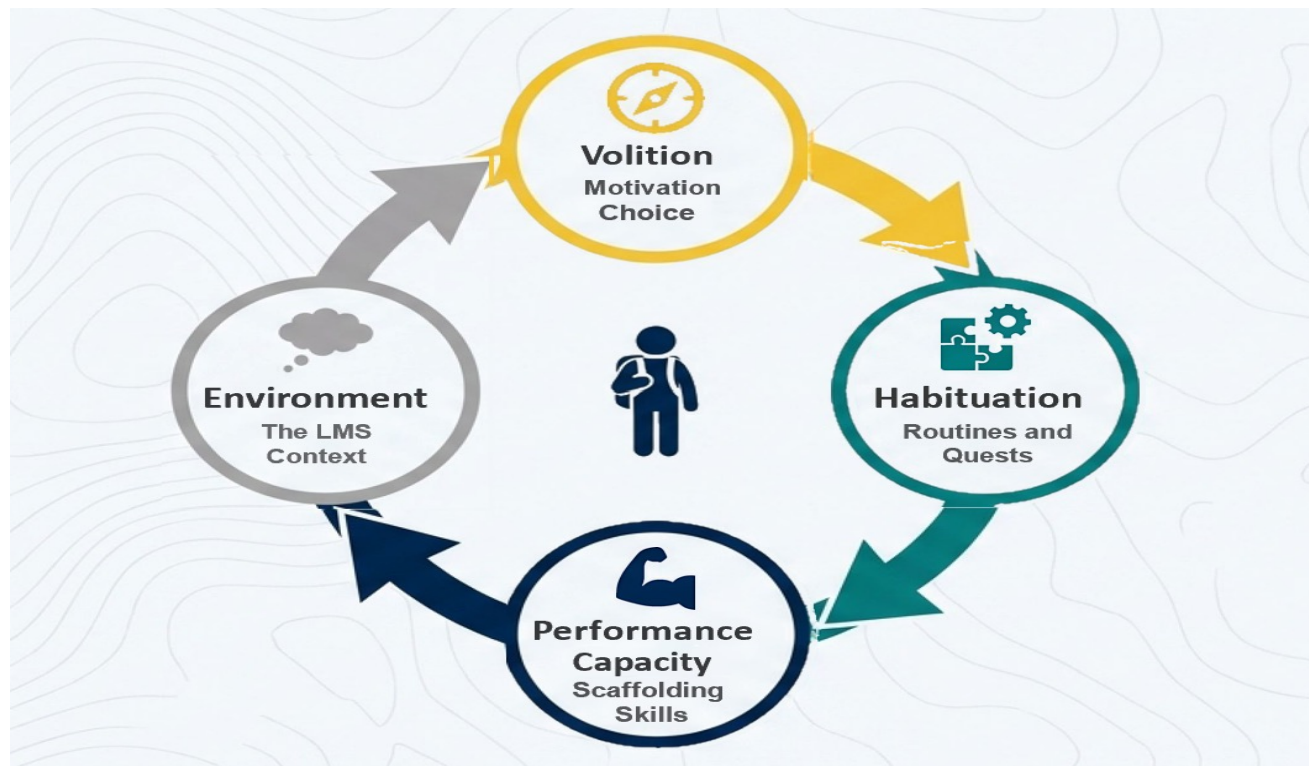
Creative
thinkers
made here.

No financial disclosures.



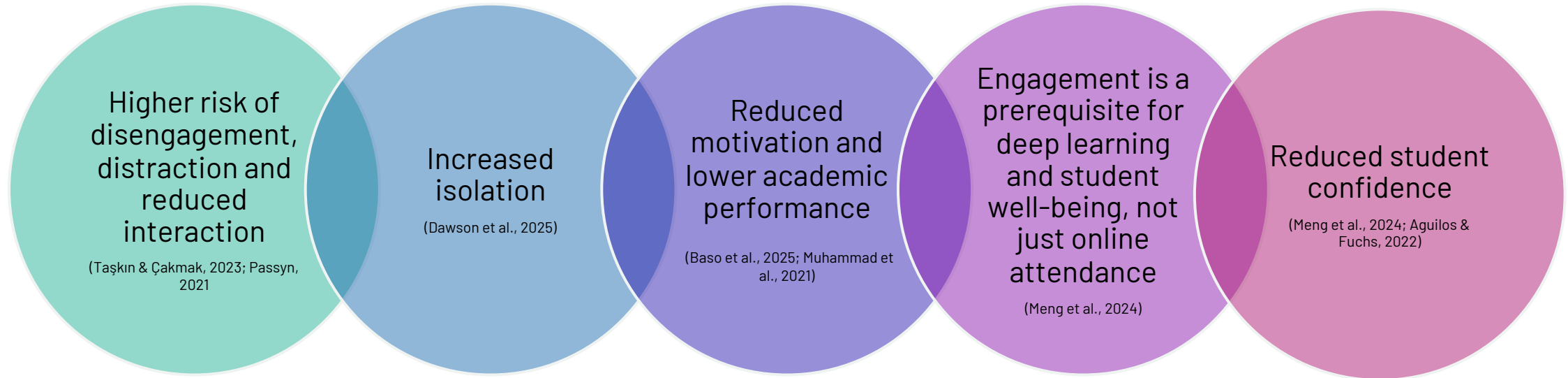
Importance of meaningful engagement

Meaningful engagement \longrightarrow *active participation in occupations of personal value, purposefulness & connected to identity, health, and well-being*
(Wilcock, 2006; Hammell, 2014; & Townsend & Polatajko, 2013).



Challenge of online engagement

Rapid shift to asynchronous online learning and technological advancements has increased 'transactional distance' (Subhash & Cudney, 2018).



Research objectives

- 1. To identify approaches to counter disengagement and loss of motivation during asynchronous learning for occupational therapy students.**
- 2. To develop innovative strategies to support knowledge retention, application and professional identity development.**



Preliminary results from rapid literature review

Context: Integrating VR, AI, and gamification into health curricula significantly boosts student performance and motivation, though success depends on digital literacy and the specific technology's nature.

Immersive Simulations & Gamification



AR Outperforms Traditional Textbooks

Medical students using Augmented Reality showed higher learning efficiency and less fatigue than those using textbooks.



Gamification Drives Long-Term Retention

Escape rooms and virtual gaming simulations led to high satisfaction and knowledge retention three months later.

Digital Innovation & The Human Element



AI as a Virtual Patient

Students using ChatGPT as virtual patients improved their interaction skills, clarity, and overall performance.



The Metaverse Motivation Boost




Awareness of immersive platforms like the metaverse is a significant predictor of increased academic motivation.



Digital Literacy Predicts Acceptance

Student acceptance of 'Holopatient' mixed reality tools is strongly driven by their existing digital literacy.

Tech Learning Modalities: Key Impacts & Outcomes

-  Virtual Reality (VR/XR) | Clinical Skills | Increased self-efficacy and remote learning access
-  AI (ChatGPT) | Communication | Improved interaction skills and response clarity
-  Blended Learning | Academic Performance | Higher satisfaction and significant exam score improvement



Potential Risks to 'Deep Thinking'

While preferred, video-based learning can sometimes reduce deep critical thinking compared to traditional text-based cases.

RECIPE FOCUS AREAS	DEEP-LEARNING POTENTIAL IN ASYNCHRONOUS LEARNING	PRACTICAL TACTICS COMBINING RECIPE WITH UDL
Reflection	Drives cognitive presence, transfer, and SRL cycles (forethought–performance–reflection).	Reflective journals; portfolio check-ins; self-grading rubrics; post-discussion “What shifted my view?” notes.
Exposition (purpose & narrative)	Contextual framing raises relevance and schema activation for deep processing.	“Why this matters” openers; authentic case narrative per module; preview maps showing how tasks ladder to program capabilities.
Choice (autonomy)	Autonomy supports intrinsic motivation and persistence in time-shifted settings; aligns with SRL.	Assessment menus (paper/video/infographic), choose-two-of-five cases, flexible pacing windows with guardrails.
Information (just-enough scaffolding)	Reduces extraneous load and confusion—critical in async where help is delayed; supports SRL planning.	Micro-explainers, annotated exemplars, step-by-step task guides + optional deep-dives; checklists for time management.
Play (exploration without extrinsic rewards)	Safe experimentation promotes conceptual change & transfer; supports curiosity that sustains effort asynchronously.	Low-stakes simulations/branching cases; “sandbox” datasets; iterative prototyping with retry loops; debriefs tying play to theory.
Engagement (connection to people/purpose) (Nicholson, 2015)	Builds social presence and persistence; mitigates isolation in async settings—predictors of deep learning pathways.	Structured peer review with rubrics; collaborative annotation; weekly instructor “sense-making” summaries; community boards around authentic problems.

Case Examples

Podcasts with Experts



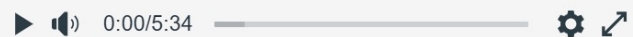
Videos with Experts



Let's make it practical

From the expert

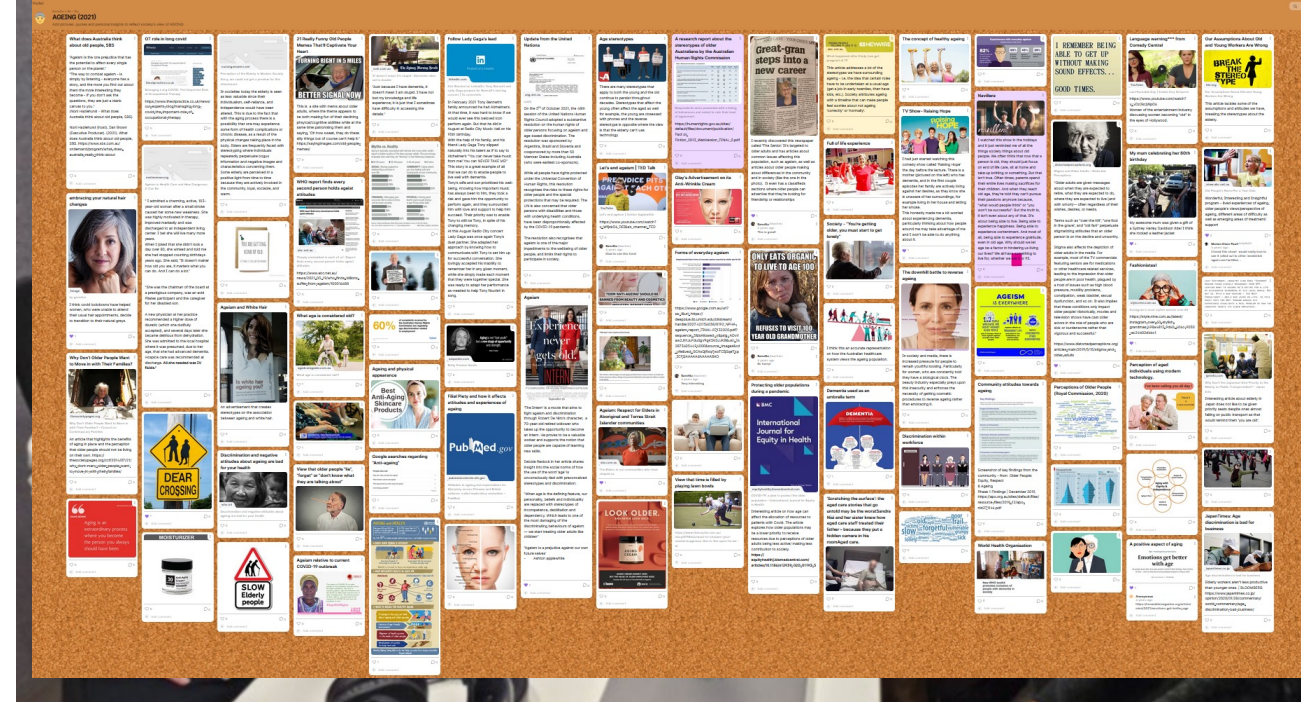
Listen to Lorrae Mynard's presentation [5:34 min] on her use of occupational formulation



in practice:

Could you identify key words in her presentation that reflects the nature of qualitative research? The next video includes the answer 🙌

Padlet for Student Connection



Take time to consider the following as part of a self-reflection on this module:

- 'Wake up the brain' was used by the host and co-host of the podcast. Is this a term you would use to describe the outcome of these two studies? If not, why not? What would be a better, more accurate descriptive phrasing?
- "Crowd control" is an emotive phrasing. Is it accurate description of what happens in a residential aged care home? If not, why not?
- "Time guillotine" is an interesting phrase. What does it mean? Have you seen this in the residential aged care home you work in? Imagine that you are a member of staff. What effect would a time guillotine have on you as a worker and as a person? Now imagine you are a resident. How would a time guillotine make you feel?



All types of research are important and have their unique contribution. An ATOSE assessment focusses on observation. The podcasters say a number of things about observational studies in research on people with dementia. They state that 'observational research measures behaviour, not happiness'. They say that 'self-report is unreliable' and 'observing behaviour is truth'. These are strong statements. Are these statements too strong? Do you think observation is a good strategy for getting information in residential aged care homes? What is your view about the exclusive ATOSE focus on observing and auditing levels of occupational and social engagement / disengagement. **Share your insights** on the [discussion board](#) and be sure to provide feedback on insights on other people's contributions. Remember to also revisit the previous [discussion topic](#) to add thoughts to those conversations.

Reflective Debriefs

Guiding principles

- Keep it simple
- Leverage intrinsic motivation
- Use playful, low-stakes exploration
- Provide barrier-free access & flexible expression
- Use purposeful tasks & reflective debriefs

Designing Asynchronous Online Learning Activities



Foster Intrinsic Motivation

- Remove Points & Badges
- Make Tasks Relevant & Purposeful
- Encourage Autonomous Exploration



Integrate Playful Exploration

- "What-If" Simulations & Scenarios
- Retry & Debrief Sessions



- Retry & Debrief Sessions
- Iterative Challenges



Use Narrative Framing

- Story-Based Contexts
- "Why This Matters" Intro



- "Why This Matters" Intro
- Coherent Learning Journey



Leverage UDL for Access

- Multiple Formats & Scaffolds
- Flexible Assessments



- Choice & Mastery Feedback
- Flexible Assessments

Bonus: Recipe for Deep Learning:

- Clear Learning Path
- Choice & Mastery
- Reflective Community



- Supported Exploration
- Flexible Assessments

References

- Abbas, F., Khan, S., & Maseko, B. (2024). An exploration of undergraduate health science students' experiences of blended learning andragogy: A rapid review. *South African Journal of Occupational Therapy*, 54(2), 45–55.
- Abo, A. R., Hassan, M., & El-Sayed, R. (2025). Virtual gaming simulation and its impact on psychiatric nursing students' perceived learning and self-directed learning ability. *Nurse Education in Practice*, 72, 103742.
- Abubshait, A., Alshammari, T., & Alotaibi, N. (2025). Code social: Integrating social determinants of health into emergency resident education. *Journal of Education & Teaching in Emergency Medicine*, 10(1), 15–22.
- Adhikari, R., Gupta, P., & Shrestha, S. (2021). A mixed-methods feasibility study to assess the acceptability and applicability of immersive virtual reality sepsis game as an adjunct to nursing education. *Nurse Education Today*, 102, 104940.
- Aguilos, V., & Fuchs, K. (2022). The perceived usefulness of gamified e-learning: A study of undergraduate students with implications for higher education. *Frontiers in Education*, 7, 945536. <https://doi.org/10.3389/educ.2022.945536>
- Ahmady, S., Shahbazi, S., & Heidari, M. (2025). Integration of learning technologies in medical students' curriculum: A systematic review. *Health Education*, 125(1), 87–102.
- Albrecht, U. V., Folta-Schoofs, K., Behrends, M., & von Jan, U. (2013). Effects of mobile augmented reality learning compared to textbook learning on medical students: Randomized controlled pilot study. *Journal of Medical Internet Research*, 15(8), e182. <https://doi.org/10.2196/jmir.2497>
- Alejandre, J., García, M., & López, R. (2022). New resident training strategy based on gamification techniques: An escape room on sepsis in children. *Children*, 9(5), 734. <https://doi.org/10.3390/children9050734>
- Alharbi, M., Alshammari, F., & Alotaibi, S. (2025). Holopatient technology in nursing education: A cross-sectional analysis of student and faculty perceptions. *BMC Nursing*, 24(1), 56. <https://doi.org/10.1186/s12912-025-01432-1>
- Amin, R., Rahman, A., & Hossain, M. (2025). Bridging virtual and real learning: The role of digital literacy and metaverse perspectives in enhancing academic motivation in nursing education. *BMC Nursing*, 24(1), 61. <https://doi.org/10.1186/s12912-025-01441-0>
- Arkan, B., & Bostanli, N. (2024). Teaching psychiatric nursing with films during the COVID-19 pandemic: A qualitative study. *Journal of Psychiatric and Mental Health Nursing*, 31(2), 210–219. <https://doi.org/10.1111/jpm.12901>
- Baig, M., Rashid, A., & Alam, S. (2025). What guides student learning in the clinical years: A mixed-methods study exploring study behaviours prior to the UK Medical Licensing Assessment. *Medical Teacher*, 47(1), 89–98.
- Bailey, J., Smith, R., & Cooper, H. (2024). Immersive distance simulation: Exploring the educational impact of stereoscopic extended reality video in remote learning environments. *Medical Teacher*, 46(6), 742–751.
- Barker, J., Walsh, K., & Evans, R. (2023). Improving nursing students' attitudes to end of life care using a 360° video vignette. *Teaching and Learning in Nursing*, 18(3), 345–351.
- Baso, S., Jenheri, J., Arum, S., & Ardi, N. (2025). Gamification and student motivation: Evaluating e-learning engagement from an educational psychology perspective. *Darussalam: Journal of Psychology and Education*, 4(1), 73–82. <https://doi.org/10.70177/innovatsioon.v2i1.308>
- Battle, J., & Tyson, L. (2018). Academic strategies that facilitate learning in millennial nursing students. *i-Manager's Journal on Nursing*, 8(2), 12–21.
- Benfatah, Y., Khalil, M., & Rahman, S. (2024). Assessing the efficacy of ChatGPT as a virtual patient in nursing simulation training: A study on nursing students' experience. *Teaching and Learning in Nursing*, 19(4), 512–519.
- Cavalcanti, A. P., et al. (2018). Gamification design for tutor education in an online course. *ETD: Educação Temática Digital*, 20(4). <https://doi.org/10.20396/ETD.V20I4.8648223>
- Christiansen, C. H., & Townsend, E. A. (2010). *An introduction to occupation: The art and science of living* (2nd ed.). Pearson.
- Dawson, E. R., Greene, L., Al-Mutairi, H., & Iglesias, R. (2025). Gamification in remote learning: Enhancing student engagement in virtual classrooms. *OTS Canadian Journal*, 4(7), 1–13. <https://doi.org/10.58840/1hn5nn80>
- Google. (2024). *Gemini* (Version 1.0) [Large language model]. <https://gemini.google.com>
- Hammell, K. W. (2014). *Belonging, occupation, and human well-being: An exploration*. CAOT Publications.
- Hassan, M. A., Habiba, U., Majeed, F., & Shoaib, M. (2021). Adaptive gamification in e-learning based on students' learning styles. *Interactive Learning Environments*, 29(4), 545–565. <https://doi.org/10.1080/10494820.2019.1588745>
- Hwang, N., Shim, S., & Cheon, H. (2023). Digital learning designs in occupational therapy education: A scoping review. *BMC Medical Education*, 23(7), 1–19. <https://doi.org/10.1186/s12909-022-03955-x>
- Meng, C., Zhao, M., Pan, Z., Pan, Q., & Bonk, C. (2024). Investigating the impact of gamification components on online learners' engagement. [Journal details pending].
- Nicholson, S. (2015). A recipe for meaningful gamification. In L. Wood & T. Reiners (Eds.), *Gamification in education and business* (pp. 1–20). Springer.
- OpenAI. (2024). *ChatGPT (GPT-4)* [Large language model]. <https://chat.openai.com>
- Passyn, K. (2021). Hello, are you there? Creating and measuring online student engagement. *Atlantic Marketing Journal*, 10(1), Article 6. <https://digitalcommons.kennesaw.edu/amj/vol10/iss1/6>
- Roy, M., McMahon, G., & Graham, R. (2012). Video-based cases disrupt deep critical thinking in problem-based learning. *Medical Education*, 46(4), 385–393. <https://doi.org/10.1111/j.1365-2923.2011.04167.x>
- Taşkın, N., & Çakmak, E. K. (2023). Effects of gamification on behavioral and cognitive engagement of students in the online learning environment. *International Journal of Human-Computer Interaction*, 39(17), 3334–3345. <https://doi.org/10.1080/10447318.2022.2096190>
- Townsend, E. A., & Polatajko, H. J. (2013). *Enabling occupation II: Advancing an occupational therapy vision for health, well-being, and justice through occupation*. CAOT Publications.
- Wilcock, A. A. (2006). *An occupational perspective of health* (2nd ed.). SLACK Incorporated.
- World Federation of Occupational Therapists. (2025, July 14). *About occupational therapy*. <https://wfot.org/about/about-occupational-therapy>