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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Educator-centred VR integration: A process framework for VR awareness, planning and implementation

Ruchi Sembey, John Grundy, Roberto Martinez-Maldonado
Monash University

Despite Virtual Reality's promising potential to support experiential, perspective-taking and human-centred learning, a key gap in the literature is the lack of practice-oriented accounts of VR integration by tertiary educators (Khukalenko et al., 2022; Mikropoulos & Natsis, 2011) in authentic classroom settings (Jin et al., 2022). This poster presents a three-phase VR Integration Process Framework (Sembey et al., in press), developed inductively from three studies conducted across a PhD project. This framework reframes VR integration as a staged, cyclical and educator-centred process rather than a one-off technology adoption event.

The framework comprises three interconnected phases:
(a) VR Awareness and Exposure examines how educators make sense of VR's potential for teaching and learning. A systematic literature review revealed that current research emphasises technological effectiveness and student outcomes over educator perspectives (Sembey et al., 2024). First-hand VR exposure sessions with 15 educators surfaced emotional engagement, empathy, immersion, and health and accessibility concerns as the lenses through which educators made sense of VR's pedagogical potential (Sembey et al., 2026a).

(b) VR Integration Planning captures how educators translate awareness into practical classroom decisions. Interviews with the same educator cohort identified 21 practical considerations across technology access and provisioning, pedagogy, and content design and sourcing (Sembey et al., 2026b). These considerations were operationalised through co-designed teaching resources with a unit teaching team, including a VR lesson plan, post-VR reflection guide, access and troubleshooting guide, deployment checklist and safety and ethics protocols (Sembey et al., 2026d).

(c) VR Implementation, Practice and Reflection phase captures how integration is enacted and adapted in real classrooms. An in-the-wild deployment across seven, two-hour sessions (390 students, 13 educators) identified 10 facilitators and seven barriers to sustainable delivery. The study also highlighted the often-unrecognised hidden labour of logistics and troubleshooting, the classroom-orchestration demands of running VR at scale, and the value of iterative reflection and adaptation across sessions (Sembey et al., 2026c).

Critically, the three phases are cyclical. Implementation experiences feed back into renewed awareness and reshape subsequent planning. Planning decisions, in turn, refine what educators look for in future VR exposure. For tertiary educators, this framework provides a conceptual tool for sense-making, planning, and implementing VR learning experiences to move VR beyond isolated pilots toward sustained, reflective classroom practice. For researchers, it provides a shared vocabulary for positioning their studies within the broader VR-integration journey, helping connect findings such as cost, cybersickness, orchestration, and engagement into a coherent process narrative. This framework complements existing technology adoption models through its focus on the practical, cyclical work of VR integration into teaching practice. Supported by phase-by-phase empirical evidence, the framework illustrated through a diagram invites dialogue to pilot, adapt, critique and further explore its applicability across diverse disciplinary and institutional contexts.

Keywords: Virtual Reality, VR classroom, VR integration, human-centred learning design

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References

Jin, Q., Liu, Y., Yarosh, S., Han, B., & Qian, F. (2022). How will VR enter university classrooms? Multi-stakeholders investigation of VR in higher education. *Proceedings of the 2022 CHI conference on human factors in computing systems*. https://doi.org/10.1145/3491102.3517542

Khukalenko, I. S., Kaplan-Rakowski, R., An, Y., & Iushina, V. D. (2022). Teachers' perceptions of using virtual reality technology in classrooms: A large-scale survey. *Education and Information Technologies*, *27*(8), 11591–11613. https://doi.org/10.1007/s10639-022-11061-0

Mikropoulos, T. A., & Natsis, A. (2011). Educational virtual environments: A ten-year review of empirical research. *Computers & Education*, *56*(3), 769–780. https://www.sciencedirect.com/science/article/pii/S0360131510003052

Sembey, R., Grundy, J., & Martinez-Maldonado, R. (in press). Towards a process framework for Virtual Reality integration in higher education: An educator-centred synthesis. In Cochrane, T., Narayan, V., Poole, T., Lai, P., Lake, P., Moore, O., & Li, L. (Eds.), *The Future is Connection: Collaboration, Creativity and Compassion in a Digital Society*. Proceedings ASCILITE 2026. Brisbane.

Sembey, R., Hoda, R., & Grundy, J. (2024). Emerging technologies in higher education assessment and feedback practices: A systematic literature review. *Journal of Systems and Software*, *211*, 111988. https://doi.org/10.1016/j.jss.2024.111988

Sembey, R., Martinez-Maldonado, R., & Grundy, J. (2026a). Seeing through users' eyes: Teaching user-centric software engineering through Immersive VR. In W. Wong, M. Barr, L. Liu, & R. Wlodarski (Eds.), *Proceedings of the 38th international conference on software engineering education and training*. Springer.

Sembey, R., Martinez-Maldonado, R., & Grundy, J. (2026b). Considerations for VR integration into human-centered computing education. *ACM Transactions on Computing Education, 26*(2). https://doi.org/10.1145/3795531

Sembey, R., Martinez-Maldonado, R., & Grundy, J. (2026c). Integrating Virtual Reality into SE classrooms: Practical educator and researcher insights. In W. Wong, M. Barr, L. Liu, & R. Wlodarski (Eds.), *Proceedings of the 38th international conference on software engineering education and training*.

Sembey, R., Martinez-Maldonado, R., Grundy, J., Junor, A., & Nawaz, S. (2026d). VR immersion: An experiential approach to teach accessibility and inclusion in computing education. *Proceedings of the 31st ACM conference on innovation and technology in computer science education,2*. https://doi.org/10.1145/3803401.3811957

Sembey, R., Grundy, J., & Martinez-Maldonado, R. (2026). Educator-centred VR integration: A process framework for VR awareness, planning and implementation [Poster]. In Cochrane, T., Narayan, V., Poole, T., Lai, P., Lake, P., Moore, O., & Li, L. (Eds.), *The Future is Connection: Collaboration, Creativity and Compassion in a Digital Society*. Proceedings ASCILITE 2026. Brisbane (pp. 60–61). https://doi.org/10.65106/apubs.2026.3205

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