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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Frictionless by design? Creating space for productive discomfort in interdisciplinary teaching

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Working across disciplines requires educators and students to hold conflicting perspectives in tension, negotiate contested meaning, and integrate knowledge in ways no single discipline allows (Mansilla & Duraising, 2007). Such work is cognitively, emotionally, and socially demanding (Manathunga et al., 2006). Yet this difficulty reflects a well-established finding in education research: that struggle, effort, and a degree of discomfort are not obstacles to learning but conditions for it, provided learners feel safe enough to stay with them (Bjork & Bjork, 2011).

As generative AI becomes embedded in higher education, it reshapes not only how knowledge is accessed, but the learning experience itself. This technology holds real value, yet its orientation towards fluent, instantly agreeable output can run counter to this. In practice, it smooths over the uncertainty, disagreement, and difficulty through which interdisciplinary understanding is built, narrowing the epistemic diversity such work depends on (McInnes & Airey, 2025). The question, then, is not whether to use digital tools but when – understanding where they enhance learning, and where they erode this difficulty, is a central design question for technology-enhanced learning.

A key challenge for interdisciplinary educators, therefore, is how to design learning that creates space for this discomfort to thrive. While toolkits for interdisciplinary research are now plentiful, resources for *teaching* it remain scarce (Laursen et al., 2024). Drawing on an extensive review of the literature, we present a seven-stage model for interdisciplinary learning and teaching, spanning reflexivity, teamwork, visioning, wicked problems, disciplinary integration, creative play, and interdisciplinary assessment. The model is grounded in constructive alignment (Biggs, 1996) and draws on transition-based approaches to teaching complex, real-world challenges (Bertolini et al., 2024).

Originally designed around a multi-day, face-to-face interactive workshop, the model has since been translated into more practical formats: a board game version, currently being trialled, and a Canvas course in development. Across all formats, the seven stages are not about engineering discomfort but about creating a supportive, structured space in which the tensions intrinsic to interdisciplinary work can be explored directly rather than avoided or bypassed: space for sitting with not-knowing, for productive disagreement, and for the slow work of finding common ground (Colwill & Boyd, 2008). It leans on digital tools where they extend what educators can do, while keeping the work of integration and productive disagreement deliberately analogue.

The purpose of this poster is to share the seven-stage model with educators and to sharpen it against the realities of interdisciplinary teaching across different disciplines and institutions. Preparing educators to teach across disciplines, not merely within them, remains an under-served challenge, and this model is a deliberate response to it. In prioritising the relational, embodied, and sometimes uncomfortable work of learning together, it offers a human-centred response to interdisciplinary teaching in an increasingly digital society – where designing for the productive difficulty that interdisciplinary work depends on is not a constraint to be managed but a capacity worth protecting.

Keywords: Interdisciplinary learning and teaching, generative AI, productive discomfort, play-based learning, human-centred learning design

References

Bertolini, L., Gerritsen, D., & Sol, K. (2024). Supporting students to become agents of change: Introducing and evaluating the Transition Cycle approach to teaching transformative skills. *Futures*, *164*, 103459. https://doi.org/10.1016/j.futures.2024.103459

Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, *32*(3), 347–364. https://doi.org/10.1007/BF00138871

Bjork, E. L., & Bjork, R. A. (2011). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. In M. A. Gernsbacher, R. W. Pew, L. M. Hough, & J. R. Pomerantz (Eds.), *Psychology and the real world: Essays illustrating fundamental contributions to society (pp. 56-64)*. New York: Worth Publishers.

Colwill, E., & Boyd, R. (2008). Teaching without a mask? Collaborative teaching as feminist practice. *NWSA Journal*, *20*(2), 216–246. https://doi.org/10.1353/ff.2008.a246763

Laursen, B., Vienni-Baptista, B., Bammer, G., Di Giulio, A., Paulsen, T., Robson-Williams, M., & Studer, S. (2024). Toolkitting: An unrecognized form of expertise for overcoming fragmentation in inter- and transdisciplinarity. *Humanities and Social Sciences Communications*, *11*(1), 1–10. https://doi.org/10.1057/s41599-024-03279-9

Manathunga, C., Lant, P., & Mellick, G. (2006). Imagining an interdisciplinary doctoral pedagogy. *Teaching in Higher Education*, *11*(3), 365–379. https://doi.org/10.1080/13562510600680954

Mansilla, V. B., & Duraising, E. D. (2007). Targeted assessment of students' interdisciplinary work: An empirically grounded framework proposed. *The Journal of Higher Education*, *78*(2), 215–237. https://doi.org/10.1080/00221546.2007.11780874

McInnes, R., & Airey, L. (2025). Prompting, privilege, and pedagogy: A decolonial position on Generative AI in the university. In Barker, S., Kelly, S., McInnes, R., & Dinmore, S. (Eds.), Future Focussed. Educating in an era of continuous change. Proceedings ASCILITE 2025. Adelaide (pp. 297-302). https://doi.org/10.65106/apubs.2025.2665

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