

ASCILITE 2025

Future-Focused:

Educating in an Era of Continuous Change

Developing a values-based ethics learning tool

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Disruptive technologies create value tensions that students need to consider, irrespective of their discipline or professional context. These value tensions arise when competing values are present in a technosocial context. In 2018-2019, a card-based ethics learning tool was created to support students in developing values-based ethics and data literacy competencies. The cards engage students in considering ethical dilemmas and values when designing or using technologies and are informed by doctoral findings and classroom observations (Fernando, 2017; Fernando, 2020).

The first prototype of these cards was primarily aimed at undergraduate IT students, and was presented to local collegiate communities, at MozFest 2019, a conference sponsored by Mozilla, and at ETHICOMP 2020, the leading international computer ethics conference (Author, 2020). This early prototype of the conversation cards was based on value tensions but had not been validated or expanded to address the values-based ethics competencies in other discipline contexts.

At present, the authors are working on a funded Scholarship of Teaching and Learning (SoTL) project to extend the initial prototype by applying the theorising of Shannon Vallor (2018) and Shoshana Zuboff (2019) to the value tensions conceptual framing. Vallor (2018) theorised 12 technomoral virtues that people should consider when using or designing technologies, whereas Zuboff (2019) theorised surveillance capitalism, where the commodification of personal data through the design and use of technologies may curtail human freedom and dignity. The technomoral virtues and surveillance capitalism informed our identification of values to include in the conversation cards. These theoretical framings provide rigour while establishing clarity for learners. Student-centred and active learning pedagogical principles are realised in the conversation cards (Dada et al., 2023). The cards support problem-solving, reasoning, ethical understanding and responsible decision-making, while allowing for flexible, self-paced, learning in pairs.

A PRISMA scoping survey revealed that such cards are an innovative contribution to the field, and at present we are validating the cards through a repeated-measures study followed by focus group discussions. The repeated-measures study uses a factor vignette survey eliciting responses on a 7-point Likert scale eliciting quantitative data to be analysed with an Ordinal Logistic Regression, to reveal which combinations of social and market values are the most readily identifiable as problematic. The focus groups will explore participants' thoughts and responses about the cards to elicit qualitative data to contribute nuance and clarity to the quantitative data.

To support future educators, this project will enhance educational accessibility by developing an Open Educational Resource (OER). The effective implementation of the OER hinges on User Experience (UX) and usability principles and its development will be guided by Jacob Nielsen's 10 Usability Heuristics (1994) and Norman's broader design principles (2013). The OER interface will incorporate clear navigation and intuitive interaction to guide learners through complex ethical reasoning while being highly usable (Mayer, 2014) and will provide a feedback-rich environment. The OER will be platform independent, support diverse disciplines and educational approaches (Bower, 2010). Adopting the Web Content Accessibility Guidelines (WCAG) principles (W3C, 2023) will ensure universal accessibility, while visual design principles (Williams, 2014) will immerse learners and facilitate understanding of complex ethical dilemmas.

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References

- Bower, M., Cram, A., & Groom, D. (2010). Blended reality: Issues and potentials in combining virtual worlds and face-to-face classes. In C. H. Steel, M. J. Keppell, P. Gerbic, & S. Housego (Eds.), *Curriculum, technology & transformation for an unknown future*. Proceedings of the 27th ASCILITE Conference (pp. 129–140). The University of Queensland. <https://www.ascilite.org/conferences/sydney10/procs/Bower-full.pdf>
- Dada, D., Laseinde, O. T., & Tartibu, L. (2023). Student-Centered Learning Tool for Cognitive Enhancement in the Learning Environment. *Procedia Computer Science*, 217, 507–512. <https://doi.org/10.1016/j.procs.2022.12.246>
- Fernando, A.T.J. (2017). *Designing privacy affordances for data release when searching*. [Unpublished doctoral dissertation]. University of South Australia.
- Fernando, A. (2020). Exploring How Value Tensions Could Develop Data Ethics Literacy Skills. In J. Pelegrin-Borondo, M. Arias-Oliva, K. Murata, A.M. Lara Palma (Ed.), *Proceedings of the ETHICOMP 2020 Conference: 18th International Conference on the Ethical and Social Impacts of ICT* (pp. 194–197). Universidad de La Rioja.
- Mayer, Richard E. (2014). *Multimedia Learning* (2nd ed.). Cambridge University Press.
- Nielsen, J. (1994, April 24). *10 Usability Heuristics for User Interface Design*. Nielsen Norman Group.
- Norman, Don. (2013). *The Design of Everyday Things: Revised and Expanded Edition*. Basic Books.
- Vallor, S. (2018). *Technology and the virtues: A philosophical guide to a future worth wanting*. Oxford University Press, New York.
- W3C. (2023). *Web Content Accessibility Guidelines (WCAG) 2.2*. World Wide Web Consortium.
- Williams, R. (2014). *The Non-Designer's Design Book* (4th ed.). Pearson Education.
- Zuboff, S. (2019). *The age of surveillance capitalism: the fight for the future at the new frontier of power*. Profile Books, London.

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