Beyond Innovation: Centring Ethics and Social Responsibility in Educational Computing

Abstract:

This editorial considers the ethical, social, and global consequences of educational computing technologies, emphasizing the need to move beyond just a focus of innovation to critically engage with these issues. It highlights the *Journal's* expanded aims, which now include scholarship that examines the ethical foundations of educational computing technologies, their social impact, and their role in addressing global educational inequities. The editorial calls for research that explores justice, representation, and access, particularly for marginalized communities. Additionally, it introduces new article types, including Review Articles and Systems and Tools, encouraging a greater diversity of contributions that critically evaluate the implications of educational computing technologies in multiple educational contexts.

Keywords:

Educational Computing; Editorial; Computing Research; Educational Technology, Ethics

As we transition into a rapidly evolving educational landscape shaped by technological innovation, it becomes increasingly clear that the ethical, social, and global consequences of educational computing technologies cannot be treated as peripheral concerns. They are central to the way we understand, develop, and apply digital tools in education, a view increasingly supported by scholarship (Kousa and Niemi, 2022; Al-Zahrani and Alasmari, 2024; Heath et al., 2024). Therefore, as indicated as the first key priority in my introductory editorial (Allison, 2025), I am pleased to introduce the expanded aims and scope of the *Journal of Educational Computing Research*, a reflection of the commitment to fostering critical engagement with educational computing technologies and their impact on learning, not just in terms of efficacy

and efficiency, but in relation to “the ethical, social, and global consequences of educational computing technologies”.

The Need to Move Beyond Innovation

For too long, conversations around educational computing have prioritised technological advancement and innovation without sufficient attention to the broader social contexts in which these tools operate. One example of this oversight is found in the work of Kohnke and Foung (2024) who highlight instances of data colonialism within the field of educational technology, where user data is just treated as a natural resource to be exploited, under the guise of improving learner outcomes. With the rapid integration of generative artificial intelligence (GenAI), virtual and augmented reality, learning analytics, and digital platforms into educational settings, complex ethical questions and far-reaching social implications have emerged (Arora et al., 2023). This is especially the case in the contemporary landscape where technologies such as GenAI are increasingly playing active roles in shaping the teaching and learning process, and how educators and institutions measure it (Baytas and Ruediger, 2024). As a result, issues such as privacy, algorithmic bias, surveillance (McConvey and Guha, 2024), and data security remain at the forefront, raising urgent concerns about the rights and autonomy of both learners and educators. Simultaneously, the global deployment of these technologies often reflects and exacerbates existing inequalities (Kohnke and Foung, 2024), marginalizing diverse cultural perspectives and deepening the digital divide (Khowaja et al., 2024). On one hand, this divide is perpetuated by varying levels of digital literacy and infrastructure, with low-income countries facing barriers such as limited internet access and slower speeds (Khowaja et al., 2024). On the other hand, GenAI systems have been found to reinforce social and cultural stereotypes, emphasizing the need for educators to help students recognize and critique how GenAI's limitations in representing diverse cultures and

experiences can affect the co-creation of knowledge (Jiang, 2025). Thus, Jiang (2025) calls for the inclusion of more non-Western perspectives to decolonize AI-assisted education, a sentiment echoed by Akpan et al. (2024), who emphasize the need for caution in adopting educational technologies in the Global South, stressing the importance of aligning these tools with local curricula and cultural contexts.

Practical Applications and Current Contributions

The *Journal of Educational Computing Research* seeks to reposition these issues as fundamental to the study and practice of educational computing. We must move beyond innovation, so our revised aims and scope invite scholarship that interrogates the ethical foundations of educational computing technologies, explores their social impact, and considers their role in either perpetuating or dismantling global inequities within education systems. We encourage contributions that examine not only the technical design and pedagogical effectiveness of educational computing tools but also their broader implications for justice, representation, and access. Fortunately, work is already underway in the *Journal* that addresses some of these aspects. For example, several studies have explored how educational computing can assist learners with disabilities. Robot programming has been used to help preschool children at risk for specific learning disabilities improve their spatial language and skills (Brainin et al., 2022). Hybrid technologies that combine physical and virtual objects have been used to support English as a foreign-language (EFL) students with dyslexia (Eden and Shmila, 2022), while Hasan et al. (2022) developed an interactive computer-enabled tabletop learning tool to assist children with autism spectrum disorder in rural Bangladesh. Beyond supporting students with disabilities, studies have explored barriers to using technologies in developing countries, such as Ma and Lee's (2018) work on massive open online courses, as well as research on using games to enhance knowledge of cultural heritage (Ye, Wang, and Hang,

2023), and the effects of race and gender of pedagogical agents (Zhao et al., 2025). However, these efforts remain sporadic, and there is not yet a consistent focus across the *Journal* on these crucial themes.

Therefore, the *Journal* is committed to amplifying the voices and perspectives that have historically been underrepresented in discussions of educational computing technologies. We welcome interdisciplinary approaches and diverse methodologies in achieving this aim. We are particularly interested in work that addresses questions of power and knowledge production within educational computing, challenges Western-centric paradigms, and foregrounds the experiences of educators and learners from the Global South and other marginalized communities.

This expanded scope may therefore include, but is not limited to, the ethical considerations surrounding data use and AI in education, the cultural and social impacts of digital learning environments, the globalization of educational technologies and their influence on local knowledge systems, and the policy implications of tech-driven education reform. By exploring these themes, we hope to foster a more holistic understanding of educational computing, one that prioritises human dignity, cultural diversity, and social responsibility.

New Article Types and Submission Opportunities

In association with achieving this aim, the second priority as indicated in my introductory editorial has also been addressed. Hence, the additional article types of 'Review Article' and 'Systems and Tools' have now been added as submission options, with the following guidance.

- Review Articles critically synthesize existing research in educational computing, identifying key trends, gaps, and future directions in the field. Review articles are expected to 1) include a clear rationale for the review, 2)

provide a structured and comprehensive synthesis of the current state of knowledge including identifying significant patterns or contradictions, and 3) provide critical insights and implications for educational computing.

- Systems and Tools articles present mature software systems or tools with clear educational value. Articles must 1) justify the need for the system or tool, 2) justify its design and implementation (e.g., architecture, features, functionality), 3) compare it to existing alternatives, 4) provide empirical evaluation demonstrating effectiveness, distinctiveness, or design quality, and 5) discuss its limitations, contributions, and implications.

While these two additional article types could link to any aspect of the *Journals'* aim and scope, they can help play a distinct role in supporting research regarding "the ethical, social, and global consequences of educational computing technologies". For instance, authors could consider conducting reviews on the ethical implications of AI-driven educational technologies, how educational computing technologies either mitigate or exacerbate digital divides, or how well educational computing tools account for cultural diversity and local knowledge systems. Likewise, systems and tools articles could include outputs such as the development and evaluation of learning applications tailored to overcome infrastructure limitations and accessibility barriers for students in low-resource environments. Alternatively, authors may consider developing and evaluating culturally responsive virtual learning environments to promote inclusivity and representation of diverse backgrounds.

As suggested by Khowaja et al (2024), authors could evaluate GenAI applications based on aspects such as sustainability, privacy, the digital divide, and ethics. Therefore, in line with this, we urge authors to consider these evaluation metrics in any systems and tools submission, to ensure a more rigorous evaluation that addresses the wider societal implications of educational computing innovations. Nevertheless, the range of possible solutions to the

challenges outlined in this editorial is vast, and we look forward to receiving contributions that embrace the *Journal's* expanded breadth and vision.

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