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Education and technology: critical thinking, creativity and policy

Educação e tecnologia: criticidade, criatividade e políticas
Educación y tecnología: criticidad, creatividad y políticas

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PRESENTATION

Recent technological developments, including the latest Artificial Intelligence devices, have been proposed for school education as new possibilities for using digital artifacts. If the Covid-19 pandemic provided the "stage on which digital technologies became not only protagonists, but, in fact, structuring elements, that is, *sine qua non* for the continuation of the performance" (Ferreira, 2023, p. 27), the launch of interactive platforms built on powerful Large Language Model (LLM), which simulate interactions in "natural" language, brings further challenges to the already complex relationships between education and technology. These new developments are always presented as solutions to educational problems and raise significant concerns, given that they are not always based on policies that ensure democratic access and inclusion. Furthermore, without a knowledge base that allows for critical judgment and content assessment, their indiscriminate use can generate more losses than gains concerning acquiring knowledge and understanding of the world. The prevailing idea that technical proficiency is sufficient to justify the use of digital technologies in

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educational contexts, combined with pressure from education networks and society for constant "technological innovation" in schools, has led teachers to invest in quick and superficial training, generally focused on instrumentality devoid of reflection on the way these platforms are constructed, on the use of data provided by users, and on the political power of companies that own this technology, among other aspects related to media literacy (Milliet; Duarte; Carvalho, 2020). (Perennial?) Questions regarding access and concerns about the reliability and authorship of academic productions and the use of AI by researchers (Bolanos et al., 2024) permeate education, which, once again, finds itself under pressure to place technology at the center of its discussions.

In this scenario, policy formulation must be supported by empirical evidence and well-founded discussions on the complex presence of digital technology in education. The primary goal of this thematic section is to support this debate. The articles that comprise it, written by researchers with a long and solid track record, analyze relevant aspects of policies aimed at integrating technology in educational contexts, offering support for evaluation. Usually seen as an integral element of academic innovation, technology has often figured in educational policies in a reductionist way, without questions beyond access to networked devices and disregarding the complexity of the relationship between people and technology, as well as the possible negative impacts on the quality of educational work. After decades of research, it is safe to say that placing computers in schools or installing computer labs neither transforms pedagogical practices nor produces educational innovation. The same is true for machine-learning platforms. Bringing together articles that problematize, in different ways, the relationship between education and technology, based on research carried out by researchers linked to universities in Brazil and abroad, this thematic section addresses current topical issues. It provides foundations for thinking about the future of education as a human right.

Bringing together texts that are consistent with recent debates, some of which already addressed by the National Digital Education Policy enacted in 2023 (Brazil, 2023), the section includes contributions that examine theoretical and/or empirical specificities, avoiding polarized value judgments and addressing the presence of technology in education in critical and creative ways. Consistently with the analytical perspective proposed by Neil Selwyn (2017), the articles distance themselves from the usual dichotomy that classifies technology as "good" or "bad", expanding the debate beyond questions of access and adopting different perspectives on the presence of digital artifacts in school contexts, as well as their repercussions for educational policies. Presenting in-depth understandings of reality and seeking, above all, new paths and actions to transform it through reflection, dialogue between cultures and/or art, the authors point to renewed dimensions of the relationship between people and artifacts that need to be placed at the center of the debate in policy formulation.

The article by Magda Pischetola and Lyanna Thédiga, "Denormalizing the omnipresence of technologies: contributions from the sociomaterial approach to media education", analyzes two public policies – one Brazilian and one European – and highlights ways in which the normalization of technology is embedded in these texts. The authors suggest that a sociomaterial approach is a fruitful way of identifying problems that arise from this normalization and, also, a different basis for thinking about policies in which media education is not disconnected from the political issues it raises.

Furthering the discussion on the political dimension of technology in education, in "The integration of technologies into education during the pandemic and the challenges posed to Brazil's digital sovereignty", Andrea Lapa and Nelson Pretto discuss issues related to the country's digital sovereignty based on an analysis of the challenges faced by education during the Covid-19 pandemic, when private companies expanded their presence in public education. The authors advocate a critical integration of technologies in schools as a basis for building Brazil's digital sovereignty.

The article by Giselle de Morais Lima and Giselle Ferreira – "Brazilian edtechs: approaches based on Bourdieu" – discusses the context of Brazilian companies dedicated to the production of educational technologies, known as 'edtechs', exploring connections with Bourdieu's notion of 'field'. In the discourses of these companies, the authors identify a familiar premise: that education urgently needs to be transformed through technological innovation and the personalization of teaching made possible by innovation. They suggest that the notion that technology can offer solutions to the complex problems of education obscures not only conflicts of interest between the pursuit of profit and the constitutional right to education, but also the need for socially articulated policies and actions.

"Automation in education: international issues from critical perspectives" addresses one of the most discussed topics: artificial intelligence. Based on a content analysis of 32 articles, Flávia Arruda and Jaciara Carvalho discuss the main issues arising from the rapid growth of AI applications in education. The article's tone, however, is not merely denunciatory: the authors also point to possible ways to address the issues arising from the expansion of different forms of automation in education.

"From the digital school secretariat to total Business Intelligence: platformization in the São Paulo state network", by Luís Renato Silva Maldonado and Márcia Aparecida Jacomini, analyzes the ongoing platformization process in the São Paulo state network. Based on empirical data, the authors point to significant changes in school management because of this process, which has been sustaining the hyper-bureaucratization of school processes, with management subjected to a form of digital accountability exercised by platforms.

The section also presents two texts that indicate possibilities for using digital technologies in educational contexts, combining creativity and critical thinking. "Contributions of audiovisual production in schools to digital education", by Mirna Juliana Fonseca and Rosália Duarte, analyzes the repercussions of a video workshop for students who participate in it and for the school where it is promoted, based on questions related to what can be seen and what cannot be seen. The authors base their work on the premise that the analysis of audiovisual production activities can provide elements for understanding how children, adolescents, and the school community deal with images and their production within the institutional space and for thinking about how this can be incorporated into school activities. The article also discusses possible contributions of this type of activity to fulfilling the objectives of the National Digital Education Policy.

In "Public cultural policies and the production of audiovisual narratives: collaborative ethnographic experiences in the Marajó archipelago", Denise Machado Cardoso, Alessandro Ricardo Campos and Felipe Bandeira Netto present projects developed by the Visual and Image Anthropology Research Group (Visagem) in the Marajó archipelago, based on collaborative ethnographic practices inspired by Jean Rouch's Shared Anthropology and supported by the method developed by Paulo Freire. The authors argue that, with the creation of the National Culture System's regulatory framework, budgetary resources will be allocated to public cultural policies, guaranteeing the promotion of the arts.

The section closes with an exclusive interview with Neil Selwyn, a professor at Monash University, Australia, who is an international leader in Critical Studies of Education and Technology. In his usual clear and direct style, Selwyn begins by recounting his career in the field to discuss the main current trends in the area, pointing out ways he envisages for greater dialogue between researchers, companies developing educational technologies, and policymakers.

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