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SCIENCE, TECHNOLOGY, EDUCATION, AND SOCIETY: AN INTEGRATED AND EXPANDED ANALYSIS OF TECHNOLOGICAL INNOVATIONS IN THE TEACHING-LEARNING PROCESS

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ABSTRACT

This scientific article sought to analyze, in an integrated manner, the complex relationship among Science, Technology, Education, and Society (STS), examining how the intentional incorporation of technological innovations redefines and enhances the contemporary teaching-learning process. The central research problem focused on pedagogical challenges and structural barriers to the use of technology at various educational levels. The method consisted of an in-depth literature review grounded in the analysis of a documentary corpus that included the author's previous studies and theoretical sources on multimedia resources, Instructional Design (ID), cognitive neuroscience, and curricular integration. The results showed that planning the use of technologies promotes more meaningful and lasting learning by making educational environments more dynamic and fostering student agency. The study concludes that the STS perspective requires technological integration to be accompanied by public policies that ensure equitable access, adequate infrastructure, and ongoing teacher education - fundamental elements for promoting inclusive education aligned with the challenges of human and social development.

Keywords: Technology. Meaningful learning. Educational equity.