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The Importance of Artificial Intelligence to Improve Critical Thinking Among Elementary School Students in the Mauroa Municipality, Falcón State, Venezuela

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ABSTRACT

The development of critical thinking in primary school students is essential to address 21st-century challenges. In Mauroa Municipality, Falcón State (Venezuela), where technological gaps and educational inequalities persist, the integration of Artificial Intelligence (AI) emerges as an innovative strategy to enhance these skills. This research aims to analyze how AI can contribute to developing critical thinking in primary students in Mauroa Municipality. A qualitative phenomenological-hermeneutic study was conducted, using semi-structured interviews with 20 primary teachers employing AI in their pedagogical practices. Data were thematically coded using NVivo, examining perceptions of benefits, barriers, and training needs. Results were triangulated with a document review of national reports and current academic literature. Findings indicate that teachers reported tools like ChatGPT foster critical skills (deep analysis, problem-solving). However, they identified limitations due to inadequate technological infrastructure and emphasized the need for specialized training. Three key barriers emerged: unequal technology access, insufficient teacher preparation, and a lack of inclusive educational policies. The study concludes that AI holds transformative potential to personalize learning and strengthen critical thinking. Effective implementation requires: 1) investment in accessible technological infrastructure; 2) teacher training programs focused on critical pedagogy with AI; and 3) public policies prioritizing educational equity. This research demonstrates AI integration in vulnerable settings, highlighting the urgency to address structural gaps in Venezuela's educational system.

Keywords: Artificial Intelligence - critical thinking - primary education - technological inequality - teacher training.

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