

## Transforming Minds: The Influence of AI on Critical Thinking and Problem-Solving

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### Abstract

The digital age and the integration of Artificial Intelligence (AI) into language education have brought about new opportunities and challenges. This paper studied the impact of AI on improving critical thinking and problem-solving skills of English language learners at a language school in Tehran, Iran. Over a two-month period, 420 learners of a language school were exposed to an AI-augmented language learning syllabus. The study used a mixed-methods approach to analyze the resulting impact on the cognitive development of learners. The outcomes revealed the positive impact of such syllabus on learners' critical thinking and problem-solving skills. In addition to addressing important gaps in understanding the role of AI in language learning, this study also explores the broader impact of technology-enhanced education in non-English contexts such as Iran. The results are expected to contribute to the broader discussion on AI in education and provide valuable perspectives on syllabus design and curriculum development, educational strategies, and the potential of employing AI to bridge educational gaps.

**Keywords:** AI-Augmented Learning; Cognitive Development; Curriculum Design; Second Language Acquisition; Technology-Enhanced Education