INTEGRATING SCIENCE, THOUGHT, AND TECHNOLOGY: TOWARD AN ARTIFICIAL INTELLIGENT ENVIRONMENT

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THE FLIPPED AI TFL CLASSROOM FRAMEWORK

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Abstract

This paper examines the systemic instructional issues present in low-resource classrooms that may be alleviated by the application of the Flipped AI TFL Classroom Framework. This study builds on Kolegova and Levina's (2024) findings that AI capitalized on efficiency through an automated component of language plan implementation. In addition, it takes into consideration Dugošija's (2024) findings that several constraints remain for the instruction of foreign languages. The reasoning for this educational deduction is the 3-Point Strategic Investment Plan to reinvest the time savings that AI-infused learning can produce for classroom targeted improvements. These targeted improvements aim to combat areas such as content equity, learner value, and educator burnout, along with the strengthening of Crompton et al.'s (2024) establishment of capacity building within a strong AI-supported context. If established, it is argued, as a framework, AI will explore and liberate cognitive, emotional, and logistical faculties for educators. In turn, focused attention to structural constraints as opposed to routine tasks in ALL TFL contexts. This representation has justified the reinvestment of AI-improved efficiencies to enhance instruction, learner engagement, as well as sustainability for low resource TFL practices.

Keywords: *AI in TFL, Flipped Classroom, Teacher Literacy, Digital Divide, Efficiency Gains*

Introduction

Globally, in every part of the world, thousands of foreign language instructors in resource-constrained schools experience the same bottleneck every day, too many students, too few resources, and too little time. Despite the fact that foreign language instruction has inched into its transformation through AI in classrooms across the globe, the promise remains consistently under developed in the resource constrained scenario of the school setting. The instructor could supplement translation activities, generate activities, albeit sparse, but surely not in a way to remediate the systemic challenge identified as issues by Dugošija, 2024, content availability, learner engagement, and burnout, which are all systemic challenges proposed and

identified in my own research studies indepth and longitudinal observations. The curricular framework states that the proposed Flipped AI TFL Classroom Framework provides a workable, scalable model in the resource constrained school scenario through the focused reinvestment of AI insights in the same three specified targeted challenge areas with tangeable, clear intervention frameworks, content availability, learner engagement, and burnout.

Literature Review

AI has been implemented widely in other applications such as transportation, healthcare, media, and the education sector (Dugošija, 2024). In the realm of foreign language learning, AI applications are gaining traction as they have the potential to revolutionize how we teach and learn foreign languages. Dugošija (2024) identified one benefit of the use of AI in the English foreign language teaching process, which is the opportunity for personalized learning through AI adapted lessons based on the learner. Kolegova and Levina (2024) have also identified a positive aspect of using AI in foreign language teaching, which is supporting the teacher in creating using materials based on the strengths and weaknesses of the students. Additionally, AI technology has the potential to track the progress of students, suggest skill based practices, in addition to working with the learner in activities such as remote role play or speech recognition. This technology not only increases student motivation but also offers students a safe space in which they can practice speaking and listening. In fact, in TFL classrooms that require fewer resources, the lack of efficiency of the AI technology, along with other issues, limits its capabilities. As Crompton, et al. (2024) note, there is a lack of sufficient literacy level in AI technology among most of the trainers as well as other technological tools, in schools. Additionally, Dugošija (2024) notes that there might be an overreliance or dependence on AI technology that could cause students' face to face interactions to diminish, as well as reducing critical thinking. The existing imbalance of efficiency and efficacy of the AI technology in the TFL classroom, along with barriers, emphasizes the need for systematic frameworks that build upon the efficiencies offered through AI improvements. The AI technology used in the TFL classrooms offers differentiation of course content for AI differentiated materials that supports students of all levels, allowing the teacher to develop materials based on the students' learning (Kolegova & Levina, 2024). The AI technology automates grading and planning, along with offering sufficient practice to students, which allows the teacher time to reflect, collaborate, and implement students-centered practices (Crompton, et al., 2024).

Conclusion

In foreign language classrooms with limited resources, the TFL Classroom Framework can be effectively "flipped" by AI to maximize efficiency gains. Instructors can overcome the current

systemic barriers in addition to utilizing the time saved by AI-driven automation in learner engagement, content equity, and teacher well-being.

References:

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