

A Comparative Analysis of Interactive Learning Environments and Traditional Pedagogies in Second Language Acquisition

Casey Lewis

PhD

University of California, Berkeley

Berkeley, CA 94720, USA

Dana Phillips

Associate Professor

University of Toronto

27 King's College Circle, Toronto, ON M5S 1A1, Canada

Joseph Nelson

Professor

University of Edinburgh

Old College, South Bridge, Edinburgh EH8 9YL, UK

Riley Edwards

Dr. Sc

Monash University

Wellington Rd, Clayton VIC 3800, Australia

Abstract. This study investigates the efficacy of interactive learning environments (ILEs) compared to traditional pedagogies in enhancing second language acquisition (SLA). Employing a mixed-methods approach, quantitative data were collected from a sample of 300 participants across various educational institutions, using pre- and post-tests to measure language proficiency. Qualitative insights were gained through structured interviews with educators implementing both methodologies. Our findings reveal that ILEs significantly improve student engagement and language retention, with an average proficiency gain of 25% over a semester, contrasted with a 10% gain in traditional settings ($p < 0.01$). This research underscores the necessity for educational reform towards more interactive methodologies to cater to the evolving needs of learners in a globalized context.

Keywords: Interactive Learning Environments, Second Language Acquisition, Educational Methodologies, Language Proficiency, Qualitative Research, Quantitative Analysis, Pedagogical Efficacy, Learning Engagement

Introduction

The global landscape of language education is undergoing a paradigm shift, necessitated by the increasing prevalence of digital technology and evolving pedagogical theories. The

persistent challenge of effectively teaching second languages in diverse contexts raises critical questions about educational methodologies' relevance and effectiveness. Historically, traditional pedagogies have dominated the field, yet they often fail to engage learners fully, leading to suboptimal outcomes. Recent studies indicate a stark disconnect between these conventional approaches and the dynamic nature of language learning, particularly in the context of globalization and technological advancement. Notably, previous literature has inadequately addressed the comparative impact of interactive learning environments (ILEs) against traditional methods, leaving a significant gap in understanding which practices yield superior results in language acquisition. Many studies have historically relied on unidimensional metrics, disregarding the multifaceted nature of language learning that encompasses cognitive, social, and emotional dimensions. This paper aims to address these gaps by exploring the following research questions: How do ILEs compare with traditional pedagogies in fostering language acquisition? What are the implications of these methodologies for educational practice? The structure of this paper is as follows: we will first review the relevant literature, then present our methodology, followed by results, discussion, and concluding remarks.

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Methodology

This study utilized a mixed-methods research design, encompassing both quantitative and qualitative elements to comprehensively evaluate the effectiveness of interactive learning environments (ILEs) in second language acquisition (SLA). The sample comprised 300 participants, randomly selected from three universities, utilizing the Language Proficiency Assessment Tool (LPAT) version 2.5 for quantitative measurements. The quantitative phase involved baseline assessments conducted at the onset of the semester, followed by a mid-semester evaluation and a final assessment. Statistical analyses were performed using SPSS version 27.0, employing ANOVA to compare proficiency gains across groups with a significance level set at $p < 0.05$. Meanwhile, the qualitative data were obtained through semi-structured interviews using NVivo version 12, focusing on educators' experiences with both ILEs and traditional methodologies. The interview protocol, aligned with constructs from the Technological Pedagogical Content Knowledge (TPACK) framework, led to thematic analysis, revealing key insights into pedagogical efficacy and learner engagement. This robust methodology ensured a comprehensive understanding of the comparative effectiveness of ILEs against traditional pedagogies in SLA settings.

Results and Discussion

Findings from this study indicate that interactive learning environments (ILEs) significantly outperform traditional pedagogies in enhancing learners' language proficiency, with a noted improvement of 25% in language acquisition metrics compared to a 10% improvement observed in traditional settings ($p < 0.01$). Additionally, qualitative feedback from

participants highlighted increased motivation and engagement levels in ILE contexts, aligning with the theoretical underpinnings of constructivist learning models. Statistical analyses revealed a significant reduction in error rates, with the ILE group exhibiting a 15% lower incidence of grammatical errors in post-tests compared to traditional counterparts. The implications of these findings suggest that educators should consider integrating ILEs into their curricula to facilitate deeper and more meaningful language learning experiences. Furthermore, the challenges associated with transitioning to ILEs, such as infrastructural limitations and the need for professional development, warrant further investigation to optimize these educational approaches.

Conclusions

In conclusion, this research contributes to the ongoing discourse on effective methodologies in second language acquisition by providing empirical evidence of the superiority of interactive learning environments over traditional pedagogies. The study's findings advocate for a paradigm shift in language education, emphasizing the necessity for institutions to adapt to contemporary pedagogical advances. Practically, educators should pursue training and resources to implement ILEs effectively, ensuring that learners benefit from enriched language experiences. Future research should explore longitudinal impacts of ILEs on language retention and fluency, as well as the scalability of these approaches across diverse educational contexts.

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Conflict of Interest

The authors declare no conflict of interest.

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