CONTEXTUALIZED ANIMATED DIGITAL STORYTELLING FOR VOCABULARY DEVELOPMENT AMONG LOWER SECONDARY ESL STUDENTS IN SRI LANKA

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Abstract

Development of English vocabulary remains a significant challenge for lower secondary English language learners as Second Language (ESL) students, particularly in contexts where students have limited exposure to authentic English language use. Extensive research shows that animated digital storytelling is an established pedagogical approach that improves student engagement and learning outcomes through the creation of visualized narratives using various media. Furthermore, generative artificial intelligence (Gen AI) has facilitated the development of contextualized learning materials, enabling teachers to create contextualized content while reducing preparation time. This study examined the effectiveness of locally developed, AI-assisted, animated digital storytelling delivered through smart board technology in supporting vocabulary development among Grade 6 ESL learners in Sri Lanka. Therefore, this study examined the effectiveness of using AI-assisted, animated digital storytelling in supporting vocabulary development among Grade 6 ESL learners. This single-group pre-test–post-test study examined the effectiveness of locally developed, culturally adapted, AI-assisted animated digital storytelling delivered via smart board technology for vocabulary development among 39 Grade 6 ESL students from a mixed-gender national school in the Piliyandala Educational Zone, Sri Lanka. The intervention integrated three elements: (1) generative AI and digital storytelling tools for rapid curriculum-aligned narrative development; (2) stories contextualized to Sri Lankan learners' experiences incorporating themes of moral development and interpersonal communication; and (3) multi modal learning activities combining visual, auditory, textual, and narrative elements. Over four weeks, 10 classroom sessions (40 minutes each) delivered digital storytelling, with vocabulary assessed through teacher-designed pre-intervention tests (traditional storytelling method) and post-intervention tests (digital storytelling method). Results demonstrated statistically significant improvement in mean scores from 46.21 to 77.38, representing a 67.5% gain (31.18 points), $t(38) = 14.79$, $p < .001$, with a large effect size (Cohen's $d = 2.37$). Nearly all students (97%) improved, with one showing no change. An English Day activity enabled students to apply vocabulary skills in collaborative storytelling. These findings underscore the effectiveness of culturally contextualized digital storytelling for lower secondary ESL vocabulary instruction in Sri Lankan educational contexts, with implications for integrating technology-enhanced, culturally responsive pedagogy in similar settings. Recommending future research with larger samples for greater generalizability.

Keywords: Vocabulary Development, Generative AI, Digital Storytelling, ESL Learning