


Chapter 9

Integrating Game-Based Learning and Mobile Learning in Early Childhood Education

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ABSTRACT

The purpose of this chapter was to report on a literature review study pertaining to educating early childhood teachers and stakeholders on creating an immersive learning environment that exploits the benefits of mobile learning and game-based learning (GBL). Further, this chapter sought to increase the corpus of knowledge regarding game-based learning within the early childhood curriculum, an area of research that needs further exploration. Mobile learning and game-based learning (GBL) are practical and valuable educational tools for preschoolers because they promote social and cognitive engagement as an effective learning strategy. Previous research focused on GBL for children aged three to six, which addressed the unique learning needs of children by incorporating game elements to elicit immersive experiences. Hence, this reinforces the strategy of play-based learning and engagement as a cognitive and social development imperative. Importantly, this chapter's contributions will empower politicians, parents, and educators to make informed decisions on the benefits of integrating mobile learning and GBL with the early childhood curriculum to enhance learning outcomes.

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INTRODUCTION

Early Childhood Learning

Although there are numerous studies on digital educational games, few studies analyse their significant features, including the disadvantages and advantages of GBL at the preschool level. Incorporating games into learning spaces impacts many domains; hence, research needs to focus more on GBL's benefits. Behnamnia et al. (2023) maintain that GBL in early learning has several benefits because games promote suitable and exciting learning environments. However, these claims are firmly based on current theory and research but have little empirical support. In order to cover this gap where empirical support is lacking, this study 'opens the door' by exploring early childhood learners' experiences to determine what environment matches their developmental level. Castillo (2019), cited in Behnamnia et al. (2023), affirms that "Digital game-based learning (DGBL) and related educational technologies are essential elements in the education system". Moreover, recent studies by (Susilawati and Handoyo (2022) indicate that children's access to technologies such as tablets and smartphones is ever-increasing.

Early childhood education (ECE) learners who are in the initial phases of their educational journey, usually between the ages of three and eight, are developing foundational skills in various subjects, including mathematics. Regarding development, the early years of education (birth to age 8) is a crucial period of rapid cognitive and physical development involving over one million new neural connections formed every second. According to the Center for Developing Children (Manas 2020), this foundational stage of children's growth stimulates the development of learning processes, relationship-building, and school readiness.

Additionally, it is essential to become knowledgeable about the characteristics of early childhood education (ECE) learners to promote quality pedagogical practice in line with the developmental needs of young children to benefit from quality teaching-learning processes. Early childhood learners (0-8 years) are at the critical stage of developing cognitive skills which accelerate learning through play activities, which practitioners should encourage because play fosters attention, critical thinking, memory, and problem-solving abilities.

Research emphasises that ECE learners thrive through play (Vygotsky, 1978) and advocates the creation of opportunities for hands-on activities like games to enhance the development of social and emotional skills and adapt to different learning styles while providing frequent breaks during movement opportunities. In other words, deep knowledge of early childhood learners will guide teachers in selecting relevant game-based learning content to exploit young learners' potential.

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