Game-Based Learning and Children's Digital Literacy to Support Pervasive Learning: A Systematic Reviews

Muhibuddin Fadhli[1](*), Dedi Kuswandi[2], Prihma Sinta Utami[3], Septi Budi Sartika[4], Mohamad Hardyman bin Barawi[4]

[1,2]Education Technology, Universitas Negeri Malang, Malang, Indonesia
[3]IKIP Budi Utomo, Malang, Indonesia
[4]Universitas Muhammadiyah Sidoarjo, Sidoarjo, Indonesia
[5]Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak, Malaysia

Abstract

In this study, we investigate the impact of game-based learning on children's digital literacy in processing and acquiring information, focusing on the generation of digital natives who excel in responding to multimedia information. Utilizing data mining and the PRISMA Protocol, we conducted a systematic review based on the keywords 'Game-based learning on children's digital literacy.' Data from the years 2017 to 2019, extracted from Sagepub and Emerald databases, reveal strong empirical support for the enhancement of children's digital literacy, particularly through game-based learning interventions, as evidenced by a significant effect size of 0.66. This translates to children becoming better at deciphering visual cues, understanding audio narratives, and critically evaluating the information presented in a variety of multimedia formats. Furthermore, game-based learning fosters critical thinking and problem-solving skills, keeping children engaged and motivated to learn in this dynamic digital landscape.

INTRODUCTION

The digital native is the generation that is born along with technological developments (Tran 2019). Children born in this generation are the generation that can adapt very quickly to technology. Children can develop and increase along with technological development (Harrison and McTavish 2018). However, many negative sides that arise from the rapid development of technology, the phenomenon of gadget addiction, health problems and other negative impacts. On the other hand, technological development should have clear objectives, so that, they have a good impact on children's growth. Technologies such as artificial intelligence, virtual reality, and children's development-based games should be able to assist their growth and development as long as we as parents provide the right content and provide assistance to children when they play gadgets (Suhana 2018).

Children are often fascinated by today's new gadgets and technologies: this provides rise to wonderful opportunities also as concerns (Gillen et al. 2018). The latest media can provide children with innovative and interesting learning experiences, and permit them to be empowered and connected in new and exciting