# The Effects of Educational Apps on Pre-School Children

This study examines the effect of mobile educational applications on pre-school children and their academic achievements. The research was conducted by studying and analyzing the information provided by similar previously conducted researches. The interpretive methods, which focus on understanding a phenomenon comprehensively, and secondary data collection, were used for this research. The findings suggest that using mobile applications offers new entertaining and individualized educational practices. Furthermore, these interactive properties contribute to improving children's learning environment and boost their interest in the process of education. Practitioners and researchers should consider that mobile learning can positively impact children and their educational process.

#### Introduction

The demand for mobile learning in the modern world is increasing while the digital technology market for preschoolers is expanding. Educational applications are among the most popular innovative tools that have been actively promoting technology-integrated learning among various socio-economic groups since the early 2000s. Mobile technologies transform our daily lives in ways such as connectivity, communication, and cooperation (McQuiggan, McQuiggan, Sabourin & Kosturko, 2015). Indeed, mobile applications cannot replace formal education; however, it offers methods to support learning outside schools. The primary focus of digital learning is to help its users to gain new knowledge and obtain new skills. There are still many debates on whether mobile applications have a more positive or negative effect on preschool children and whether they help absorb new material. This research project will provide information on educational apps' impact on pre-school children by studying and analyzing previously conducted researches. It will help to have a clearer understanding of the issue. In

addition, it will determine if using interactive properties influences children more in positive or negative ways.

### **Research Problem Questions**

This research aims to investigate the effects of mobile educational applications on preschool children and their academic achievements. In this context, the research problem is "Do mobile educational applications affect pre-school children positively or negatively? Do they help their academic achievements?" More specifically, this work addresses the following research questions:

- If used in a healthy balance, do mobile applications improve the learning environment and boost interest in the process of education?
- Is digital learning effective in enhancing literacy and training math skills?
- Can digital apps complement offline education and help children to develop social skills?
- Can the design of the application support and boost the learning process?

# **Objectives**

The objective of the research is to learn whether incorporating mobile applications into education is a good idea. Technology became an integral part of people's lives in the modern world, and finding a healthy balance became an important issue. This research aims to learn more about the effect of technology on children and their education. Particularly, the study has the following objectives:

- to provide a comprehensive review of sources on the concerning matter;
- to analyze given sources and data;

- to review the current effects that mobile applications have on children and their education process;
- to conclude whether digital properties have a more positive or negative impact.

# Methodology

The primary research method for this study is the review and analysis of literature and previously conducted researches on the topic. This study will first review the sources that study the effect of educational applications on children. In the second stage of this study, the data concerning digital awareness will be collected. Finally, once all the information and data have been learned and collected, a conclusion will be made based on it.

### **Research Results**

Experts and researchers have diverse opinions about the impact of educational applications on the learning patterns of pre-school children. For instance, according to Kim et al., "there is mixed evidence that educational apps improve student outcomes" (2). However, it was concluded that integrating mobile apps into the learning process has more benefits than drawbacks.

One of the most convincing arguments is that for most twenty-first-century learners, the process of using digital properties and integrating them in life is familiar and even natural. For example, some scholars speak of modern children as "digital natives" who quickly adapt and learn a lot from mobile devices (Laranjeiro 229). Another argument is that algorithms built into applications help individualize learning strategies and adjust them to specific needs. As Callaghan and Reich demonstrate in their work, "interactive and adaptive capabilities of mobile devices allow educational applications (apps) to support learning through scaffolding designs" (785). In addition to a user-friendly interface that promotes the development of memory and

skills, mobile applications are easily accessible. According to Lerner, digital apps can complement offline education and cement a child's social inclusion (195-198).

The drawback of such a wide variety and accessibility of applications, as stated by Papadakis and Kalogiannakis, is that sometimes it can be difficult for parents to navigate the online market due to the wide variety of products. The authors emphasize that since digital stores do not always provide enough information, it is problematic for non-professionals to determine which application can be trusted (Papadakis and Kalogiannaki 2-4). In such cases, experts advise consulting with special ratings and guides.

As shown by Kim et al. in their meta-analysis of the impact of mobile apps, online mechanisms are found to be particularly effective in enhancing literacy and training math skills (3-4). The scholars suggest that factors such as the extended time that a student can spend in the application, illustrative examples, repetition of the material facilitate the effect. As a result, educational apps appear to achieve their goals and are effective. Thus, despite the relative lack of research on the impact of educational apps on preschoolers, there is enough evidence to demonstrate positive dynamics in mobile learning for pre-school children and their academic progress.

# Works Cited

- Callaghan, Melissa N., and Stephanie M. Reich. "Mobile App Features That Scaffold Pre-school Learning: Verbal Feedback and Leveling Designs." *British Journal of Educational Technology*, vol. 52, no. 2, 2021, pp. 785–806.
- Griffith, Shayl F., et al. "Promoting early achievement in low-income preschoolers in the United States with Educational Apps." *Journal of Children and Media*, vol. 13, no. 3, 2019, pp. 328-344.
- Kim, James, et al. "Measures Matter: A Meta-Analysis of the Effects of Educational Apps on Preschool to Grade 3 Children's Literacy and Math Skills." *AERA Open*, vol. 7, 2021, pp. 1-19.
- Laranjeiro, Dionísia. "Development of Game-Based M-Learning Apps for Preschoolers." *Education Sciences*, vol. 11, no. 5, 2021, p. 229.
- Papadakis, Stamatios, and Michail Kalogiannakis. "A Research Synthesis of the Real Value of Self-Proclaimed Mobile Educational Applications for Young Children." *Mobile Learning Applications in Early Childhood Education*, edited by Stamatios Papadakis and Michail Kalogiannakis, IGI Global, 2020, pp. 1-19.