

Impact of Digital Learning on Academic Performance among Advanced Level Students in Kalutara District of Sri Lanka

W.D.I. Devindi^{1,*} and H.M.B.P. Ranaweera²

*Department of Information Systems, Faculty of Management Studies,
Rajarata University of Sri Lanka, Mihintale, Sri Lanka^{1,2}*

*Corresponding author: imashadevindi789@gmail.com

Abstract

This study examines the impact of digital learning on the academic performance of Advanced Level (A/L) students in the Kalutara District of Sri Lanka. Along with the rapid growth of education technology, Sri Lankan secondary education is also becoming online. It has been revealed that research done in various countries has shown positive impacts of digital learning on academic performance. However, local empirical evidence on its impact in the Sri Lankan context remains limited. The main objective of the study is to assess the impact of digital learning on academic performance. Digital learning has four major dimensions: digital teaching materials, digital tools, digital delivery, and autonomous learning. The study was quantitative in nature, and it followed a deductive approach. A random sampling technique was used to select 30 percent of the overall 126 schools in the Kalutara District. For data collection in these selected 38 schools, a quota sampling technique was used to collect data from 371 students with proportional representation and fair distribution across the district's A/L students. Structured questionnaires were used, and data were analysed using descriptive statistics, correlation, and regression with SPSS software. Findings revealed a strong positive relationship between digital learning and academic performance ($r = 0.841$, $R^2 = 0.707$, $p < 0.001$). Among the four dimensions, Digital Delivery had the greatest influence, highlighting the importance of effective content access and delivery. Digital teaching materials also showed a strong impact, while digital tools contributed positively with a slightly lower effect. Autonomous learning demonstrated the least influence, though it still played a meaningful role in improving outcomes. The findings confirm that effective implementation of digital learning through adequate access to devices, high-quality content delivery, and opportunities for learner autonomy enhances academic performance. The study recommends improving digital infrastructure, providing equal access to resources, and encouraging autonomous learning to enhance the effectiveness of digital learning and strengthen the academic performance of Sri Lankan A/L students.

Keywords: academic performance, digital delivery, digital learning, digital teaching materials, digital tools