

## **Analyzing the Impact of Student Engagement on Learning Outcomes in E-learning Platforms: Case on Programming Language Courses**

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### **Abstract**

This study explores how students engage with e-learning platforms and how it relates to their academic success, focusing on programming language learning among Information Technology (IT) undergraduates in Sri Lanka. This study employs the Community of Inquiry (CoI) framework in conjunction with the evaluation of academic pressure to measure student engagement. The research aims to understand the impact of cognitive presence, social presence, and teaching presence on learning outcomes in e-learning, while also examining how infrastructure plays a moderating role. The data were gathered through a structured questionnaire, and the gathered data were analyzed using SmartPLS 4 software. The findings highlight that cognitive presence, social presence, and teaching presence significantly predict better learning outcomes, emphasizing their crucial role in the effectiveness of e-learning in programming language courses. The study doesn't find a strong connection between the academic pressure felt by undergraduates and the learning outcomes. This suggests that success in e-learning is influenced by various factors beyond traditional academic pressures. Additionally, we investigate the moderating effect of infrastructure on these relationships. Unexpectedly, the study reveals that infrastructure doesn't significantly change the connections between cognitive presence, social presence, and teaching presence on learning outcomes. In simpler terms, the technical support provided doesn't seem to alter how these elements impact student success in this context.

This study offers valuable insights into the intricate dynamics of student engagement, academic pressure, and infrastructure within the realm of e-learning. These findings hold significance for educators, policymakers, and researchers in the field of education, providing actionable knowledge to enhance support for students navigating e-learning environments.

### **Citation**

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