

1 Abstract

Students majoring in computer science often have little to no computing experience before entering college and this can affect students' confidence and performance throughout their education [1]. To mitigate this obstacle, we attempt to boost students' confidence, reduce learning loss, and provide foundational support by offering a four day online winter term bootcamp as a bridge between their introductory and intermediate computer science courses. This is a qualitative study examining the experiences of Computer Science students that participated with an emphasis on self-efficacy, the importance of providing scaffolding to ensure that they stay within the zone of proximal development [2, 5, 4]. Although this is a study of college students, results may translate to secondary schools or other settings where introductory computing classes are being offered.

2 Introduction

With the introduction and rapid growth of artificial intelligence in recent years, computer science has increasingly become a driver of innovation in the US economy, but has still not become an integral part of our education system with only 29 states adopting policies that provide CS course access to all high school students [3]. In 2023, there were over 350,000 open computing jobs nationwide, but only 90,000 students who received a computer science bachelor's degree [3].

References

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