

Confidence in Computing: A Career Preparatory Course for Undergraduate  
Students  
(Technical Report)

Digital Learning: Responses to the Rise of Technology in Public Education  
(STS Research Paper)

An Undergraduate Thesis Portfolio  
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Bachelor of Science in Major

by

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## Preface

How can we promote equal opportunities in schooling for all individuals regardless of their background? Schooling has evolved over decades from being a luxury to a necessity that prepares students for success as a working adult. Ethical concerns arise over the availability of educational resources allocated to students of different backgrounds and its effects on post-graduate opportunities.

What are the effects of a career preparatory course on increasing the self-efficacy and career expectations of computer science students who, prior to undergraduate studies, have relatively low self-confidence, social support, and computing experience? With the objective of preparing aspiring computer science students from the University of Virginia (UVA) and UVA's College at Wise, the course staff prepares material on fundamental industry practices and the research team conducts surveys involving confidence-related questions. Analysis of survey results include personal information relating to minority groups in gender, race and ethnicity, and computing background.

How have students and educational staff responded to the allocation and inequitable effects of educational technology in U.S. public education for the past 10 years? To EdTech adopters, technology-enhanced learning tools promote a healthy learning environment, promise cost and time saving benefits, and foster a more creative outlet. However, skeptics warn about its dangers in the classroom involving the digital divide, device addiction, and data security risks. Educators, parents, regulators, and industry professionals weigh in on EdTech concerns regarding the application of classroom technology and distribution of technological resources between public school communities across the country.

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