

Thesis Project Portfolio

CCA – Academic Tracker

(Technical Report)

The Struggle to Find Educational Technology’s Place in the Classroom

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Examining and Implementing Educational Technology

Throughout history, technology has played a key role in facilitating education. As we have entered the digital age, a wealth of online resources has been developed for administrators, teachers, and students to increase a capacity of learning. My technical team was approached by the director of a small school to create a personalized system for them to track and analyze standardized testing scores for their students over time. In parallel, my STS research examines and critiques the current dynamic between educational technology companies, educators, and students in an effort to provide a framework for judging the efficacy of various educational technologies.

Engaging in my STS research proved immensely valuable when applied to my technical project. Most notably, determining economic pressures applied to educational technology companies allowed me to understand what facets of modern educational technology are beneficial to users as compared to other participants, such as educational technologists and their investors. Outlining an overarching goal of general societal education was necessary to ensure that the product created in my technical project would best serve the school administration and its students.

In completing my technical project, my team was able to provide the school director with an intuitive and secure system to store data on student performance and provide valuable analytical tools for administrators. We believe that the practical use of our system can help the director to identify students struggling academically, evaluate teacher performance, and reveal current shortcomings of the educational experience provided by the school. With the insight

provided by our system, the director can then consider the allocation of the school's resources and make informed decisions to improve the overall quality of education for numerous students.

My STS research revealed a complex and interconnected narrative surrounding modern educational technology. This helped me to understand why educational technologies provided by large companies were not suitable to the school in my technical project. I also was able to develop my own understanding of what constitutes quality educational technology and apply that understanding as I progressed through my technical project. In this thesis, I hope to share key lessons that I learned so that others can further their understanding of educational technology and push the industry in a direction that best serves educators and students.