

## **Thesis Project Portfolio**

### **A Translation Tool for Teachers of English Language Learners**

(Technical Report)

### **Integration of Technology in the Education System**

(STS Research Paper)

A Thesis Portfolio submitted to the

Faculty of the School of Engineering and Applied Science  
University of Virginia – Charlottesville, Virginia

In the Partial Fulfillment of the Requirements for the Degree  
Bachelor of Science, School of Engineering

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## **Sociotechnical Synthesis**

STS 4600 - David Clark

Fall 2020

My technical project was a tool designed for teachers of English Language Learners to assist in communicating with their students. Because of this, I wanted to perform research on how English Language Learners have been taught in the United States in the past. I wanted to see how different types of technologies that helped to achieve similar purposes have been used, and assess their effectiveness. Through this research, I was better able to design my technical project towards the situations it would be used in. Gauging the usefulness of different technologies and the settings that they are most effective in can be very helpful towards designing a new technology. History can be a powerful tool. Just because a technology is flashy and new doesn't mean it is accomplishing its purpose as effectively as possible, it is important to look at data from the past to build on the future.

For my technical project, I converted a list of commonly used teaching terms and their translations from all different subjects into an easily readable and searchable web page. The goal of this project was for teachers to help communicate with English Language Learner students. I produced what I believe to be an effective tool for quickly looking up terms in different languages that could be useful in a multilingual classroom. My STS research showed different technologies and approaches for teaching English Language Learners throughout United States history. It gave me valuable insight on the effectiveness of technologies in education, and the

necessity of different types of interactions. Especially during the era of SARS-CoV2, it is very important for teachers to allow for daily interactions with peers along with other types of technology to assist in speech, vocabulary, grammar, and pronunciation.

Since my technical project and STS research were so closely related, I was able to use knowledge I picked up from one to enrich the other. My STS research allowed me to get a better understanding of what education technologies have worked well throughout history and caused me to make certain design decisions in my technical project to reflect this. Furthermore, the knowledge and experience I gained from my technical project prompted many additional questions and subjects I could research for my STS paper.

Finally, I would like to thank Professor Joe Garofalo for providing me with a technical project to work on, along with the students and other professors around Charlottesville and UVa that helped to build the list of teaching terms and translate them into nine different languages.