

Integration of Translation Technology in a Multilingual Classroom
(Technical Paper)

Immigrant Education throughout US History
(STS Paper)


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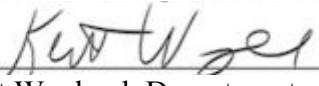
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On my honor as a University Student, I have neither given nor received
unauthorized aid on this assignment as defined by the Honor Guidelines
for Thesis-Related Assignments


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General Research Problem

How can technology be used to improve the efficiency and effectiveness of teaching students who speak English as a second language? In education systems around the world, teachers are faced with the challenge of teaching students who do not speak the native language. In 2015, there were 4.8 million students that identified as English Language Learners (ELLs) in the United States, coming from over 400 different language backgrounds (NCES, n.d.). These students are often put in language assistance programs to help them gain proficiency in English and catch up on learning material simultaneously. This situation can be very difficult for both teachers and students, and many different methods for improvement have been proposed and attempted. Good communication both ways is necessary in this relationship so that the students can learn and ask for help, and the teachers can receive feedback and answer questions. In my research, I will be evaluating different teaching approaches and the use of technology in these methods. Additionally, I will be analyzing the benefits and drawbacks of these methods in a multilingual classroom.

Integration of Translation Technology in a Multilingual Classroom

How can an application containing commonly used teaching terms and their translations into different languages be created to best assist teachers in a multilingual classroom? In order for teachers to be able to teach to their fullest extent, there must be communication between the teachers and students. However, in a multilingual classroom with an English speaking teacher, this is extremely difficult. The teacher cannot be expected to learn multiple different languages, and the students are in the process of learning English. There are many students who don't speak the native language and therefore have a disadvantage in the education system. Through

technology it is possible to minimize this disadvantage and give all students closer to equal opportunities in education. I will be creating an application containing commonly used teaching terms translated into different languages for use by teachers in a multilingual classroom, where students speak a non-native first language. Additionally, I will be researching what ways technology can help to address this issue.

This application will be created using HTML and Javascript with a Google Spreadsheet backend. The Google Spreadsheet will contain each teaching term in English and their translations into multiple different languages, and the application will make asynchronous requests to the Google Spreadsheet to retrieve the data. In this application, I will include audio recordings of translated words, a dynamic list of words and their translations, a search feature with various parameters, and images to represent the word or term. This application will be tested in local school systems to evaluate the effectiveness and efficiency of each tool included. This project will primarily be used as a web application by teachers on their computers due to most schools' no phones policy. I have also been asked to add a print feature to create paper copies if the teacher or students would prefer that.

I hope to create a tool for ESL teachers that will contain teaching terms and their translations, and can improve the teacher's effectiveness and efficiency in teaching without drastically changing their teaching style. This is significant because it will enable more effective mutual communication between teachers and students, and will minimize the challenges of teaching in a multilingual classroom. Currently, there are similar tools such as translation apps, language dictionaries, and even speech translation; however, the main issue with these tools is the speed. In a classroom setting with only a limited time to teach and students who potentially speak several different languages, these tools are not always worthwhile to use. My research

will provide the basis for ESL education in an era where technology is ingrained in our system and is widely accessible and available.

Immigrant Education throughout US History

How has immigration affected the education system in the United States over the course of the past 250 years? Since the United States was formed, its immigration policies have changed frequently, affecting both the immigrant population and the need for immigrant education. I will be researching how these policies have changed over time, how it has impacted the technologies and methods used in teaching, and the effect it has had on the supply and demand for immigrant education. Immigrants throughout history have faced difficulties in education, and it is important to recognize this and minimize these difficulties for the increased prosperity and opportunity of these people.

The main social groups in this issue are teachers, students, and the government or policy makers. Throughout history, much of the United States population has been made up of immigrants. When the United States was established as a country, the population was made up mostly of English-speaking colonists, African slaves, and Native Americans (Rong & Preissle, 2009). At the time, only the English-speaking Europeans were allowed to receive an education, so there was no need for teachers to accommodate students of different language backgrounds. In the mid and late 19th century, during the rapid expansion and industrialization of the United States, many people from different parts of Europe, predominantly Ireland, Germany, and Eastern Europe, immigrated to the US. Many of these immigrants were driven by the manufacturing jobs created by the industrial revolution, and didn't have a need for a very intense education. Because of this, the primary method of education at the time was through family.

Families generally immigrated together and spoke the same language, so the minimum education required could come from within the family. However, outside of family education, the general public had a mostly negative attitude towards immigrants, so the most popular strategy for educating immigrants was assimilation. Assimilation in this context is essentially throwing students into the culture and learning environments and expecting them to adapt. There were no additional teachers, translators, or assisting technologies for students who didn't speak English. Rather than take away resources from the English-speaking students, immigrants were forced to adapt to the American culture and language. The main strategies and technologies used in assimilation were books and exposure to English speakers. It was believed that the success of a foreign immigrant hinged on their English proficiency and willingness to adapt to American culture and society (Rong & Preissle, 2009).

Immigration was mostly restricted during the early 20th century, and didn't pick up again until the 1952 McCarran-Walter Act and the 1965 Immigration Act, which eliminated country-by-country quotas established during the World Wars (Rong & Preissle, 2009). After this, immigrants slowly started to become more accepted into society and education policies and theories adjusted. Moving away from strict assimilation, pluralism became the new model for immigrant incorporation. Pluralism highlights a heterogeneous society through accommodation without assimilation, selective, segmented, or pluralistic assimilation, instead of the homogeneous society that immigrants were told to conform to through strict assimilation (Rubinstein-Avila, 2017). Pluralism and extreme assimilation are both used in the United States, as each school system and its resources and demographics are different. The success of these methods is largely dependent on the classroom environment and resources available to the student. For example, pluralism is generally much more successful when students are more

engaged in a group, so a classroom containing other students with a similar cultural background to learn and bond with is encouraged (Giselbrecht, 2009). Assimilation is also more successful in a group setting because seeing other students succeed can be a motivator. Varying attributes such as class size, number of different languages spoken, and number of teachers can be driving factors in determining the outcomes of each of these approaches.

I plan to gather information for my research from various scholarly articles, journals, or books about the history of immigration, the history of education, and how these are linked in the United States through various government policies or teaching theories that have developed over time. Additionally, I will collect studies about ESL pedagogy and research about how different methods affect students and their futures. To address my research question, I will evaluate these sources and compare and contrast different teaching methods with government policy in order to understand how policy and outside events have shaped the education system for immigrant students. Many different technologies have been used to assist in language learning and cultural adaptation. Early on, the main technology used were books and mere exposure to English speakers. Over time, books and exposure were still used, however new technologies such as audio recordings made a similar learning concept more convenient to ordinary people. Today, there are thousands of websites, applications, and other technology such as audio translation designed to teach languages or assist in an ESL classroom. Throughout this research I will analyze outside factors that could affect the success of these technologies and teaching methods, such as the geographic region, number of students, and number of different languages in the classroom.

As the number of immigrants to the United States has changed throughout its history, policies and sociotechnical systems have been forced to be adjusted. Immigrants of all

backgrounds come to the United States and face unique challenges in the education system. Due to war, lack of education opportunity, or other factors, immigrant students each have their own situation that directly affects the ease of their transition. Educators in the United States have faced enormous difficulty with accommodating for this transition in the past, and continue to develop new methods and technologies to make the process easier and more efficient for the students.

Conclusion

The huge amount of immigrants entering the United States each year continues to affect the education system tremendously. It has created a need for specialized teachers and new teaching methodologies and tools. With the widespread availability and accessibility of technology, tools for this can become almost ubiquitous in the classroom. I seek to create a tool that will help teachers of all levels with students of all backgrounds, and to better understand how the teachers, immigrant students, and United States education system policy-makers interact with each other in this sociotechnical system.

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