Analyzing the Benefit of Real-time Digital Translation for EFL Learners in Post-secondary Canadian Virtual Classrooms

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Abstract

Canadian colleges and universities have seen a steady increase in enrolment over the past decade, driven mostly by international enrollment. If any students experience a language barrier this could pose a significant threat to classroom equity! This qualitative research study sought to understand how real-time digital language translation technology could bridge that language barrier. Professors' lectures were translated, in real-time, into students' first languages utilizing the Microsoft Translator app. Participants were post-secondary EFL students enrolled in either the Business or Hospitality Programs at George Brown College in Toronto, Canada (n=63). Data were collected in three stages, using open-ended surveys in the first and second and semi-structured interviews in the third. Data were then analyzed using thematic analyses. The technology does not only translate language it also provides English subtitles; findings suggest this combination of translation and subtitles can improve EFL students' learning experiences. Students generally thought Microsoft Translator was easy to use and accurate in actual translation. The challenges identified included i) the reliability of internet connectivity ii) some professors' inability to adapt and support the technology and iii) the technology's inability to reliably recognize context. Based on these findings, if professors integrate translation technology into their lectures students will have an optional free resource at their disposal; technology could positively affect academic integrity and classroom equity.

Keywords: EFL Learners, Equity, Innovative Teaching Strategies, Language Translation

Introduction

Canadian colleges and universities are currently ranked third in the world of most desirable post-secondary destinations for international students. Canada's foreign student population has grown six-fold over the last 20 years (CIC News, 2020), mirroring a global trend that, in the same 20-year period, showed an increase from two to five million international students (UNESCO, 2019). If a language barrier exists and has an adverse effect on international students' ability to succeed, it poses a major threat to classroom equity!

The school involved in the study is George Brown College in Toronto, Canada. Students travel from around the world to study there; in fact, 30% of the student population is international (George Brown College, 2021). The college specializes in hands-on training for many technical professions. Faculty are constantly using industry terminology in their labs and classrooms; jargon is challenging for all learners let alone international students. A language barrier could have an adverse effect on international students' ability to succeed, posing a major threat to classroom equity.

In fact, if a student is academically disadvantaged due to a language barrier, one could argue this is a form of linguicism. It would not be the first time such a situation has been examined: a 1974 legal case involving Chinese American students in San Francisco made its way to the U.S. Supreme Court. The court agreed unanimously that students were, in fact, victims of linguicism; their civil rights were being violated by their school not offering a curriculum in a language they understood. The judges of the case explained, "Where inability to speak and understand the English language excludes national origin-minority group children from effective participation in the educational program offered by a school district, the district must take affirmative steps to rectify the language deficiency in order to open its instructional program to these students" (Lau v. Nicols, 1974). Now too old to hold relevancy to the current study, it does offer an interesting point for contemplation. Colleges benefit from international student income; are those same colleges making enough effort to ensure the education they offer is equitable and accessible?

Literature Review

A large body of research probes whether any negative consequences arise out of implementing mobile-assisted learning (M-learning) in the classroom. Whether it's M-learning at the expense of communication and confidence building (Miangah & Nezarat, 2012) or mobile technology providing an easier path to cheating (Ali et al., 2018), perhaps it doesn't have to be an all or nothing approach. M-learning can be adopted for lectures, class discussions, and group work. M-learning research presents a common theme implying there are times when mobile devices are better left aside so that other skills may be encouraged.

Some studies explore the positive impacts of multilingual learning environments on learner experience. A Canadian study looks at French language learning through iPhone vocabulary lessons (Ally et al., 2011), finding an improvement at learning vocabulary with mobile usage. Another example, a qualitative action study by Vicki Bismilla (2011), focusses on participant engagement in classrooms that encourage the use of mother tongues. The study finds students become more academically engaged when they are allowed to speak their first language in the classroom. It seems the multilingual environment lends respect to people's native culture, education, and "holistic identities" (P.86). The author posits that a welcoming attitude towards the inclusion of native language in the classroom is essential in supporting identity

and heritage. Allowing students to speak their mother tongues seems to support their prior learning; while not mentioned in the study, prior learning is an important principle of Universal Design for Learning.

Other studies focus on the technology rather than the experience. Mobile phones have been described as the most powerful communication tool of the 21st century (Elega & Ozad, 2017). Mobile technology may even encourage collaborative learning by providing a forum for interaction among students, teachers, and content (Kukulska-Hulme, as cited in Afzali et al., 2017). Technology can help increase engagement and learning, out of an interest in the technology itself (Chinchole, 2019).

The Present Study

Digital language translation is now available in real-time. Microsoft Translator, the application employed in the present study, relies on artificial intelligence to immediately translate speech into the learner's choice of over 60 supported languages. In the classroom, a professor wearing a headset or microphone may lecture in their first language. Microsoft Translator generates a QR code that allows anyone to *join* a lecture on their mobile device (laptop, phone, or tablet), receiving a translation into their language of choice.

Methodology

Overview

This study engaged in qualitative research to explore any benefits and impacts of real-time digital language translation on EFL students' academic experience. Academic experience was measured in terms of students' perceived comprehension of professors' lectures and opinions on the usefulness of translation technology.

Participants

Participants were post-secondary students (n=63) in the School of Business and School of Hospitality at George Brown College in Toronto, Canada. All participants were EFL learners with the following first languages: Spanish 38%; Chinese 27%; Korean 16%; Hindi 13%; Portuguese 5%; Azerbaijani 2%. Their mean age was 20.7 years.

Instruments

Two 10-item surveys collected students' opinions on real-time translation in the classroom. Surveys were delivered through a combination of five-point Likert scale and open-ended questions. The surveys were written in English; to ensure clarity, each question was reviewed by two professors and two international student-research assistants. Additionally, the researcher engaged in semi-structured interviews with participants. Interviews consisted of open-ended questions probing opinions on the efficacy of the technology. With participants' consent, interviews were recorded and transcribed.

Data Collection

Initially, the study involved collecting both qualitative and quantitative data in actual classrooms. With the onset of Covid19, the study adjusted to collect only qualitative data

from virtual online classrooms. The study took place during the winter semester 2021. Students had the option to receive translated text onto their laptop, phone, or tablet.

Data collection proceeded in three phases:
The first phase began before the translation technology was introduced at the beginning of the semester. An open-ended online survey was emailed to all EFL students in four different courses within the School of Business and the School of Hospitality (n = 154). The intention was to gather their initial thoughts and expectations of using translation technology in the classroom. Only 63 responded to the online survey, perhaps due to the lack of in-person explanation, another challenge of distant learning.

In the second phase, EFL students who completed the survey were invited for a semi-structured interview. At that time, the Microsoft Translator software had already been introduced, and students were encouraged to use the technology during class lessons and for their independent learning. Participant recruitment was carried out by research assistants; disappointingly, only three volunteered to take part. Due to the pandemic, interviews were also conducted virtually. The purpose of the interviews was to gain insights into EFL students' experiences and probe challenges they may have encountered while using the translation technology.

The third phase took place at the end of the semester. A second open-ended online survey was administered to all 70 EFL students in the cohort, to ascertain their final thoughts on using the translation technology. The survey was developed based on the analysis of data from the first survey and interviews. The intention was to justify and triangulate data collected in the first and second phases. Again, the challenge was finding participants; only five completed that second survey.

Results

Data Analysis

Data were examined using thematic analysis (TA). TA is a strategy "for analyzing qualitative data that entails searching across a data set to identify patterns" (Kiger & Varpio, 2020, p.2). It focuses on identifying commonalities among different data sets and making sense of those commonalities (Braun & Clarke, 2012). Thematic analysis enabled the present researcher to gain insight into the potential benefits, drawbacks, and challenges of using real-time digital language translation for learning. Although the sample is small, the data provides in-depth understanding of how translation technology impacts EFL students' learning experiences.

Findings

The main themes that emerged from the data are categorized into three sub-sections. The first sub-section discusses the benefits of real-time translation software to EFL students' learning. The second sub-section discusses the drawbacks of using translation technology. The third sub-section discusses the challenges encountered in using the technology.

Benefits to Student Learning

Aside from its primary use, another feature of Microsoft Translator is its ability to subtitle a professor's speech in real-time. Subtitles can be displayed on classroom monitors, screens, or

directly onto students' laptops or phones. Thus, it is possible for students to simultaneously listen to a professor speak, read a translation of the professor's words, and follow English subtitles.

Drawbacks of the Technology to Student Learning

Some of my colleagues have questioned whether the use of digital translation in the classroom would inhibit EFL students' ability to learn English. This is a valid concern not formally examined here though the idea did come up in my interviews with participants; from their perspective, there was no effect on English learning.

Challenges of Using the Technology

Data collection occurred during the winter semester 2021; it was the first semester the college reopened after the Coronavirus lockdown. Post-pandemic timing may have influenced student engagement and motivation levels thus reducing the participation rate. Of course, a reliable internet connection is vital when using real-time translation technology, though this wasn't an issue for any participants. Surprisingly, the biggest challenge concerned professors! I witnessed faculty who are uncomfortable using technology in general, and a common theme was their inability to learn and adopt new technology.

Conclusion

This study sought to analyze any benefits and impacts of real-time digital language translation on EFL learners' academic experience. Post-secondary learners are more inclined to embrace a technology which supports their desire for socialization (Hashim, Tan, & Rashid, 2015). Mobile translation technology can provide learners with confidence to increase classroom engagement and social interaction. EFL students might be disadvantaged when in-classroom discussion or lectures contain vocabulary they do not understand. Without asking the professor to explain, repeat, or reiterate their words, the EFL learner does not typically have instant access to translation or related information (Chang & Hsu, 2011). Mobile technology, like Translator, offers an immediate resource, in multiple forms: translation, subtitles, and saved transcript. In general, participants appreciated having such a resource available to them.

The major challenge was on the side of faculty and a common theme of technology avoidance. These findings present an interesting choice for institutions like George Brown College: Is there enough will to train faculty to use new technology? Does management have enough power to encourage technology adoption among faculty?

Real-time translation technology supports a social benefit as well; it allows people from various native backgrounds to communicate with each other, providing instantaneous feedback. If faculty do not adopt its use, perhaps students will make use of it amongst themselves.

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