The Role of Technological Resources in Language Acquisition

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People from all over the world learn languages in a variety of ways and for a variety of reasons. It is estimated that about 50% of the population is bilingual (Romaine). People learn languages for work, to connect with different cultures, when they immigrate to new countries, and even just for fun. New technologies offer a multitude of tools that could assist with language acquisition. A technological resource for language acquisition can come in many forms, from an application on a phone or tablet to a series of videos online to a website used for a class (such as Canvas). In this paper, the term ‘technological resource’ will be used in reference to any tool for language acquisition that can be accessed on a technological device such as a smartphone, tablet, or computer. Technological tools for language acquisition can have both benefits and drawbacks. Studies have shown that mobile learning, for example, can enhance cognitive activity and increase motivation to learn (Kuimova et al. 2018). However, they can also be more impersonal than face-to-face classes, and speech and pronunciation practice can be more difficult to manage. This paper aims to understand how technology can impact language acquisition by doing comprehensive literature review on technological language-learner resources and by analyzing data collected through surveys of language students and teachers at College of San Mateo and Cañada College.

Multilingualism

About half of the world’s population is multilingual, and these people can be found in many different parts of the world (Romaine). In many countries, such as India, Switzerland, South Africa, and more, it is considered common to speak multiple languages. As Susanne Romaine writes in “The Bilingual and Multilingual Community,” “despite the high incidence of multilingualism in the world, monolingualism has been assumed to be the norm” (Handbook of Bilingualism, 402). Despite this, most people around the world are enrolled in language classes while in school, so the method of language acquisition is an important topic that is relevant to the entire global population.

Language acquisition through technological resources

Chang et al. in 2017 investigated the effectiveness of using mismatch negativity (MMN) neurofeedback for discriminating speech sounds and recognizing individual sounds. They gave Japanese native speakers MMN neurofeedback in two different settings to help them distinguish between the [l] and [ɾ] phonemes such as in English words light and right. Japanese speakers often cannot hear the differences between these sounds. The study showed an increase in correct answers and therefore an increase in the ability of the people to distinguish between two different words containing [l] or [ɾ] phonemes. Based on this research, this method or other similar methods could be extremely helpful for improving both listening comprehension and pronunciation. A useful application could be teaching speakers of non-tonal languages to distinguish between different tones that they otherwise could not hear.

A study published by Kuimova et al. in 2018 investigated the use of mobile learning in language acquisition. They conducted an experiment in which a group of students learning English at the Tomsk Polytechnic University in Russia were split into groups, half of which received traditional teaching plus mobile learning supplements (experimental groups), while the other half received only traditional teaching (control groups). They found that students from the experimental groups got
better grades in their English classes than the students from the control groups. The study concluded that mobile learning can offer more opportunities for practicing the language and therefore improve learning speed (Kuimova et al. 2018).

Research

To better understand the feelings of language students and teachers toward technological resources for language acquisition, a study was conducted across two community colleges in San Mateo County, California. Surveys (Appendices 1 & 2) were sent out to language teachers at College of San Mateo and Cañada College. In order to get a good sampling, all language teachers at these colleges were asked to participate and were asked to distribute the student survey to all of their students. The languages taught at these colleges are English (ESL), Spanish, Mandarin Chinese, and American Sign Language (ASL). After about 3 weeks of the surveys being open for answers, 8 teacher responses (all ESL and Spanish teachers) and 84 student responses (also split primarily between English and Spanish learners) were collected.

Survey of Language Teachers

Language teachers from Cañada College and College of San Mateo (CSM) were surveyed. The survey was sent out as a Google Form to all language teachers at both colleges. 8 survey responses were received. The teacher survey was almost entirely long answer questions, with 15 questions total (Appendix 1). The questions were picked to get a good picture of the profiles of the respondents as well as to understand their attitude toward technology for language acquisition.

Results and Analysis

Of the 8 responses, 5 were from English (ESL) teachers and 3 were from Spanish teachers. Those teachers that teach online classes expressed that although teaching online (both fully online and hybrid) gives both the teacher and student a large amount of flexibility, it is more difficult to give individualized feedback to students. Overall, the instructors seemed in agreement that several technological resources are very helpful and beneficial both in and outside of a classroom setting, but that face-to-face classes with technology supplements remain a better option than fully-online classes.

Teachers generally said that they recommend students to use websites such as Canvas, reputable online dictionaries for vocabulary, and self-study tools such as Quizlet, but advise them away from tools such as Google Translate and Grammarly because they offer too much and often incorrect help.

Survey of Language Students

Students in language classes at CSM and Cañada College were surveyed by sending a Google form to the various language instructors at the two schools and asking them to distribute the survey to their students. 84 student responses were received. There were 22 questions of differing formats, including multiple choice, check boxes, Likert scales, and short answer (Appendix 2). Just as for the language instructors, the questions for the student survey were picked to get a good picture of the profiles of the respondents as well as to understand their attitude toward technology for language acquisition.

Results and Analysis

Approximately 30% of the student respondents were learning Spanish, and another 61% were learning English. The remaining part was split fairly evenly between students learning other languages such as ASL, Mandarin, Russian, French, and Korean. 64% of students said that they
used the language in their everyday life. 62.2% of students said they speak another language fluently or have a second native language. Unfortunately, the age groups of the respondents are unknown since no survey question about that was included.

When asked how often they use technological resources for language acquisition, the majority of students (53.7%) said that they use them a few times a week, and 35.4% of students said they use them every day. This makes up a total of 89.1% of the population surveyed. 46.3% of respondents said that there are no technological resources that they would explicitly advise others to avoid. When asked which of the technological resources that they have used would they recommend, the most popular were apps (56.8%), YouTube videos (56.8%), speaking/communicating with native speakers online (53.1%), social media (38.3%), and other media such as films/TV (58%). Interestingly, besides “none”, the two most common responses to technological resources they would advise others to avoid were YouTube videos (20%) and social media (22.5%). Possible reasons for this will be discussed in the conclusion.

When asked “to what extent do you think that people expect unreasonable amounts of help/instant learning from language learning applications and programs” with a Likert scale with 1 being “not at all” and 5 being “a lot”, the average answer was 3.6. In a similar Likert scale question about the extent to which the internet enables language learners to have an easy way out, the average answer was 3.5. On the other hand, a question asking about the extent to which the internet, with all of its multilingual communities, is a good source of resources for language learners to communicate in the language they are learning, the average answer was 3.9.

The results of the student survey show a generally positive outlook on technological resources, and many respondents indicated that they use such tools on a regular basis. Based on the Likert scale questions, the students surveyed think that the internet is a better source of resources for language learners than it is an ‘easy way out,’ but that it has the potential to be both.

**Conclusion/Discussion**

Overall, students and teachers seemed to have similar attitudes toward technology’s role in language learning. The main difference in opinions seemed to be in the types of resources that people recommended. Many students claimed to like the use of apps, while some teachers were more reluctant about their use. One teacher respondent said that applications’ “approaches are limited because they lack certain aspects of constructive feedback.” This is in line with the thoughts of many students and teachers alike that there is something to face-to-face classes that cannot be completely replaced by technology.

The findings of the surveys that were conducted are in line with other research that has been done. In comparison to the Kuimova et al. study that was done in 2018, both show that technological resources in conjunction with traditional classroom learning is very effective. This survey helped to understand not only the effectiveness of different methods of language learning (both traditional classroom settings and a variety of technological resources) but also the attitudes toward the different resources.

Although the survey was successful and a lot was learned from it, there are improvements that could be made for future studies. Several respondents indicated being confused by some of the questions. It is potentially a problem that about 60% of the people taking the survey were learning English, so
they were taking the survey in their non-native language. This could have made it harder for them to understand and answer the questions than for native speakers. To fix this, future surveys could either have simpler wording so that it won’t be as difficult for learners of English to answer, or the survey could be given out in multiple languages so that all respondents take it in their native language.

In addition, a survey question about the age of the respondents would have been interesting to include. Since technology use and knowledge varies greatly between different age groups, it would have been nice to compare and contrast the attitudes of different age groups towards technological language learning resources. In future studies, this could be valuable data to collect and analyze. It also might have been interesting to have more overlapping questions between the teachers and students so that the difference in perspectives could be seen more clearly. This survey had some similar questions for the two groups, but no questions were completely alike in wording and answer format.

Sources


Appendices

Appendix 1: Language Teacher Survey Questions

1. What language do you teach?
   a. English (ESL)
   b. American Sign Language (ASL)
   c. Spanish
   d. Chinese (Mandarin)
   e. Other: ________

2. In which modalities do you teach your language classes: fully online, hybrid, or face-to-face?
   a. Check all that apply

3. In your face-to-face classes, do you use technology? How? (N/A if no face-to-face classes)
   a. Long answer

4. In what ways do you find that teaching a language online limits you? (N/A if no online classes)
   a. Long answer

5. In what ways do you find that teaching a language online is beneficial? (N/A if no online classes)
   a. Long answer

6. Which technological resources do you recommend to students and which ones do you advise them to avoid, and why?
   a. Long answer

7. Do you think that people expect too much/unreasonable amounts of help/instant learning from language learning applications/programs?
   a. Long answer

8. What feedback do you get from students about online/technological resources for language learning? Do you get the impression that students seek out such resources or use them only when forced to?
   a. Long answer

9. In this technological age, what importance do you place on language students learning to type in their target language, especially if it uses a different alphabet/writing system from English?
   a. Long answer

10. Are you aware of the various linguistic backgrounds of your students and how other languages that they speak may affect how they learn the target language? How can you take these differing backgrounds into account in your teaching?
    a. Long answer

11. For pronunciation/tones: what challenges do you face with teaching/learning pronunciation, especially when students are unable to hear the differences in pronunciations, let alone speak them? How do you think technology helps/impairs learning of pronunciation?
    a. Long answer

12. How is it difficult to balance the line between teaching formal grammar and the grammar that is actually used by native speakers, and to teach such used/spoken grammar without causing students to confuse dialects or giving them unequal exposure to some dialects over others?
13. To what extent do you think that the internet enables language learners to have an “easy way out” since there is a complete set of references available to them (translating apps, etc)?
   a. Long answer

14. To what extent do you think the internet, with all of its multilingual communities, is a good source of resources for language learners to communicate in their target language, etc.
   a. Long answer

15. What do you think the ‘ideal’ technological language learning resource would be for you? What features would it have?
   a. Long answer
Appendix 2: Student Survey Questions

1. What language are you learning?
   a. English
   b. Spanish
   c. Chinese (Mandarin)
   d. American Sign Language
   e. Other: _______

2. Why are you learning it? (Check all that apply)
   a. For fun
   b. Language requirement at school
   c. Family/friends speak the language
   d. Interested in the language/culture
   e. Other: _______

3. Do you currently use this language in your everyday life, either at work or with family/friends?
   a. Yes
   b. No

4. What are your long-term goals for this language? (Check all that apply)
   a. Finish language requirements at school
   b. Use it in everyday life
   c. Become more proficient/work towards fluency
   d. Other: _______

5. Will you continue learning this language in the future?
   a. Yes
   b. No
   c. Not actively, but I will use it
   d. Only to finish my language class requirements
   e. Other: _______

6. How long have you been learning this language?
   a. Less than a year
   b. 1-3 years
   c. 4-5 years
   d. More than 5 years

7. How are you learning it/what resources do you use? (check all that apply)
   a. Online class
   b. In-person class
   c. Apps (Duolingo, Quizlet, etc.)
   d. YouTube videos
8. Do you speak any other languages fluently or have a different or second native language?
   a. No
   b. Yes

9. Which language(s)? (put N/A if none)
   a. Short answer

10. If so, how do you think that language affects how you learn a new language?
    a. Short answer

11. How often do you use technological resources to study the language? (Both in and outside of class)
    a. Every day
    b. A few times a week
    c. Once a week
    d. A few times a month
    e. Once a month
    f. Hardly ever/never

12. If you are taking an online course: In what ways do you find that learning a language online limits you? (write N/A if not taking an online course)
    a. Long answer

13. If you are taking an online course: In what ways do you find that learning a language online is beneficial? (write N/A if not taking an online course)
    a. Long answer

14. What technological resources that you have used would you recommend to other students/language learners? (check all that apply)
    a. Online course
    b. Apps (Duolingo, Quizlet, etc.)
    c. YouTube videos
    d. Other online programs/websites (Mango, Rosetta Stone, etc.)
    e. Speaking/communicating with native speakers online
    f. Social media
    g. Other media (Films, TV shows, games, etc.)
15. What technological resources that you have used would advise other students/language learners to avoid?
   a. Online course
   b. Apps (Duolingo, Quizlet, etc.)
   c. YouTube videos
   d. Other online programs/websites (Mango, Rosetta Stone, etc.)
   e. Speaking/communicating with native speakers online
   f. Social media
   g. Other media (Films, TV shows, games, etc.)
   h. Online publisher materials
   i. Canvas
   j. None
   k. Other: ______

16. To what extent do you think that people expect too much/unreasonable amounts of help/instant learning from language learning applications/programs?
   a. Likert Scale: 1= not at all, 5= a lot

17. To what extent do you think that the internet enables language learners to have an "easy way out" since there is a complete set of references available to them (translating apps, etc.)
   a. Likert Scale: 1= not at all, 5= a lot

18. To what extent do you think that the internet, with all of its multilingual communities, is a good source of resources for language learners to communicate in the language they are learning?
   a. Likert Scale: 1= not at all, 5= a lot

19. In this technological age, what importance do you place on learning to type in the language you are learning, especially if it uses a different alphabet/writing system from your native language?
   a. Likert Scale: 1= not at all, 5= a lot

20. Do you regularly type in the language you are learning?
   a. Yes
   b. Sometimes
   c. Never

21. What do you think the 'ideal' technological language learning resource would be for you? What features would it have?
   a. Long answer

22. Any other comments?
   a. Long answer