How Students of Japanese Perceive and Use Technology

David Rubino

Follow this and additional works at: https://scholarworks.umass.edu/masters_theses_2

Part of the Bilingual, Multilingual, and Multicultural Education Commons, Japanese Studies Commons, and the Modern Languages Commons

Recommended Citation
https://scholarworks.umass.edu/masters_theses_2/729
HOW STUDENTS OF JAPANESE PERCEIVE AND USE TECHNOLOGY

A Thesis Presented

by

DAVID RUBINO

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
Of the requirements for the degree of

MASTER OF ARTS

September 2018

Japanese
HOW STUDENTS OF JAPANESE PERCEIVE AND USE TECHNOLOGY

A Thesis Presented

by

DAVID RUBINO

Approved as to style and content by:

________________________________________________________________________

Yuki Yoshimura, Chair

________________________________________________________________________

Bruce Baird, Member

________________________________________________________________________

David K. Schneider, Unit Director
East Asian Languages and Cultures Program
Department of Languages, Literatures and Cultures

________________________________________________________________________

William Moebius, Chair
Department of Languages, Literatures and Cultures
ABSTRACT
HOW STUDENTS OF JAPANESE PERCEIVE AND USE TECHNOLOGY
SEPTEMBER 2018

DAVID RUBINO, B.A. STATE UNIVERSITY OF NEW YORK AT NEW PALTZ
M.A., UNIVERSITY OF MASSACHUSETTS AMHERST
Directed by: Professor Yoshimura

The role of technology in education has expanded to a near universal reality. In foreign languages the field of Technology-enhanced Language Learning, has long sought to effectively implement instruction with these tools, and often to great success, often through the guise of Computer-assisted Language Learning. However, most studies investigating the student perception of class structures incorporating technology are based on what instructors have implemented.

Students, the counterparts of instructors, often own more than one technological tool and will often employ these tools in their studies. For learners of foreign languages, certain aspects of technology are selected for various tasks based on personal beliefs on how effective these modes of technology may be.

This study seeks to discover which technologies students of Japanese select, how they employ those tools and if it makes them feel more confident in their studies. This study also seeks to answer how much technology students wish their instructors would use and hopefully inspire foreign language instructors to adopt technology in a way that aligns with student preference.
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>1) THEORETICAL BACKGROUND</td>
<td>3</td>
</tr>
<tr>
<td>2) LITERATURE REVIEW</td>
<td>7</td>
</tr>
<tr>
<td>3) STUDY AIMS AND IMPLEMENTATION</td>
<td>18</td>
</tr>
<tr>
<td>4) RESULTS</td>
<td>23</td>
</tr>
<tr>
<td>5) CONCLUSIONS</td>
<td>42</td>
</tr>
<tr>
<td>APPENDIX: STUDENT ATTITUDES TOWARDS FOREIGN LANGUAGE STUDY AND TECHNOLOGY</td>
<td>46</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>59</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1: Favorite Ways to Study Japanese</td>
<td>31</td>
</tr>
</tbody>
</table>
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>The TELL schema</td>
<td>4</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Relationships in TELL</td>
<td>5</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Hours Spent Studying/Preparing for Japanese Class Weekly</td>
<td>24</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Times Accessing Technology Weekly</td>
<td>25</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Hours Using Technology to Study Weekly</td>
<td>26</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Comfortability with Technology, Dedication and Confidence</td>
<td>27</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Types of Technology</td>
<td>28</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Tasks Using Technology</td>
<td>30</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Reasons to Use Technology</td>
<td>32</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Perceived Beneficial Effects of Technology</td>
<td>35</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Requirement to Use Technology</td>
<td>36</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Ways Instructors Use Technology</td>
<td>37</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Comparison 2014 (Simpson) and 2018 Studies</td>
<td>39</td>
</tr>
<tr>
<td>Figure 14</td>
<td>Comparison of Perceptions</td>
<td>42</td>
</tr>
</tbody>
</table>
INTRODUCTION

The history of Computer-assisted Language Learning (CALL) is well documented. Early ventures in using the IBM PLATO during the 1960s allowed for a student-centric platform (Sanders, 1995). At its onset, CALL met resistance from administration and did not flourish (Sanders, 1995). The beginning of home desktop computers renewed interest in CALL, especially when diacritics and non-Latinate characters could be typed (Sanders, 1995). And so, after an unsteady start, and as home computers became more and more powerful and less expensive, computer ownership began blossoming worldwide. During the 1980s and into the 1990s, teachers could develop their own programs for language learning. Online writing labs developed as the Internet was developed and access to it became commonplace. Voice recognition software and video players were created and interactivity between users became possible (Butler-Pascoe, 2011). Task-based language learning (which stresses the students’ critical thinking) and content-based language learning (which draws from subject matter topics) came into being in the later 20th Century and the early 21st Century; both of these methods also rely heavily on CALL (Butler-Pascoe, 2011).

Exercises designed to train the four skills, reading, writing listening and speaking, can be provided through the technology provided by the computer to inspire academic growth and automated study via multimedia, collaborative writing, language analysis and structure, online networking and one-to-one and mobile computing. Warshauer and Liaw (2010) catalogued a few ways in how learning can be improved through technology. Audio-visual information can be encoded as MP3 or video files, both created by students or instructors. Podcasts can promote academic listening and increase exposure to the
target language. Collaborative writing through wikis and blogs allows students to work together as a class; feedback on and corrections to posts can help students refine their skills. Meanwhile, software geared toward discrete skills, like linguistic concordance or reading comprehension, often provides immediate feedback, allowing students to learn from their mistakes and help them in overall mastery. Online networking, such as Second Life and social networking sites allow students the chance to roleplay scenarios and immerse themselves in a language community, so they have the chance to use the language before using it in the “real world” (Warschauer & Liaw, 2011). And language learning is not just about the language. Cultural instruction also plays a large role in foreign language instruction. According to Abe (2009), technology also serves as a bridge between cultures. In a 2009 survey on students’ interest in Japanese language, 93.7% of students use the Internet to access Japanese culture and 90.5% used the Internet to search for something related to Japan and/or its culture. 42.9% also used television and 34.9% used DVDs. Most students, 64.4%, claimed that the Internet was easy to access and 29.3% believed that the internet had a plethora of information on the topic of Japanese culture (Abe, 2009). Therefore, as a potentially powerful educational tool, CALL has also been tested through the years, and found to be an effective means of instruction.
Defining CALL

CALL’s myriad of meanings has been compiled by Jarvis and Achilleos:

For Levy, CALL is “the search for and study of applications of the computer in language teaching and learning.” Beatty refers to [it] as “any process in which a learner uses a computer, and as a result, improves his or her language… [This] encompasses a broad spectrum of current practices in teaching and learning at the computer,” … Egbert states… “learners learning language in any context with, through and around computer technology” (2013, 2).

The acronym CALL, in its very definition, puts emphasis on computers and not on what they do (Jarvis & Achilleos, 2013). Perhaps it is best to give credit where credit is due: to the technology afforded to us by computers rather than the computers themselves. Today computers are both more hidden and more common; gaming consoles, smartphones and the other technological artifacts we own today are in essence computers and what these devices also allow us to access and enable us to do, namely use the Internet and all the activities which stem from it, are born from building upon technology (Bush & Terry, 1997). The computer and all her daughters, are one branch of technology. Devices which can access the internet, and the networks which comprise the internet are technology. Mobile devices are technology. So, consideration should be taken when considering computers in language learning.

As a catchall, and to redirect focus to the source, technology, Technology-enhanced Language Learning (TELL) as defined by Bush and Terry will be used in this paper. CALL is a branch of TELL but TELL also takes into account the Internet and thus
Web-enhanced Language Learning (WELL) as a medium of instruction, and by extension of WELL, Network-based Language Learning (NBLL), which focuses on person-to-person connectivity through the Internet (Jarvis & Achilleos, 2013). In recent years, the term MALL (Mobile Assisted Language Learning) was coined in order to describe how portable devices enable a continuous and spontaneous access to information which can be employed by language teachers (Jarvis & Achilleos, 2013).

![Figure 1: The TELL schema](image)

This study seeks to examine how students choose to engage with Japanese through technology. Both instructors and students have very prescribed roles within education, however there lie considerable freedoms in the individual sphere to select tools for both teachers and students while pursuing their goals. Instructors plan their courses and may have certain goals for the students in mind, and so they not only teach to those ends, but they provide resources, provide support to facilitate growth and finally
assess the students’ learning as well. The students learn through participation, using resources and finally by demonstrating learning has taken place. On the individual level, an instructor chooses material which he or she believes will best accomplish the goals they have selected for their students. The student, on the other hand, selects how they choose to engage with the material based on their individual preferences based on a variety of factors.

Figure 2: Relationships in TELL

**Explicit Instruction vs. The Interaction Hypothesis**

In foreign language education, one of the primary goals of students and instructors alike is effective communication in the target language and TELL activities may provide some unique paths to encourage learning.

Explicit instruction occurs when the instructor, or the materials they select (e.g.: the textbook) or, how the instructor presents the material (e.g.: lecture). The student
receives the content in a systemic, direct method; this allows students to learn quickly, but does not allow the students to learn for themselves. Models of explicit instruction can be seen as “passive” learning because the students are not actively making connections themselves (Prefume, 2015). Models for “active learning” grant students the opportunity to make discoveries by alone or in pairs or groups. The active learning classroom can be broken into intellectual, social and physically active spheres, although activities may cover one or more sphere. For example, while working on a group presentation (social) about a trip in a particular country, students may research hotels, admission to attractions, and travel costs on the internet to work within a budget (physical/intellectual) and travel plan that spans nor more than a set amount of days (Edwards, 2015). In the foreign language classroom, interactions with the instructor and other students allows students to test the limits of their language ability. The Interaction Hypothesis in a marriage between both the Input Hypothesis and Output Hypothesis (Prefume, 2015). The Input Hypothesis relies on input slightly beyond the learner’s level still suitable and comprehensible to advance learning progress. The Output Hypothesis model relies on students noticing incorrect output and then negotiating the meaning until the correct form is learned (Prefume, 2015). The strategies students engage in while speaking a foreign language with their peers allows for self-correction and learning to take place; communicating with others in a setting which promotes active learning is absolutely required (Lightbrown & Spada, 1999). By incorporating TELL activities, instructors may be able to remove some explicit learning out of the classroom and devote a larger portion of the time in class to student interactions.
CHAPTER 2
LITERATURE REVIEW

Ownership and Use of Technology

In 2013, the Census Bureau recorded that about 84% of households in the United States overall own a computer and 73% of households have a computer with broadband connection, and while about 21% of Americans have no regular internet access, 87% of American adults use the internet (Raine & Cohn, 2014). Technology ownership today seems to be universal. The ownership of technological devices of all kinds has risen in between 2004 and 2015. In 2015, 92% of Americans own cellphones of any kind, with 68% of Americans owning smartphones. 73% of Americans own a desktop or laptop computer and 45% own a tablet computer (Anderson, 2015). By 2018, overall cellphone ownership by adults has increased to 95% and smartphone ownership increased to 77%; more specifically in the subset of adults 18-29, 94% own smartphones and 100% own a cellphone of any kind (Mobile Fact Sheet, 2018). Roughly 75% of Americans said that they go online daily in 2018, and 39% of young adults ages 18 to 29 say that they are online “almost constantly” (Perrin & Jiang, 2018).

In fact, one study from Baylor University reports that college-aged women can spend up to 10-hours on their cellphone daily and college-aged men can spend up to 8 hours on theirs everyday (Wood, 2015). When compared to the data collected from a survey about time use by the United States Department of Labor’s Bureau of Labor (2016), this accounts for about 60% of the time students are awake. This should not be construed as time frivolously wasted, however. Students today may use their cellphones to access information while studying or working.
One large scale survey of students’ habits involving technology reports that students primarily use computers for their studies. They use the computer for between 3 and 5 hours classroom activities and as a study tool (Kvavik, 2005). Most students claim to be skilled in most areas of technology use, such as word processing, but less so in areas such as video editing. In this survey, 48.7% found technology to be convenient, while 16.7% see technology as helpful, and a similar amount thought of technology as time-saving. 12.8% of the surveyed students believed that technology improved their learning (Kvavik, 2005).

As young adults seem to be so inclined to own and use technology, the question one might draw from these suggestions would be: how could they be included foreign language courses? Technology in the foreign language classrooms, that is adopting the tools which students are already using for use in the classroom, may remove obstacles to understanding the material as effectively as more traditional methods, as well as break down barriers between learners and instructors and learners and the content; although it is a boon, not a silver bullet.

**Changing Perceptions of Technology and the Preference of Students**

Understandably, students at the onset of language courses and using anything unfamiliar may cause high levels of anxiety at the onset of the class and technology also adds complexity to lesson planning for the teacher (Karabulut, Levelle, Li & Suvorov, 2012). Students’ perception of technology, however, has changed radically over the years.

Aida recorded her experiences with introducing email and forums into her Japanese classes. Fifteen of her students elected to start a Japanese language email
exchange group. Email was used as a means of quality control, such as allowing students to ask questions if they were confused about something. Meanwhile, readings from web pages were selected with writing assignments related to those readings. Although a small group of students never used email and were initially unwilling to try, some of the students who never used technology appreciated gaining a new skill (Aida, 1997). Most of the students still enjoyed typing their assignments as well; they believed it helped them with kanji recognition and having the assignments stored on floppy disks made rewriting the assignments easier (Aida, 1997). About 10 years later in 2008, Thompson, while pondering the state of Japanese language education in Australia, noted that community building may help stave off declining enrollment. In particular, taking down the “wall” between students and instructors was made easier with technology. By using the program Blackboard, not only could teachers provide input to the course (outlines, tests, and other materials), but students too were able to add input for the sake of their peers, such as test preparation strategies, the lowdown to good Japanese restaurants in the area, or to offer support and vent frustrations (Thompson, 2008). Students of this era are apt to use technology for both study and recreation.

Suggestions for incorporating technology in the classroom in general range from incorporating music and video clips to encouraging interaction both in-person and online through collaborative blogging. On one hand, students of today are tech savvy, users of internet search engines, multimedia interested, content creators who learn by doing, communicate visually and prefer collaboration (Berk, 2010). But on the other hand, students still seem to want technology that works for them, not just technology for technology’s sake. In fact, according to one survey of 4,374 students from thirteen
universities, most students, 41.2%, prefer a classroom environment which use a moderate amount of technology while the next largest percentages prefer a little more (extensive use – 30.8%) or a little less (limited use – 22.7%), while only very few students prefer classes with no technology (2.9%) or classes conducted wholly online (2.2%) (Kvavik, 2005). The students who prefer 100% technology-based learning may prefer to engage in their studies at their own pace or may live off campus. Kvavik’s survey, however, did not ask those questions.

While some students feel that using technology is more convenient and time effective, extraneous activities created by their instructors may be considered annoying and supplemental websites may also be ignored. For example, instant feedback on a grammar-checking website may be appreciated by lower-level students, but higher-level students, confident in their ability, may see it as redundant (Karabulut, Levelle, Li & Suvorov, 2012). Most students view technology as something that benefits them in some ways, and there seems to be an emphasis from students on certain practical skills; watching a film in class may help expose students to culture and improve listening comprehension, but it may not contribute to building conversation skills (Karabulut, Levelle, Li & Suvorov, 2012). In order to maximize language production, other activities using technology must be explored.

Other studies involving Web 2.0 activities, those in which the user becomes an internet content producer rather than a consumer - tasks including those such as blogging, Wikis and other collaborative/social media projects (Berk, 2010) - see mixed results. While students may collaborate often in Wikis (which helps then increase vocabulary, increase output and correct grammar) students who use blogs may choose to ignore other
student work or become frustrated with non-standard language use (Wang & Vásquez, 2012).

Furthermore, while adopting novel modes of technology may seem interesting, its utility may be underwhelming. Baylis tracked the perception of five students of an intermediate-level Japanese class as they played a Multi-Player Role Playing Game (MRPG). Massive multiplayer online role-playing games (MMORPGs) merge social networking with gaming by creating a fantasy world in which players interact with both player characters and non-player characters (NPCs) in order to achieve a common goal (Baylis, 2016). By using an open source program, he created a game in which students advanced by solving puzzles that required the correct application of Japanese grammar. Once solved, the players could advance. Students played through both single-player and multiplayer/collaborative runs of the games. Most students found the single-player games more effective and more enjoyable since multiplayer games made it easier to become distracted by the non-sequiturs of other players. However, single-player games were seen as enjoyable and useful to the extent that they would even want to continue using the game to study outside of the experiment (Baylis, 2016).

Overall, if an instructor decides to design a course which incorporates TELL, they should take into account how students view the technology. In a well-designed course which incorporates technology, students feel as if they are both advancing in level and the technology usage aligns with their expectations.

**Efficacy of “Blended” Classrooms**

Most university classes today often have a technological component in them as stated previously. Using technology as a mode of providing instruction is called a
“blended” classroom. Most students seem to prefer a moderate degree of technology in the classroom (Kvavik, 2005). Several studies indicate that blended and flipped classrooms are just as effective as traditional models.

In 2002, Stepp-Greany published her study which surveyed twenty-one sections of beginner-level Spanish learners. In total, classes held 449 students and 358 students responded to the survey after the course. During the course, they used a range of TELL activities: internet activities, CD-ROM, electronic pen pals, and forum conversations. While the majority of students felt instructor interaction was still needed, most also enjoyed working in on-campus computer labs. Almost 71% agreed they spent more time on this class than a normal Spanish Class, possibly indicating higher levels of achievement (Stepp-Greany, 2002).

While a majority felt they learned more about culture, few returned to provided internet resources (Stepp-Greany, 2002). Most (about two-thirds) felt they improved their language skills, although only about half believed they improved because of the pen pals (Stepp-Greany, 2002). They felt the CD-ROM was most beneficial, improving their scores (Stepp-Greany, 2002). Overall, although students generally felt like they improved no singular component was rated more highly than others. Most agreed the class was enjoyable and most agreed that they gained confidence and felt independent.

In a 2008 study, Sagarra and Zapada surveyed 245 Spanish learners over two consecutive semesters. The classes were comprised of four hours of classroom instruction and one set of homework from an online workbook per week. The students were surveyed after eight-months exposure to the workbook. According to the results, grammar scores increased; while some students felt that their listening, pronunciation and
reading improved, the scores for vocabulary and reading remained the same and listening comprehension decreased. The majority of students liked the accessibility to the online workbook’s instruction and the methods to complete the homework and access to grades were perceived as easy. Students felt that the in-class activities helped students complete online homework and the online homework helped them learn Spanish; most students agreed online homework made the course more interesting (Sagarra & Zapada, 2008). The students especially liked the ability to make multiple attempts, which allowed them to learn from their mistakes, and the opportunity to go at their own pace was enjoyable, as was immediate feedback.

In Prefume’s study, two groups of students studying Introductory Japanese were created. Each group was given a survey including questions about their achievement in foreign language study and their satisfaction with and time spent in both online and conventional courses. The students then proceeded with the Introductory Japanese course, which covers 6 chapters in the course textbook. Chapter quizzes, a midterm, and a final exam were used to gauge learning outcomes, as is typical in any course. During each 50-minute class, the first 10 or so minutes were spent on a daily quiz to check for grammar understanding in both the experimental and control groups. The experimental group, which was conducted as a flipped classroom, watched video lectures outside of class time and prepared notes to take to class. In this group, no grammar lecture was planned, so the remaining 40 minutes were spent on oral exercises and activities aimed at improving oral proficiency. Meanwhile, the control group spent the remaining time after the quiz alternating between a grammar lecture and exercises. The midterm and final exam grades show the control group performing better than students in the experimental flipped
classroom, although no statistical significance was observed between the groups in the final exam (Prefume, 2015).

**Student Perception and Use of Personal Mobile Devices**

As stated earlier by Wood (2015), university students spend some 9 hours a day on their cellphones, but logically it cannot all be for fun. While mobile technology is still rather young, studies about app-assisted language learning have been published. Jarvis and Achilles surveyed 70 students taking upper intermediate level English as a second language in the United Kingdom. 56 usable surveys were returned (Jarvis & Achiellos, 2013). All the participants used computers and other mobile devices and saw them as essential to their daily lives. They preferred laptops over desktops, citing mobility, convenience and cost as important factors in their choice (Jarvis & Achiellos, 2013). Almost all the participants (87.5%) owned some sort of mobile device for both academic and social purposes. Again, mobility and convenience were given as reasons for the preference (Jarvis & Achiellos, 2013). 91.1% of students agreed that using electronic devices allowed them to practice their English outside of class (Jarvis & Achiellos, 2013). The ability to use social networks, access information online, play games and other activities in English was not only the end goal, but the method of study for many. In fact, many preferred learning English through this sort of practice was preferable to 71.4% of the students (Jarvis & Achiellos, 2013). This study helps build the case for using technology as a method to not only learn the language but acquire it by using the internet (Jarvis & Achiellos, 2013).

Applications, the software programs run by mobile devices also called “apps”, offer some information as to what types of tools students may be using. Ashley Moroz
surveyed the attitudes of 139 students of Japanese and their four instructors regarding smartphone applications in 2013. Over half of the students knew about apps the existence of apps focused on learning Japanese as a foreign language. Higher-level students were more aware in general, but no statistical difference was observed for year of study. About two-thirds of Japanese majors were aware of Japanese language learning apps, as opposed to about 50% of minors (Moroz, 2013). No difference was observed between awareness for students who had or had not studied in Japan (Moroz, 2013). About two-thirds of smartphone owning students were aware of Japanese language apps with dictionaries being the most popular, followed by kana and/or kanji focused apps, applications for vocabulary and finally those dedicated to focused on culture and games (Moroz, 2013). When investigating how students came to be aware of these applications, 81% of students found apps through their mobile device’s app store, 49% discovered them through the internet and 48% followed a friend’s recommendation (Moroz, 2013). Only about 25% were directed to apps by an instructor (Moroz, 2013). Three of 4 instructors surveyed owned smartphones the same percentage were aware of apps. Of those three, 2 downloaded and used apps and although all admitted some awareness of apps, none had specifically told their students about them, or recommended their use; the implication is that students discover their own modes of study regarding technology and spread that information to their peers.

Application-based learning may still have a use, however. One study investigated how 126 first year students of Japanese studied kanji (Chinese characters adopted by the Japanese). The study incorporated the app Skirtter, which is designed to help students learn Chinese and Japanese characters, offers a range of features such as handwriting
recognition, corrections, help with stroke order and a flashcard feature (skritter.com). About a quarter of the students who participated in the study found Skritter to be a fun way to study kanji, although roughly half of students surveyed overall were neutral to it. The largest group that seemed to like the app were students with no kanji background (roughly one-third) enjoyed the app (Yoshimura & Shiomi, 2016). Half of the students believed that the application had an effect on their learning, and about two-thirds felt as if their kanji quiz scores rose thanks to the app. The students still seemed to prefer workbooks over Skritter, although the stroke-order feature was found useful.

How Students Equate Technology Use to Outcomes

Kvavik already demonstrated that many students have a positive perception of technology in general (2005). Simpson’s 2014 survey, “Technology for Effective Japanese Learning: Positive Influence of Using Technology for American College Students,” initially solicited the responses of 202 students from all years (freshman to senior) at a four-year university. Of the 202 students, fifteen did not use any technology, and seventeen declined to respond, therefore data was collected from 178 students (Simpson, 2014). According to the results, the most popular reasons to study Japanese were the desire to increase knowledge of language, culture and history, while visiting Japan in the future and the potential increase job opportunities were also factors. The majority of the students, 85%, expressed moderate, high or very high level of comfort with technology. Most used technology for Japanese study for an hour a week, while the second largest majority used technology to study Japanese for three hours a week, and the third largest grouping used technology for less than one hour up to two hours per session, which corroborates with other data (Simpson, 2014; Yoshimura & Shiomi, 2016).
Of the surveyed students, 60% indicated that using technology made them more dedicated students of Japanese, and about the same percentage felt more confident with the language. Those who felt more comfortable with technology were more confident with Japanese (Simpson, 2014). Overwhelmingly, most students used computers and smartphones, followed by MP3 players, consoles, and tablets. Meanwhile despite their increasing availability, very few students used eBook readers, perhaps owing to students’ preference for the sensuality of paperback books and ease of finding pages (Yoshimura & Kobayashi, in press). Most used online dictionaries but grammar study and online translation tools also enjoyed widespread usage among those surveyed (Simpson, 2014). Most students used technology to study Japanese at home or in Japanese class, although anywhere with WiFi and campus computer labs were also popular venues. Of the cited reasons for using technology to study Japanese, technology’s omnipresence was the most popular reason given, followed by “[technology] makes me study more efficiently” and “technology is just something I enjoy” (Simpson, 2014). Simpson’s data demonstrates a link between technology and the five goals of the National Standards in Foreign Language, including significant and positive link in communication (Simpson, 2014).

Overall, TELL seems to prove its mettle as a mode of instruction and learning, but few studies have sought students’ perceptions of classrooms which seek to use technology as a means of instruction and fewer seem to investigate how students actually use technology in their foreign language study and recommend how to implement technology in the classroom based on the findings.
CHAPTER 3
STUDY AIMS AND IMPLEMENTATION

Study Goals

This study will attempt to provide evidence for how students of Japanese both perceive and use technology in their study of the language and the benefits they believe that they receive from its use. While previous studies have investigated student preferences for TELL courses, the tasks involved or investigating how students use technology and their beliefs about it, few seem to have asked how much technology students believe they should be using, how much technology should be incorporated as part of a foreign language class, nor have they asked about specific devices, sites, etc., that the students themselves choose to use.

The reason as to why and how this pertains to Japanese language study is that Japanese is often viewed as one of the hardest languages for native speakers of English to learn. As technology is readily accessible and many students habitually use resources like the internet in their studies, they may feel confident in using technology for unfamiliar tasks which translates into better performance. Depending on the kind of technology used, activities which align with student preferences may lead to students of Japanese into becoming more dedicated, confident Japanese speakers.

In order to be able to better understand the relationship between students of Japanese and technology, I conducted a survey to gain deeper knowledge about how they use technology and if they believe it is beneficial. The survey used by this study was based Simpson’s survey Technology for Effective Japanese Learning: Positive Influence of Using Technology for American College Students (2014). The reason for this was the
broadth of the researcher’s investigation. The design of the second and third parts was especially helpful for investigation technology use and confidence of technology use and confidence in and dedication to Japanese. Alterations to the wording were made as well as the addition of questions pertaining to how much technology use was required by the instructor, how much technology the students believe they should use in class, and what favorite of technology that students use.

**Research Questions**

From the research presented in the literature review, it is assumed that students are already using technology outside of the classroom and are quite comfortable with it. They are also assumed to be familiar with using the internet and other technologies as a research tool and may already be using applications and other resources in their foreign language study. It is also assumed that instructors are already using technology although, some of the research suggests that there is sometimes a gap between the technology instructors selected and what students feel is actually useful (Karabulut, Levelle, Li & Suvorov, 2012). If instructors know, or can anticipate, what devices and technologies their students are using to study Japanese, it may help them decide what tools and how to implement them in a way that students are more likely to find worthwhile. Therefore, the following questions are posed:

1) How much do students use technology to study Japanese? Do students believe that using technology while studying helps them improve in Japanese?

2) What kinds of technology do they use and how do they use it? Why do they use technology?

3) In what ways do students believe technology helps them?
4) How much technology use do students believe instructors should use while teaching?

Research Question 1 seeks to establish a baseline for students’ study habits when it comes to Japanese and using technology while studying Japanese. This question also seeks to find a correlation, if any between technology use and whether or not students perceive the use of technology has helped them improve as students of Japanese.

Research Question 2 seeks to establish which technologies students employ while studying Japanese, and for which tasks. This question seeks to discover what students are actually using and why they chose to use technology.

Research Question 3 seeks to find if there are any perceived benefits students of Japanese have noticed in terms of communicative ability, cultural sensitivity, creating connections or community building.

Finally, Research Question 4 seeks to establish a current pattern of technology use from instructors and how students believe these patterns should change.

Methods & Participants

In order to answer these questions, a survey was conducted using the same format as Simpson’s 2014 study. The survey consisted of twenty-six questions, excluding the consent question. The survey consisted of three open-ended questions and twenty-three multiple choice questions, including questions which allowed the participants to choose multiple responses. Of the twenty-six questions, one question (question 9) was not used.

After completing all necessary certifications, IRB approval was obtained from each institute before participants were recruited. Students at three colleges and universities in Western Massachusetts who were enrolled in Japanese language classes
for the Fall 2017 semester and again in the Spring 2018 semester were invited to participate via an email disseminated through their instructors. There was no inherent risk for students who took the survey, nor were they forced to complete the survey. They were free to skip any question they wanted; participation was voluntary, and volunteers were not compensated for their participation.

Participants were selected from all levels of Japanese, that it to say from introductory levels (up to one year of study) to advanced levels (three years or more), without consideration to race, gender, intellectual ability or socio-economic background. Each student was taking at least one Japanese language course. Some students have studied Japanese for one year or less, however most have studied Japanese for up to two years, with a minority studying Japanese for more than three years. It is assumed that students who have taken Japanese classes for more than one year may have had multiple instructors. This was done to gain the broadest understanding of the typical student of Japanese in terms of attitudes, habits and technology use as it relates to the studying Japanese.

Initially, all five of the schools of the Five College Consortium were considered as potential recruitment centers, the survey was ultimately circulated among only three; Smith College, Mt. Holyoke College and University of Massachusetts Amherst. Of the remaining two, Hampshire College does not have a Japanese program, therefore students who study Japanese commute to one of the other four schools; Amherst College declined permission to have its students surveyed. Ultimately, only one student from outside of University of Massachusetts Amherst completed the survey and their replies where not different to those of a University of Massachusetts Amherst student’s. The survey was
disseminated via email to Japanese language teachers, who forwarded a link to a Survey Monkey survey to their students. Thirty-six students elected themselves to participate. Of the 36 students, one declined to continue the survey and 3 did not respond to any questions. In total, the responses of 32 students were used.
CHAPTER 4
RESULTS

Demographics

Forty-three majors were recorded from the responses; about one third of students were Japanese majors (many were double majors) and about one fifth, the next largest group, were Computer Science Majors. Students’ ages ranged from 18 to older than 25, with the majority being between 19 and 20 years old. Students of all standings (freshmen, etc.) participated, the majority being sophomores and juniors.

Answering the Research Questions

1) How much do students use technology to study Japanese? Do students believe that using technology while studying helps them improve in Japanese?

In total 46.88% of students (15) spend between one and 5 hours a week studying and preparing for their Japanese class. 34.38% of students (11 students) spend 6 to 10 hours; 15%.63% of students (5 students) spend 11 to 15 hours weekly and 3.13% of students (one student) spend more than twenty hours weekly.
90.31% of students (28 students) have used some sort of technology while only 9.68% of students (three students) have never used technology to help them learn Japanese. For individual responses “I prefer to use paper textbook [sic]” and “I prefer flashcards and pen and paper than staring at a screen [sic]” were the only two responses that concretely dealt with a negative preference regarding technology.

32.26% of students (10 students) believe that they access technology between one and three times a week as they study Japanese, and another 32.26% of students (10 students) believe that they access technology between four to six times a week. 19.35% of students access technology between seven and nine times and 16.13% use technology ten times or more weekly.
Figure 4: Times Accessing Technology Weekly

In one week, 58.06% of students (13 students) believe they spend between one and three total weekly hours using technology to help them learn Japanese. 41.93% of students (13 students) believe they use technology for four or more hours in total during a week.
Figure 5: Hours Using Technology to Study Weekly

Over half of the students surveyed, that is 59%, expressed a very large degree or a large degree of comfort for using technology in their studies. A little over 25% of students admitted to only a moderate extent of comfort while using technology. Comparatively few expressed a slight degree or a very slight degree of comfort, about 15%.

Students are split on how dedicated technology makes them to their Japanese studies. 33.33% of students believe that technology use has made them moderately more dedicated students of Japanese. Meanwhile, 26.67% of students believe that their dedication has been greatly affected and 6.67% of students believe their dedication was affected to very great extent. On the opposite end of the spectrum, a minority of students, about 13%, believe that technology use has affected their dedication to a slight extent or a very slight extent. Finally, 20% of students do not believe that technology has any effect on their dedication to Japanese.
When considering how confident as Japanese language learners technology has made them, 40% believe they were affected by a moderate extent and 30% believe that they were affected to a great extent or to a very great extent. 16.66% of students believe that technology has made them slightly more or very slightly more confident. About 13% of students do not believe technology use has changed their confidence.

![Comfortability with Technology, Dedication and Confidence](image)

**Figure 6: Comfortability with Technology, Dedication and Confidence**

The results of Figure Six demonstrate a relationship between confidence in using Japanese and dedication to its study while using technology which may suggest that technology is a tool which can help students feel at ease with studying Japanese. However, it does not suggest a relationship between confidence and dedication in relation to overall comfort in using technology; students in general feel comfortable with technology to study Japanese, but not necessarily with the language itself.

2) What kinds of technology do they use and how do they use it? Why do they use technology?
In Question 13 of the survey, students were asked to select all the technological tools and devices which they use to study Japanese. 90% of students use a personal computer or laptop and 73.33% use a smartphone when studying Japanese. 6.67% of students will use iPads and tablets, eBook readers or an MP3 player, such as an iPod. Only 3.33% of students using gaming consoles or another form of technology to study Japanese. No students use netbooks. The use of technology, however varies considerably.

Figure 7: Types of Technology

Of the 30 participants who responded to this question, 29 (96.66%) responded as using a personal computer or laptop, smartphone or tablet. Of them, 6 participants (20.86%) used only a personal computer or lap top and 2 used only a smartphone (6.89%). Of the participants who used form combination of tools, 19 (65.51%) used both a smartphone and computer, while only one student used a computer/tablet combination and one used a computer/smartphone/tablet combination (3.34% each). This data
suggests that students use a combination of mobile technology and more stationary forms at a great rate of frequency. Unfortunately, there was no information as to how the participants used each and for which tasks they favored one over the other.

In Question 15 of the survey, students were again asked to select all the purposes for which they used technological tools when studying Japanese. Students use online dictionaries in their studies at the highest frequency. The next most frequent use of technology is for studying vocabulary and then listening to Japanese music, radio and podcasts. Students use technology to watch Japanese news, movies and television programs at the same rate as using online translators, which are the fourth most frequent uses of technology. The fifth most frequent use of technology is for gaining exposure to Japanese culture and reading Japanese texts. The sixth most frequent use of technology is for grammar practice and the seventh most frequent use of technology is for practicing kanji and kana and eight is collaborative writing. The least frequent uses of technology are Japanese learning games, communicating with native Japanese speakers online and other tasks like shopping.

No students of this survey reported the use of Japanese for research, but most of the students were taking Japanese for two years or less, so this is not surprising.
Figure 8: Tasks Using Technology

Students were also asked about their favorite technologies to study Japanese. Students contributed a total of 76 replies about the tools that they prefer to use. Online video sites seem to be the clear favorite: 27.63% of students labeled sites like Youtube, Bilibili and others as a favorite study tool. Next, 19.74% of students prefer to use dictionaries and translation software. A smaller percentage of students, 9.21%, enjoy quiz applications. A favorite within this category is Quizlet. Some students (6.58%) like using flashcard applications like Anki. Furthermore, 6.58% of students prefer to use various reading materials available online. Only 5.26% of students consider kanji-centric applications and websites like WaniKani and Kanshudo to be a favorite tool. Very few students (3.95%) like to use official applications and sites created by textbook publishers, like the apps developed by Genki and the website for Tobira.

<table>
<thead>
<tr>
<th>Type of Technology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Japanese Texts</td>
<td>48.39%</td>
</tr>
<tr>
<td>Practicing Kana and Kaji</td>
<td>29.03%</td>
</tr>
<tr>
<td>Practicing Grammar</td>
<td>45.16%</td>
</tr>
<tr>
<td>Learning Vocabulary</td>
<td>80.65%</td>
</tr>
<tr>
<td>Playing Online Games</td>
<td>90.32%</td>
</tr>
<tr>
<td>Communicating Online</td>
<td>16.13%</td>
</tr>
<tr>
<td>Researching in Japanese</td>
<td>9.68%</td>
</tr>
<tr>
<td>Watching Japanese Audio</td>
<td>0.00%</td>
</tr>
<tr>
<td>Gaining Exposure to Culture</td>
<td>61.29%</td>
</tr>
<tr>
<td>Collaborative Writing</td>
<td>58.06%</td>
</tr>
<tr>
<td>Using Online Translators</td>
<td>48.39%</td>
</tr>
<tr>
<td>Other</td>
<td>58.06%</td>
</tr>
<tr>
<td></td>
<td>9.68%</td>
</tr>
</tbody>
</table>
Table 1: Favorite Ways to Study Japanese

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>27.61%</td>
</tr>
<tr>
<td>Dictionaries/Translators</td>
<td>19.74%</td>
</tr>
<tr>
<td>Quiz</td>
<td>9.21%</td>
</tr>
<tr>
<td>Flashcard</td>
<td>6.58%</td>
</tr>
<tr>
<td>Text</td>
<td>6.58%</td>
</tr>
<tr>
<td>Kanji</td>
<td>5.26%</td>
</tr>
<tr>
<td>Other</td>
<td>3.95%</td>
</tr>
<tr>
<td>Publisher Materials</td>
<td>3.95%</td>
</tr>
<tr>
<td>Audio</td>
<td>2.63%</td>
</tr>
</tbody>
</table>

The majority of students who responded to this survey, 80.65%, are encouraged to use technology because they believe that it makes them more efficient. One student commented that using an online dictionary provides superior speed in accessing information over a paper dictionary. 35.48% believe that technology makes studying Japanese more fun and 22.58% of students find that technology helps with their motivation. Meanwhile, 77.42% of students find that technology’s omnipresence and accessibility is a deciding factor in its use as a study tool, one student remarking that it’s easy to “learn on-the-go.” Meanwhile, 48.39% of students enjoy using technology in general. For 54.84% of students, technology makes it easier to keep abreast of Japanese society and culture, while 25.81% use technology to keep in contact with their Japanese
acquaintances.

Figure 9: Reasons to Use Technology

3) In what ways do students believe technology helps them?

As illustrated above, a majority of students believe that technology has made them more dedicated and confident in their Japanese studies to some degree. In almost all
areas, students have indicated that they agree or strongly agree that technology has helped them do more with Japanese. In Question 24 of the survey, which allowed students to choose all answers which applied, students indicated the specific areas where they believe technology use has helped them: increasing their Japanese language ability, appreciating Japanese culture, making connections and interacting with the Japanese-speaking community.

In the purview of language ability, participants agreed with most frequency that technology helped them understand and interpret written and spoken Japanese, while the next most frequent degree of agreement that technology has made them communicate in Japanese and the third most frequent statement with which student agreed was that they can present information, concepts and ideas in Japanese due to the aid of technology.

Technology is also a tool to allow students’ exploration of Japanese culture easily. In statements related to culture, the highest frequency of positive responses indicated that technology helps them related to Japanese cultural perspective, customs and behaviors and the second most frequent response indicates that students agree or strongly agree that technology helps them related to Japanese works of art or culture.

Technology seems to aid students in building connections to fields and knowledge outside of linguistic ability and culture as well. Of these statements, students agreed most frequently that technology helps them see the similarities and differences between Japanese and their native language. The next most frequent response agreed or strongly agreed that technology helped them gain fresh perspectives by engaging with materials unique to the Japanese worldview. Finally, a smaller frequency of students responded that
they do not believe that technology has helped them acquire knowledge of other disciplines.

Finally, technology helps students actually interact with the Japanese-speaking community. A very small frequency of students agreed with the statement that they used technology to make new acquaintances among native speakers and other studying about Japan and its language.

Finally, overall, students agreed or strongly agreed that technology has helped them use Japanese for their personal enjoyment and enrichment at a high degree of frequency.
4) How much technology use do students believe instructors should use while teaching?

Most students, 19.35%, agreed that there was a very slight technology requirement in their class. 32.26% of students believed there was only slight requirement, while 25.81% of students believed there was a moderate requirement to use technology for the classes they were taking. Fewer, 16.13%, believed there was no such requirement and only 3.23% believed that there was a “great extent” or a “very great extent” of required technology use in their class.
Currently, instructors use a mix of various technologies in and outside of the classroom. 93.55% of students agree that their instructors use PowerPoint slideshows for grammar lectures. 70.97% of students find that their instructors use an audio or video for grammar lectures from a publisher, like Genki, or content from a third-party source. 58.06% of students note that instructors use audio or video files that the instructor has created themselves. 35.48% of online textbook, while 9.68% note that their instructors use digital or online workbooks. Only 6.45% of students say that their instructor uses digital or online quizzes or tests. The average student believes that 39% of their current Japanese language course is run through technology and they would like a slightly higher percentage (46%) of their course to be run via technology.

Figure 11: Requirement to Use Technology
Figure 12: Ways Instructors Use Technology

**Interpretation of the Results**

1) How much do students use technology to study Japanese? Do students believe that using technology while studying helps them improve in Japanese?

These numbers of this study are different than Simpson’s (2014) findings, which document about 67.2% of students using technology for three hours or less, and 32.7% of students using technology for four or more hours weekly compared to 58.06% and 41.93% respectively; on average students of this study are using technology longer than in Simpsons. There is the possibility that there is a difference in the materials or curricula from each institution (e.g.: textbooks used, course management systems employed,
classes designed for specific skills) which prompted the participants in this 2018 study to use technology for more hours a week on studying Japanese.

According to the United States Department of Labor’s Bureau of Labor Statistics, on average students spend between three and four hours on “educational activities” (2016), therefore in one week, a typical college student will spend about 21 to 28 hours a week on their education. The student who is studying Japanese may dedicate up to twenty hours to the subject, although it is more likely that the student may spend close to a quarter of their time (five hours) on the subject. According to Wood’s study (2015), which surveyed 164 college students and examined the cell phone activity of 24 participants, college students spend about nine hours a day on their cellphones (Wood, 2015). Out of a total 63-hour weekly allotment of hours dedicated to cellphone use, it can be supposed that students studying Japanese may spend up to about one-ninth of their time using their device to study Japanese.

In Simpson’s study (2014), about 50.6% of students surveyed reported a great or very great extent of comfort in using technology in Japanese, compared to 59% of students in this survey. 34.7% of students expressed moderate comfort with using technology for the purpose and similar percentages, 14.8%, of students in Simpson’s study and 15% in this study, were not at all comfortable, very slightly comfortable or comfortable to a slight extent with using technology to study Japanese.

Similar percentages of students in Simpson’s study (2014), the largest group of students in both studies reported only moderate changes in their dedication, but fewer students in Simpson’s study believe that technology has had a great effect on their dedication.
In Simpson’s study (2014), 40.9% of students saw a moderate increase in their confidence due to using technology to study Japanese, which is again similar to this study’s 40% of students. 23.3% of students believed that their confidence was affected to a great or very great extent, compared to this study’s 30%. 26.2% of students saw their confidence slightly affected or affected to a slight extent. Only 9.7% of students in Simpson’s study reported no change to their confidence. Again, the majority of students in both studies believe that technology has made them only slightly more confident in studying Japanese, however, this study sees more students (30%) reporting that technology has made them more confident in Japanese, compared to the students in Simpson’s study (23.3%). The increase of mobile technology, up to 94% of students according to some reports (Mobile Fact Sheet, 2018), may mean that students feel that help is close at hand.
From this data, we extrapolate if a student’s indication of confidence and dedication being affected “moderately,” “to a great extent” or “to a very great extent” are indicating a positive change, then the total percentages of this study (70% change in confidence and 66.67% in dedication) and Simpson’s (59.2% change in confidence and 64.2% in dedication), it may indicate that students are seeing many more benefits than other fields (Kvavick, 2005). The majority of students then seem to feel very comfortable using technology, but students’ comfort levels with technology seem to be higher than any effects to confidence or dedication, however times accessing technology and the hourly rates seem to be quite high. There are areas, from “very slight extent” to “slight extent and again at “great extent” where the points overlap. However, there seems to be very little correlation, if any, between how comfortable students are with technology to confidence in and dedication to Japanese. Other perceived benefits, such as efficiency, may make students more likely to adopt technology and continue using it.

2) What kinds of technology do they use and how do they use it? Why do they use technology?

As expected, most students use technology in their Japanese language studies in rates similar to the rates of ownership found in the previous portion of this paper (Simpson, 2014; Anderson, 2015; Jarvis & Achiellos, 2013). A larger percentage of students use technology to access information and media initially or primarily intended for Japanese audiences than those in Simpsons’. The largest percentage, 62.19% of students, use technology to listen to Japanese music, radio, podcasts and other audio content, compared to 31.5% (2014). 58.06% (compared to 36%) access Japanese news,
television programs and more. Many students in the current study, 48.39%, use technology to read Japanese texts like newspapers, magazines, websites and other reading content. One student, comprising 3.2% of the total, uses technology to access specifically anime and manga. No students surveyed use technology to access information from online databases written in Japanese. Students in Simpson’s study use technology at similar rates for vocabulary study 79.8% (compared to 80.65%), but more students, 65.2% (compared to 45.16%), used technology for studying Japanese grammar. More students in Simpson’s study, 65.2% of students, use technology for kana and kanji study. Considerably more students in this study, 90.31%, use online dictionaries, compared to the 67.4% of students found in Simpson’s study (2014). Meanwhile students in both studies are using translating software at similar rate – 57.3% in Simpson’s study and 58.06% in the current study. Meanwhile, 12.9% in Simpson’s study used online collaborative writing communities. Many more students, 30.3%, found in Simpson’s study make use of online tutors.

Many more students of the current study, 80.65% (compared to Kvavik’s, Simpson’s and Abe’s findings, 16.2%, 66.3% and 66.4% respectively) believe technology makes them more efficient. While it may be hard to define “efficiency” in terms of study, it could perhaps relate to the perceived omnipresence and mobility of modern technology. One participant claimed that using an online dictionary was superior to paper dictionaries as they did not have to manually search for the words they were looking for. More students in this survey found technology to be more convenient (77.42% of students) than in Kvavik’s (48.7% of students), but less than in Simpson’s (86.5%). Meanwhile, 80.65% of students of the current study believe that technology
makes them more efficient, while 66.3% of students in Simpson’s study believe the same and 16.2% of students surveyed in Kvavik’s 2005 study claim that technology saved them time. If technology’s perceived omnipresence can be equated to convenience (something at arm’s length away) and efficiency can be equated to saving time, students of both the current study and Simpson’s study appear to agree with the findings of Kvavik’s study. In the span of 13 years, students seem to generally agree that technology has become more prevalent and convenient.

Figure 14: Comparison of Perceptions

In Figure 13, where students are asked about why they use technology, the two most popular reason students agreed with pertained to convenience and the omnipresent nature of technology while making Japanese fun or technology as a motivating force seems to be rather low (35.48%). These trends are echoed in Simpson’s 2014 study as well (48.9%). Despite the belief that technology may make difficult tasks more
enjoyable, it would appear that students approach their studies in a more serious fashion than anticipated.

In short, most students will use a personal computer or smartphone while studying Japanese, which is comparable to other studies (Jarvis & Achiellos, 2013; Simpson, 2014). A large portion of students use technology for audio and audio-visual content. Vocabulary and grammar tend to be the most studied areas for students while they use technology. It is also a valuable tool for students to access information about Japanese language and culture. Technology usage is perceived by students to be an efficient mode for study perhaps because it is also seen to be omnipresent and accessible (Jarvis & Achiellos, 2013; Simpson, 2014).

3) In what ways do students believe technology helps them?

In previous studies, many students feel as if they improved due to technology regardless of whether or not they actually did (Sagarra, Zapada 2008). Most students in this survey indicated that they believe that technology has helped them with learning Japanese. There are positive indications in Figure 8 that demonstrates more than 60% agreement to statements pertaining communication, relating to foreign cultures and as high as 80% personal enrichment. There were no opportunities for students to voice their opinions on how exactly technology has helped them and their grades were neither examined, nor were instructors interviewed about any of the students’ abilities.

4) How much technology use do students believe instructors should use while teaching?
Students in this survey seem to be obligated to use technology in a manner which the students in Kvavik’s study found preferable – a slight use of technology (2005). As reported by the students, most instructors seem to favor PowerPoint slideshows, while most students themselves seem to enjoy YouTube videos. Instructors may prefer using PowerPoint slide shows in class, so they can control the scope of the topics discussed and provide immediate clarification to students. Meanwhile, students may prefer more individualized pursuits. For example, the Japanese taught in class is a standardized dialect based on the Japanese spoken in Tokyo and videos about regional dialects can be found online. Another example may be the desire to gain more information on a topic that was not addressed in class or only briefly in the textbook.

However, this survey did not ask exactly how students used their preferred technology, so it is unknown if students are watching videos which contain the same scope of information which instructors are presenting. If students are studying the same information via videos, then the use of slideshows may not align adequately with student preferences. In other studies, a majority (42.4%) of the same students (126 students in total) believed that more online activities should be incorporated; they would prefer that lecture videos, PowerPoint slide shows and speaking/listening elements to be online (Yoshimura & Shiomi, 2016).
CONCLUSIONS

Based on the results of this study, students of Japanese use technology in order to help them learn the language. Students are very comfortable with using technology, but while it may help them improve their confidence in studying the language and dedication, it does not seem that they see technology as a replacement for instructors. About two-thirds of the students in this study use a blend of personal computers or laptops and mobile devices, along with frequent use of mobile devices in general, may indicate the potential for students to engage their language studies anywhere and at any time. Students prefer to use technology for certain skill related tasks - such as grammar, convenience (in the case of dictionaries), exposure to Japanese culture and access media. Students seem to use YouTube videos at a great rate of frequency. In general, students agree that technology helps them in increasing their communicative abilities, engage in culture, and for their own enrichment. Students do not recognize a great or very great requirement to use technology in their Japanese language classes and their instructors prefer to use PowerPoint slides or audio/visual materials produced by publishers or other sources. Students would like to see a slight increase in technology use from their instructors.

Students seem to have firmly established favorite methods of study which instructors must take into account. Because students are using technology, specifically mobile devices, for as many as ten hours a day, it would be in the best interest of Japanese instructors to work with the assumptions that their students will be using these technologies. By acknowledging their students are using technology this often, the instructor should plan to modify student behaviors in a way that encourages them to study Japanese. Since so many students seem to prefer videos, surveying which types of videos
students are using and designing a course using those videos for instruction (or creating a similar style of video themselves) which the students can watch anywhere and at any time, may prove to be an attractive study tool for students.

**Future Directions**

Firstly, although students displayed an overwhelmingly clear preference for using video media to study Japanese, especially YouTube, this study has not investigated as to why they use it and what they use it for. There may be several factors as to why students like YouTube as a study tool; there are channels on YouTube dedicated to teaching Japanese language, culture, history and other fields. This can allow students to review grammar explanations on their own time or investigate Japan and its people without needing to travel. In addition, Japanese music, video, television, movies and programming can be found as both official and pirated versions. These may provide extra opportunities to practice listening skills through music and film and speaking skills through karaoke, since videos which provide lyrics to popular songs on screen are not uncommon. One possible extension of this research may be how students in general are using YouTube for their education.

Secondly, following student preferences for slightly more technology in the classroom and the increase of mobile technology, perhaps the adoption of a flipped classroom model may prove to be both popular and effective. Because students are using portable devices more often, providing instructional materials online has some advantages to both students and instructors. Instructors will only have to produce or find a handful of instructional materials once and students can then engage with the material when they want to as often as they want to ensure understanding. Studying a flipped
classroom which relies on mobile technology may help inform educators how to best engage with today’s students.

Finally, because language learning happens when students receive input and produce output in the target language, the classroom is necessary to provide an opportunity for students to practice their language skills with each other and for the instructor to provide feedback. Examining how classes that use technology and either passive or active language learning exercises and student confidence and dedication in studying foreign languages may provide additional insight to any effect on technology may actually have on foreign language study.

**Problems**

This survey was originally intended to be part of a larger comparison study including the perceptions that Japanese instructors have about technology. The maximum number of Japanese language instructors within the three participating institutions would have been about fifteen, but only seven instructors responded to the solicitation emails; it was extremely easy to determine the identity of the respondents due to their answers. As a large number of responding instructors were not from University of Massachusetts Amherst, while the majority of responding students were from the aforementioned school. The resulting gap between the results of the surveys would make accurate comparisons difficult. Individual teaching practices and norms of each Japanese program of the different institutions may provide differing emphasis on technology and how it should be used.
Furthermore, the study was disseminated to the students and instructors of just three institutions in the Pioneer Valley in Massachusetts. Ideally, to get a broader sense the perceptions of technology of students and instructors of Japanese, a larger pool of both students and instructors needs to be engaged. A state, regional or national survey of both groups would give a more holistic view of the current situation. There were also some areas of the survey itself which could improve in terms of wording or design.

Several students also misunderstood Question 11, which asked for reason why students have never used technology to study Japanese. Of the fourteen students who replied, two gave a clear preference for non-technological methods; three gave ambiguous answers. The nine remaining students gave a clear preference for technological means.

There was also a great deal of disparity in responses in Questions 26 and 27, which asked students how much of their classes were run through technology and how much the ideal Japanese class was run through technology. The value “0%” indicated a class with no technology usage, and the value “100%” referred to a class that was wholly online. One student from University of Massachusetts Amherst said that their class was 100% online, but to this author’s knowledge, there are no online Japanese language courses at the university.

To conclude, because students seem to use a mix of stationary and mobile technologies and because their reliance on the Internet at the present, it would seem that there would be many opportunities to engage with students through technology. It stands to reason that because technology has become more accessible, instructors may see a greater push to adopt technology from both students and administration. To meet these
demands and engage with students more often through technology, or make their students
more receptive to being engaged, instructors must be willing to change how they use
technology themselves based on how their students use technology. Nevertheless, due to
technology, foreign language learning has become more efficient, convenient, effective
for both students and instructors.
## Student Attitudes Towards Foreign Language Study and Technology

The purpose of this survey is to:

A) Investigate students’ experience with Japanese

B) Investigate students’ experience with using technology for foreign language study.

Participation in this survey is voluntary and your answers will be kept confidential.
### Background Information

1. Please indicate your academic major.

2. How old are you?

3. Please indicate your class standing.
   - Freshman/First year student
   - Sophomore/Second year student
   - Junior/Third year student
   - Senior/Fourth year student
   - Second-year Senior/Fifth year student
   - Graduate student
   - Matriculated/Non-traditional student

4. Please indicate the university or college where you're currently enrolled.
### Experience with Japanese

* 5. Including self-study, how long have you been studying Japanese language?
   - [ ] Less than one year
   - [ ] Up to one year
   - [ ] Up to two years
   - [ ] Up to three years
   - [ ] Up to four years
   - [ ] More than four years

* 6. How many Japanese language courses are you taking THIS semester?

* 7. On average, about how many hours each week do you study or prepare for your Japanese language class(es)?
   - [ ] Less than one hour.
   - [ ] One to five hours.
   - [ ] Six to ten hours.
   - [ ] Eleven to fifteen hours.
   - [ ] Sixteen to twenty hours.
   - [ ] More than twenty hours.
Experience with Japanese

* 8. Which of the following represent the THREE MOST IMPORTANT reasons you are taking Japanese courses at the university? Please indicate three only.

<table>
<thead>
<tr>
<th>Reason</th>
<th>The most important reason</th>
<th>The second most important reason</th>
<th>The least important reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need to meet a foreign language requirement.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to communicate with Japanese speaking friends and family.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I plan to become a resident of Japan someday.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I hope to continue my studies or do research at a Japanese university.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I intend to improve my job or career opportunities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to teach the Japanese language.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to access materials that are only published in Japanese.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to increase my knowledge of Japanese language, society and culture.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to use Japanese to help me learn other Asian languages.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to enhance my enjoyment of Japanese music, film, TV shows, games, anime, manga and/or food.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Another reason.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Use of Technology

These following questions will gauge your use of technology when learning Japanese.

9. Either in-class or outside of class, have you ever used a technological tool or device of some kind to help you learn Japanese?
   - [ ] Yes, I have used some sort of technological device to help me learn Japanese.
   - [ ] No, I have never used any sort of technological device to help me learn Japanese.

   If you answered "No," as to the use of technology, what are some reasons why?

10. If you have never used technology to study Japanese, what are some of the reasons why?

11. To what extent does your Japanese teacher require you to use technology as part of your Japanese class?
   - [ ] There is no such requirement in my Japanese class
   - [ ] To a very slight extent
   - [ ] To a slight extent
   - [ ] To a moderate extent
   - [ ] To a great extent
   - [ ] To a very great extent
12. What are some kinds of technological tools or devices have you used to learn Japanese? Check all that apply.

☐ Personal computer or laptop computer
☐ Netbook
☐ Game console (e.g., Nintendo 3DS, Wii, Playstation)
☐ Smartphone
☐ iPad or tablet
☐ iPod or MP3 player
☐ Ebook reader (e.g., Kindle, Nook)
☐ Other (please specify)

13. What are some of the ways that your teacher incorporates technology within and outside of the classroom? Check all that apply.

☐ Powerpoint slideshows for grammar lectures
☐ Audio of video files which they have created
☐ Audio or video grammar lectures from a publisher (e.g., Genki Online)
☐ Audio or video content someone else has created (e.g., YouTube videos)
☐ CDs or MP3s
☐ A digital or online textbook
☐ Digital or online workbook
☐ Digital or online quizzes or tests
☐ Other (please specify)
14. Please specify the purpose(s) for which you use technological tools or devices. Check all that apply.

- Reading Japanese texts (newspaper, magazines, websites, etc.)
- Practicing writing kana and/or kanji
- Practicing grammar
- Learning vocabulary
- Using online dictionaries
- Playing online Japanese learning games
- Communicating online with native speakers of language tutors
- Researching information written in Japanese in online databases
- Listening to Japanese music, radio, podcasts, etc..
- Watching Japanese news, television programs, etc..
- Working with others in an online community (Wiki, Google Docs, etc.)
- Gaining exposure to Japanese culture
- Using online translation tools and applications
- Other (please specify)

15. Does your teacher encourage or condone the use of technology during class time? For example: you are allowed to use your smartphone to look up information.

- Yes
- No
16. What encourages you to use technological tools or devices to help you learn Japanese? Check all that apply.

☐ Technology is all around use and its readily accessible
☐ Technology makes learning Japanese more fun
☐ Technology helps me learn Japanese more efficiently
☐ Technology increases my motivation for learning Japanese
☐ Technology is just something I enjoy in general
☐ Technology makes it easier to know what's going on in Japanese society/culture
☐ Technology keeps me in closer touch with Japanese friends and acquaintances
☐ I do not use technology to study Japanese
☐ Other (please specify)
Use of Technology

Please answer the following questions.

17. To what extent are you comfortable using technology to learn Japanese? Check one.
   - Not at all comfortable
   - Very slight extent
   - Slight extent
   - Moderate extent
   - Great extent
   - Comfortable to a very great extent
   - Other (please specify)

18. When you use some sort of technology to help you learn Japanese, how long does a session last?
   - Less than one hour
   - Between one and two hours
   - Between three and four hours
   - More than four hours
   - I never use technology for this purpose

19. In an average week, about how many total hours do you use technology to help you learn Japanese?

20. On average, how many times a week do you use technology to help you learn Japanese?
### Use of Technology

21. To what extent has using technology made you a more dedicated student of Japanese? Check one.

- [ ] Not at all affected my dedication
- [ ] Very slight extent
- [ ] Slight extent
- [ ] Moderate extent
- [ ] Great extent
- [ ] Very great extent
- [x] I do not use technology to study Japanese

22. To what extent has using technology made you more confident as a Japanese language learner? Check one.

- [ ] Not at all affected my confidence
- [ ] Very slight extent
- [ ] Slight extent
- [ ] Moderate extent
- [ ] Great extent
- [ ] Very great extent
- [x] I do not use technology to study Japanese
23. In my study of Japanese, using technology has helped me to...

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>I have not used technology for this purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicate in Japanese.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand and interpret written and spoken Japanese.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present information, concepts, and ideas in Japanese</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relate to Japanese cultural perspectives, customs and behavior patterns.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relate to Japanese works of art or other cultural products.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See similarities and differences between Japanese language and my own native language.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquire knowledge of other disciplines through materials presented in written or spoken Japanese.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain fresh perspectives by engaging with materials unique to the Japanese worldview.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make new acquaintances among native speakers and others studying about Japan and its language.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use Japanese for my personal enjoyment and enrichment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

24. Please list some of your favorite ways to learn Japanese through technology. Example: Anki, Youtube videos, Tofugu articles, etc..
26. Currently, on average what percent of your Japanese language courses are run through technology. 100 mean the course is conducted wholly online.

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
</table>

27. Ideally, what percent of a Japanese language course should be run through technology. 100 means that the course is conducted wholly online.

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
</table>
End of the Survey

Thank you for your participation!
REFERENCES


Simple enough for students, powerful enough for expats. Retrieved from https://skritter.com/features


