

Incorporating Authentic Video into
Language-learning Mobile Applications

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ABSTRACT

Incorporating Authentic Video into Language-learning Mobile Applications

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Authentic content in language materials can provide learners with meaningful contexts that enhance language learning (Shrum & Glisan, 2016). This project seeks to create a Japanese-learning iOS app that teaches language directly from authentic Japanese YouTube videos. The app provides a video library where users can find videos on a variety of topics such as food, music, beauty, and games. Each video features video captions, vocabulary exercises, and grammar drills based on the language used in the video. Students enrolled in Japanese classes at Brigham Young University were asked to test out the app and provide feedback on their experience. The participants enjoyed the authentic content and found the written transcripts of the videos to be helpful to their learning. They also requested additional content and features to improve the app. Based on the participants' comments, we created a plan of action including future updates for the app.

Keywords: CALL, authentic texts, Japanese, scaffolding, mobile apps, YouTube

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Chapter 1: Introduction

The use of authentic texts in language instruction has become a standard practice in the field of second language pedagogy. Authentic texts are defined as “written and oral communications produced *by* members of a language and culture group *for* members of the same language and culture group” (Galloway, 1998, p.133). Authentic texts include books, TV shows, music, and other media intended for audiences in the target culture. Thanks to the internet and other technological advancements over the past several decades, authentic texts have become more accessible than ever.

Using authentic texts is a means to contextualize language instruction in a way that is meaningful to the language learners (Shrum & Glisan, 2016). Research has shown that there are several benefits to using authentic texts in language instruction. Authentic texts can motivate students, especially when the texts appeal to their personal interests (Shirai, 2013). In addition, authentic texts can add variety to language instruction and help students develop intercultural competence, as many authentic texts contain cultural elements (Melvin & Stout, 2010). Incorporating authentic texts into materials, curriculum, and instruction is a key component of effective language pedagogy.

Over the past several years, language-learning mobile applications have gained tremendous amounts of popularity. *Duolingo*, *Memrise*, *Babbel*, and *Fluent U* are a few of several language-learning apps in the digital market. There are many potential benefits to learning a foreign language through mobile applications. Mobile apps offer convenience and portability, and they are accessible to anyone with a smartphone or tablet. Many applications offer interactive activities such as augmented reality, animations, handwriting recognition, flashcards, and dictionaries (Godwin-Jones, 2011). With the advancements of smartphones and

mobile technology, more people are turning to apps for fun and convenient ways to learn a new language.

However, behind the flashy user interface and interactive features, many mobile apps may be lacking in terms of language content and pedagogical foundation. Several studies have scrutinized the language content and pedagogy of mobile apps. One such study analyzed 50 language learning apps and found that the majority taught vocabulary in isolation rather than in context (Heil, et al., 2016). This study suggests that while mobile technologies may be advancing, many language-learning apps are falling behind in terms of effective language pedagogy. While past studies have evaluated the pedagogy behind language-learning apps, the use of authentic texts in mobile apps has been mostly left unexplored. There may be concern that the content in several of the most popular language-learning apps lack authenticity.

The purpose of this project is to develop a Japanese language-learning mobile app that incorporates authentic content into language instruction. The project will begin with a content analysis of apps in the current market. We will evaluate the authenticity of existing apps and discuss the need for authentic content in language-learning mobile apps. We will then develop a new mobile app, *Nihongo Desu*, which will use authentic YouTube videos as meaningful contexts for vocabulary and grammar instruction. Further improvements to the app will be discussed based on reviews and feedback from users.

Chapter 2: Review of Literature

This project involves creating instructional materials that language learners can use to build Japanese proficiency. Tomlinson (2012) defines language materials as “...anything that can be used to facilitate the learning of a language, including coursebooks, videos, graded readers, flash cards, games, websites and mobile phone interactions...” (p. 143). Language materials can be in printed or digital formats, and they can be used for a variety of different purposes. This project focuses specifically on the creation and analysis of mobile language-learning applications. There are key pedagogical principles that can be applied to creating effective language materials, and this chapter will discuss previous research that is relevant to the project.

Contextualization

Contextualization is a key component of effective language teaching. Hadley (2001) stressed that “students need to learn language in logical contexts, either through authentic discourse-length input or through language learning materials that stimulate authentic input” (p. 161). In addition, Godwin-Jones (2018) stated, “Contextualized encounters are likely to enhance the chances of retention, as words and expressions are used in meaningful, and therefore more memorable, ways” (p. 2). Furthermore, in a study involving Turkish students studying English, those who learned grammar and vocabulary through an episode of a popular cartoon significantly outperformed students who were taught using traditional methods, which at the time did not incorporate contextualized teaching (Arikan & Taraf, 2010). Thus, effective language pedagogy involves incorporating instruction into contexts that are meaningful to the learners.

The importance of meaningful context when teaching vocabulary is emphasized in ACTFL’s High-leverage Teaching Practices (HLTP). As discussed by Glisan and Donato (2017), vocabulary taught in isolation does not establish sufficient form and meaning in memory, even

when the words are accompanied by visuals. Vocabulary that is incorporated into a meaningful context, such as a story or activity, generally gives learners repetitive exposure to vocabulary words and helps learners better associate the words with their meanings (pp. 54-55). YouTube videos in particular can provide meaningful contexts for vocabulary learning, as they provide both audio and visual input for the learners (Arndt and Woore, 2018). Contextualizing language is a key component of effective language pedagogy.

Authentic Texts

Authentic texts can provide meaningful context for language learners (Shrum & Glisan, 2016). Authentic texts are defined as “written and oral communications produced *by* members of a language and culture group *for* members of the same language and culture group” (Galloway, 1998, p.133). Based on this definition, authentic texts include books, articles, radio shows, music, videos, and other forms of media created by and for members of the target culture. There are several benefits to using authentic texts in second language teaching. A study involving undergraduate EFL students showed that listening comprehension of aural materials improved significantly when the materials were authentic and communicative (Ghaderpanahi, 2012). Authentic material can also motivate students. Shirai (2013) observed that freshmen at a Japanese university responded favorably to enjoyable authentic material as opposed to artificial material that is often presented in textbooks. Authentic materials provide opportunities for students to learn culture and add variety to classroom activities (Melvin & Stout, 2010). Thus, effective language pedagogy involves incorporating authentic materials into lessons and curriculum.

Language content can vary in degree of authenticity. Helgesen and Brown (2005) categorize texts into five degrees of authenticity (p. 102):

Genuine text authenticity. The text is created for some real-life purpose, not for the classroom....

Altered text authenticity. The text has not been changed in meaning, but it is no longer exactly as it was because of changes made for the classroom....

Adapted text authenticity. The text was originally created for “real life” but has been adapted by the classroom teacher. Words and grammatical structures are changed, usually to simplify the text....

Simulated text authenticity. The text is created for the classroom and is written by the author or teacher *as if* the material were real and *as if* for a real audience....

Inauthentic texts. The text is created for the classroom with no attempt to make the materials resemble genuine authentic materials....

Note that the above definitions are geared mostly toward classroom instruction, but the categorizations for text authenticity can be applied to content in other language materials as well.

It is important to note that not all language instructors and materials developers agree that authentic texts are effective forms of language input, especially at the beginner and intermediate levels. Many language teachers and researchers argue that exposing learners to authentic texts may overwhelm them with input that is beyond the learners’ levels and negatively affect their confidence in the language (Crossley et al., 2007). It would be worth considering learners’ attitudes and perspectives toward authentic content.

It is also important to mention that just because a text is not authentic, that does not necessarily make it ineffective. Helgesen and Brown (2005) mention that inauthentic texts may be effective language tools in the right circumstances. Perhaps inauthentic texts like word lists and phrasebooks can help simplify language as pre-listening or pre-reading resources.

Furthermore, it is important to distinguish the difference between authentic *texts* and authentic *tasks*. While authentic texts are often referred to as texts that are created *by* and *for* members of the target language (Galloway, 1998), authentic tasks are those that learners might perform in the target culture (Helgesen and Brown, 2005). For example, a Japanese learner may want to express how long he or she has been studying Japanese - a task that is both genuine and authentic but would not occur between two native Japanese speakers. Thus, there may be variation between language encountered in authentic texts and the language that learners use when interacting with members of the target culture engaged in authentic tasks.

Scaffolding Authentic Texts

The term *scaffolding* is strongly associated with the Sociocultural Theory or Vygotsky's Zone of Proximal Development (Shrum and Glisan, 2016). The theory is derived from the idea that learners require some form of mediation to complete tasks that they would not be able to accomplish on their own (p. 25). The mediation can take on a variety of forms. Language partners, teachers, and digital tools can act as mediation for learners to attain higher levels of language proficiency (Elola and Oskoz, 2019). As discussed by Shrum and Glisan (2016, p. 26), the term 'scaffolding' refers to the "interaction between the expert and novice in a specific problem-solving task". The expert provides support and resources for learners to accomplish tasks that they otherwise would not be able to do on their own.

Scaffolding is especially important when incorporating authentic content into language instruction. The use of authentic listening materials can cause a degree of anxiety for learners. Students taking a university-level Spanish course have reported frustration when listening to material that is too fast, difficult, and unfamiliar (Vogely, 1998). Therefore, the use of authentic texts in language instruction often requires a great deal of scaffolding to lower student anxiety

and to make input comprehensible. Shrum and Glisan (2016) offer best practices for scaffolding language content, such as incorporating vocabulary building activities, using a combination of bottom-up and top-down processes, and selecting topics that are familiar to the learner. Selecting appropriate content is also important because authentic texts are not tailored to fit a specific language curriculum (Hadley, 2001). Instructors should select texts that are interesting to the learners, appropriate to their age and linguistic level, and provide visual support and clues for comprehension (Glisan and Donato, 2017). Applying scaffolding techniques can help give language learners the confidence to engage with authentic content.

Technology can play a key role in scaffolding language content. Technology itself can act as mediation to support language-learning. Computer-assisted language learning (CALL) can be used to provide multiple modes of input, display captions for listening content, and create interactive activities (Perez, 2019). Technology can also make social interactions in the target language more accessible. Advancements in computer-mediated communication (CMC) allow learners to connect with language partners and teachers regardless of where they live (Abrams, 2019). Through utilizing technological tools, instructors and materials developers can scaffold language content for their learners.

Mobile Apps for Language Learning

Mobile-assisted language learning (MALL) is a subset of CALL that focuses primarily on mobile technology for language learning. While much of the research surrounding second-language pedagogy is focused on classroom instruction, pedagogical principles such as contextualization and text authenticity also apply to MALL. However, there is concern that several of the language-learning mobile apps currently out in the market are lacking in terms of effective language pedagogy. For example, in a content analysis of existing mobile apps, Heil

(2016) found that the majority of language-learning apps taught language out of context and did not go beyond the word or sentence level. These findings suggest that despite advancements in mobile technology, the pedagogy in current language-learning applications may be lacking in some way or another.

It is important to note that not all language-learning applications are designed to provide a full language curriculum. Rosell-Aguilar (2017) provided a taxonomy of the different kinds of language learning mobile applications.

Apps Designed for Language Learning. These are mobile applications that are specifically designed to provide full language instruction for the users such as vocabulary drills, grammar exercises, and communicative activities (e.g., Duolingo, Rosetta Stone).

Apps Not Designed for Language Learning but Useful to Language Learners. These are mobile apps or tools that were not specifically designed for language learning but can be used to practice speaking, pronunciation, or communication (e.g., speech-to-text, video call).

Dictionaries and Translation Apps. These are dictionary apps or machine translations that are often integrated into other apps (e.g., Google Translate, iTranslate).

There is much room for research regarding the pedagogy for “Apps Designed for Language Learning” as defined by Rosell-Aguilar. To date, several researchers have analyzed the grammar and vocabulary instruction of existing language learning mobile apps (Gangaiamaran & Pasupathi, 2017; Heil, et al., 2016; Kim & Kwon 2012); however, the authenticity of text in language learning applications has gone largely unexplored.

Summary

Incorporating language into meaningful contexts is important in both classroom instruction and materials development. Authentic texts can be a source of meaningful context for learners, provided that the text is scaffolded according to the learners' language proficiency (Shrum and Glisan, 2016). Technology can be used to mediate and scaffold language learning; however, there is concern that mobile applications may be falling behind in terms of effective language pedagogy (Heil 2016). Furthermore, the authenticity of content in mobile apps for the most part has yet to be evaluated by researchers.

In this project, we will evaluate the extent to which Japanese apps contextualize language learning using authentic content. However, using authentic content without any form of scaffolding can be intimidating to learners (Vogely, 1998), so we will also evaluate scaffolding techniques in apps that do incorporate authentic texts. The main objective of this project is to develop a new mobile app that effectively utilizes and scaffolds authentic video for language learning. The pedagogical framework for the app will be based on best practices mentioned by Shrum and Glisan (2016) and Glisan and Donato (2017), namely what kind of vocabulary building activities are provided, the use of top-down and bottom-up processes, and the relevance of the topics to the learners. The plan of action for improving the app will be based on feedback and reviews from users. The following is a list of objectives for the present project.

Project Objectives

1. Categorize 25 popular Japanese-learning mobile apps based on level of authenticity as defined by Helgesen and Brown (2005).
2. Evaluate scaffolding techniques used in five mobile apps that contain authentic texts.
3. Develop an iOS mobile app, *Nihongo Desu*, with 30 video learning modules.

4. Discuss improvements and plan of action for the app based on feedback from users.

These objectives will help give us an idea of how authentic content is used in current Japanese-learning mobile apps. By the end of the project, it is our goal to have a fully developed mobile app with a specific plan of action on how to improve the app going forward.

Chapter 3: Methodology

Justification of the Project

The main purpose of this project was to develop a new mobile app that incorporated authentic video into its language instruction. However, before releasing a mobile app into the market, it is important to consider what makes the new app unique compared to what already exists in the market. To address the need for this app, we conducted a content analysis of apps available in the App Store provided by Apple. The content analysis consisted of categorizing several of the most popular Japanese-learning apps based on the authenticity of content. We then analyzed what scaffolding techniques were implemented in the apps that include authentic content.

Context. The mobile apps for the content analysis were downloaded from the App Store, which could be accessed by most iOS devices including iPhones, iPads, and Macintosh computers. This analysis focused specifically on apps that were compatible with mobile devices (i.e., apps that can be downloaded onto an iPhone or iPad). Language-learning apps in the App Store were generally categorized as education apps, and most were considered appropriate for all users ages four years and older; however, the intended audience varied depending on the app. Most popular language-learning apps followed a freemium monetization model, where the app itself was free to download but required in-app purchases or subscriptions to access all of the available content and features.

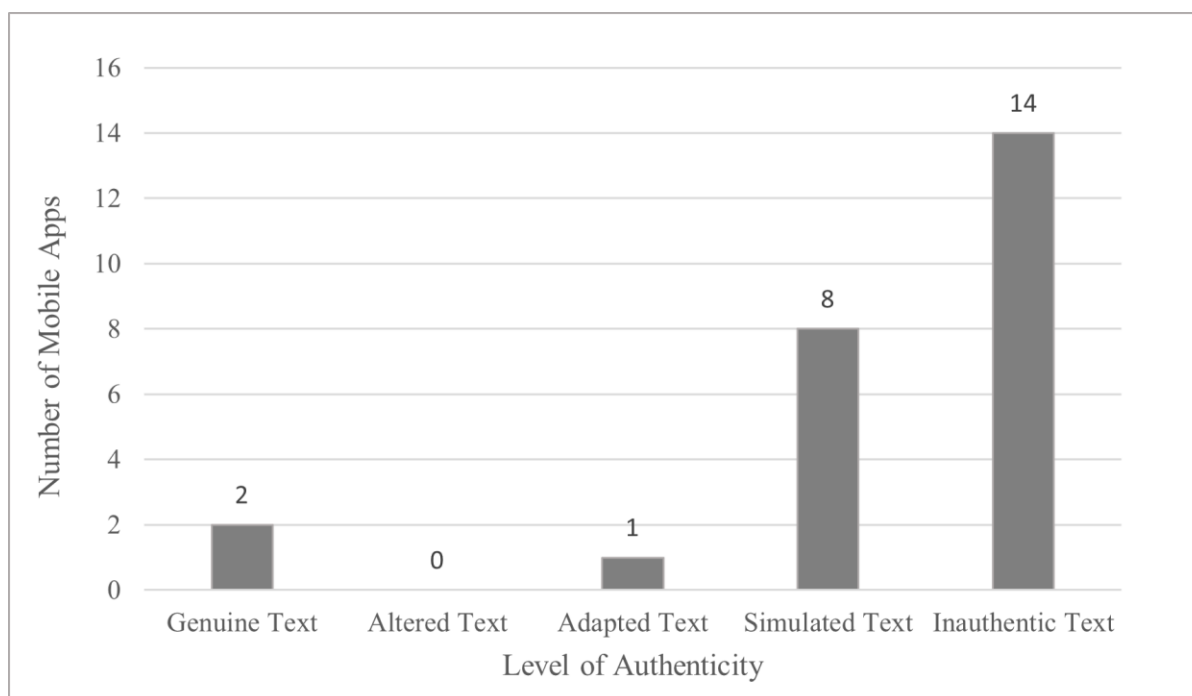
Data collection. For this content analysis, a sample of 25 Japanese-learning mobile apps were downloaded from Apple's App Store. In selecting popular apps, the top 25 language-learning apps that appeared under the search query "learn Japanese" were downloaded for the sample. The criteria for "language-learning app" were based loosely on Rosell-Aguilar's (2017)

definition of “Apps Designed for Language Learning”, which are applications designed to provide full language instruction. Phrasebooks, dictionaries, flashcards, and other apps that were designed as “tools” for language learning were not considered in the sample. Also, apps that focused solely on the Japanese writing system (hiragana, katakana, and kanji) were not considered in the sample.

Data analysis. The sample of mobile apps was categorized based on Helgesen and Brown’s (2005) taxonomy of text authenticity: genuine, altered, adapted, simulated, and inauthentic. The various levels of authenticity in the sample of mobile apps are summarized in the figure below (see Appendix A for details):

Figure 1

Authenticity in Popular Japanese-learning Mobile Apps



It is important to note that the assessment of the level of authenticity in the apps was determined by a single rater. While the criteria for each category as defined by Helgesen and Brown (2005) were relatively objective, having only a single rater may affect the reliability of the assessment.

As observed in this figure, most of the apps in the sample contained inauthentic or simulated content. The data suggest that most popular Japanese-learning mobile apps in the current market do not contain authentic texts.

Only two of the apps from the sample contained genuine text, and so three other apps were selected from outside the original sample. These three apps were ones that advertised authentic content in their app descriptions. This group of five apps was analyzed in terms of how the content was scaffolded to assist learner comprehension. Scaffolding techniques were analyzed based on best practices discussed by Shrum and Glisan (2016), including vocabulary building activities, bottom-up and top-down processes, and topics that are familiar to the learner. The analysis of the five apps is discussed in the table below.

Table 1

Scaffolding in Japanese-learning Mobile Apps

<p>App Name: HelloTalk - Language Learning</p> <p>Description: The purpose of this app is to allow users to connect with language partners around the world. The interface is like that of a social media platform - users can post text, pictures, and audio onto their profile. Other users can then comment and provide feedback on the posts. <i>HelloTalk</i> offers chat and call features to allow users to communicate synchronously.</p> <p>Authenticity: The primary focus of this app is authentic communication and tasks rather than content. Regardless, the text posts, videos, audio recordings, and comments by native speakers of the target language provide learners with authentic content (although one may argue that these posts may not necessarily be <i>for</i> members of the target culture).</p> <p>Scaffolding Techniques: <i>Vocabulary Building Activities.</i> In recent updates, <i>HelloTalk</i> has added games for vocabulary practice. Users can learn words in isolation through flashcard-style activities. Chats and posts also have a translation function that provides a machine translation of the posts. <i>Bottom-up and Top-down Processes.</i> In addition to vocabulary games, <i>HelloTalk</i> offers audio lessons that explain grammar and vocabulary from the bottom-up. Chatting with native speakers of the target language and reading their posts elicit top-down processes.</p>

Topics familiar to the Learner. Because most users post about their daily lives, the topics of discussion are generally familiar to the learners. Topics discussed over chat are up to the users' discretion and can vary from user to user. Audio lessons are available on common topics such as food, travel, and recent news.

App Name: Innovative 101 Learn Languages

Description: This app provides language lessons on a variety of topics. Most lessons on the mobile app are in audio or video format. Content includes grammar instruction, culture lessons, and children's songs.

Authenticity: Not all content in the *Innovative 101* app would be considered authentic. The bulk of content within the app is tailored toward language learners and provide language instruction in English. The app does, however, does include authentic children's songs and stories.

Scaffolding Techniques:

Vocabulary Building Activities. On the app, there are several lessons that discuss common vocabulary words and phrases. The app also allows users to save words from lessons into a word bank; however, the app does not provide any interactive vocabulary activities.

Bottom-up and Top-down Processes. Most of the content in the Innovative mobile app facilitates bottom-up learning. Lessons are generally taught in the L1 (English) with a focus on grammar and vocabulary. There are a few simulated conversation and communicative videos that could potentially require top-down processes. The children's songs are genuine authentic videos that facilitate top-down processing.

Topics familiar to the Learner. Overall, the topics covered in lessons are topics that would be familiar and interesting to the learners. The titles of the lessons are worded to draw the users' attention, such as "Must-know Japanese Holiday Words", "Fun & Easy Japanese", and "Japanese Grammar Made Easy".

App Name: EASY JAPANESE NEWS

Description: This app provides users with news content and videos with hyperlinked captions for vocabulary and grammar learning. The app also features music videos where users can learn vocabulary from song lyrics. Vocabulary words are sorted based on difficulty as categorized by the Japanese Language Proficiency Test (JLPT). The app also includes several practice tests for the JLPT and a dictionary for grammar and vocabulary.

Authenticity: The news articles and videos in this app are from the Nippon Hoso Kyokai (NHK) or Japan Broadcasting Corporation. The app also contains popular music in Japan. Such content is genuinely authentic content created by and for native Japanese speakers.

Scaffolding Techniques:

Vocabulary Building Activities. Vocabulary learning in the app is purely contextual - users learn vocabulary directly from context (news articles, videos, lyrics). Users can save words into lists for review.

Bottom-up and Top-down Processes. Most of the content in the *EASY JAPANESE NEWS* app would involve top-down processes. There are no lessons that cover grammar or vocabulary from the bottom-up. Rather, all vocabulary and grammar learning is integrated into authentic content.

Topics familiar to the Learner. The content in the app consists mostly of news articles and song lyrics. While global news may be familiar to the learners, some of the national news specific to Japan may not be familiar topics for the learners. Similarly, learners may not be familiar with popular music in Japan, although some lyrics may be centered around familiar topics.

App Name: FluentU: Language Learning App

Description: This app focuses on learning language through Japanese YouTube videos. Each video contains a list of target vocabulary words and short dialogues. Captions are displayed under the video so that users can follow along as they watch.

Authenticity: Most of the content in the *FluentU* app consists of Japanese YouTube videos. These videos are created by native speakers with a Japanese-speaking audience in mind.

Scaffolding Techniques:

Vocabulary Building Activities. *FluentU* offers both contextualized and isolated vocabulary practice. Users can study vocabulary words directly from videos or from flashcard decks that align with the JLPT syllabus.

Bottom-up and Top-down Processes. After watching full Japanese videos, users can practice selected dialogue from the videos for isolated practice. Users can also take quizzes to test their comprehension on the videos. *FluentU* also offers audio lessons that go over key grammar points in Japanese. Overall, both bottom-up and top-down techniques are implemented into the app.

Topics familiar to the Learner. *FluentU* offers a variety of videos in its library, so users can choose videos that are interesting to them. However, most beginner videos are either inauthentic or simulated. Most of the genuine authentic videos are tailored toward advanced learners.

App Name: LyricsTraining

Description: The purpose of this app is to help learners learn language through music. The videos in the app are music videos or covers of popular songs. Learners can practice the songs through a dictation-type multiple choice activity or through karaoke.

Authenticity: The music videos and covers in the *LyricsTraining* app are authentic language content created by and for native Japanese speakers.

Scaffolding Techniques:

Vocabulary Building Activities. Learners are exposed to vocabulary through the lyrics; however, there is no way to look up translations or meanings of vocabulary words from within the app. Users would have to use a separate dictionary to look up the meaning for the words in the lyrics. *LyricsTraining* does not offer any other vocabulary activities other than the dictation activity.

Bottom-up and Top-down Processes. *LyricsTraining* does not offer any language lessons for bottom-up processing. All activities are tailored toward learning primarily through top-down processes from authentic music videos.

Topics familiar to the Learner. Users may not be familiar with the music in the app, but they may be able to find songs that fit their taste in the L1. The topics from the songs may be familiar to the learner, even if they are not familiar with the songs themselves.

The results of the above analysis suggest that apps that incorporate authentic content into their curriculum utilize scaffolding techniques to make the content more accessible to their learners. Apps like *HelloTalk* and *EASY JAPANESE NEWS* utilized translation and dictionary features to scaffold language content. *Innovative Languages* and *HelloTalk* included grammar lessons, although the lessons were separate from the authentic texts using a more bottom-up approach. Overall, the examined apps all contain topics that were either familiar or interesting to the learners. Perhaps the biggest weakness of these five apps was the lack of variety in vocabulary activities. Most of the apps contained some form of vocabulary learning, whether isolated or contextual, but the exercises were limited to word lists and flashcards. The apps in the sample could have potentially utilized activities like matching, quizzes, and speech recognition to make vocabulary learning more interactive.

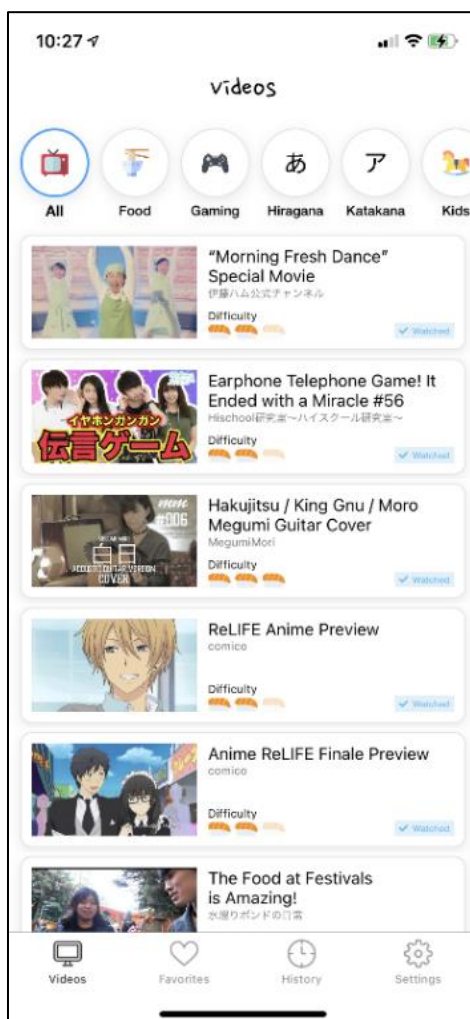
The overall results of the content analysis suggest that (1) most popular Japanese-learning mobile apps lack authentic content, and (2) apps that do have authentic content lack variety in vocabulary building activities. The analysis suggests that there is a need for apps that not only

contain authentic content, but also provide for engaging ways to learn vocabulary. The app developed in this project addresses these needs by incorporating authentic Japanese videos into learning modules and featuring several vocabulary and grammar activities to scaffold authentic content.

App Layout and Features

The *Nihongo Desu* app is an iOS app that helps users learn Japanese through authentic YouTube videos. The app includes videos on a variety of topics such as food, games, and music. The purpose of the app is to help learners understand authentic Japanese videos by providing them with captions, vocabulary building activities, and grammar lessons. The structure and features of the app will be introduced in the following sections.

Video Library. The app is structured like a video library like YouTube or Vimeo. The default screen that users see when first opening the app is a home screen that displays a list of Japanese videos (see Figure 2). Each video displays the title, channel, and difficulty of the video along with a thumbnail preview. The difficulty of the videos is roughly based on how fast the language was spoken and the level of vocabulary and grammar used based on the levels of the Japanese Language Proficiency Test (JLPT). Users can scroll and browse through the videos and tap on a video that they are interested in. The top of the screen displays various categories such as beauty, gaming, food, and music that users can tap to sort the videos. At the bottom of the screen, there are tabs where users can view their favorite videos, history, and settings.

Figure 2*Video Library Screenshot*

Videos and Captions. When a user taps a video, an embedded YouTube video is displayed with Japanese captions underneath (see Figure 3). Under the video, three tabs are displayed: “Captions”, “Vocabulary”, and “Drills”. The “Captions” tab displays a transcript of the video that highlights portions of the transcript as the video plays. By tapping the play button on the left-hand side of the screen, users can jump to various timestamps throughout the video to rewatch a clip or to listen for a specific vocabulary word or phrase. Users can also tap on underlined vocabulary words in the captions to view translations, kana readings, and audio.

Users can tap the speaker icon to listen to a text-to-speech audio recording of the word in Japanese. The “Add to List” button allows users to add the vocabulary word to a list to review later in the “Vocabulary” tab.

Figure 3

Video Captions Screenshots



Vocabulary Games. Under the “Vocabulary” tab, users can access the list of vocabulary words that they saved from the captions. The tab also displays various vocabulary games that the user can play to review their saved vocabulary words. The app features six different vocabulary activities: flashcard, spelling, quiz, memory, matching, and karuta (based on the Japanese card game). A description of each game is given below (see Figure 4 for screenshots).

Flashcards. Users can study the words in their vocabulary list in a deck of flashcards. The Japanese word is displayed with the audio. Users can tap on the card to view the translation and kana representation. Users can then choose to swipe the card to the right or left depending on if they knew the word. Words that the users “don’t know” will reappear in the deck until the user learns all the words.

Spelling. This game requires users to spell Japanese words using kana. Users listen to the audio and choose from a list of kana characters to spell the word. The English translation of the word is also provided in the question.

Quiz. The quiz activity features seven multiple choice questions. Users are provided the English translation of a word and must select the appropriate Japanese translation from a list of three options. The Japanese audio of the word is automatically played when the user taps on the option.

Memory. This game is a memory game where users listen to a sequence of words, and the users must repeat the sequence in the exact order. The user begins by choosing four words to play with, which are then displayed on the screen in Japanese. One of the words lights up and plays the audio. The user must then tap on the word that was played. Each round, a new word is added to the sequence, and the user must tap on the words in the same order. The game ends when the user taps on a word out of order.

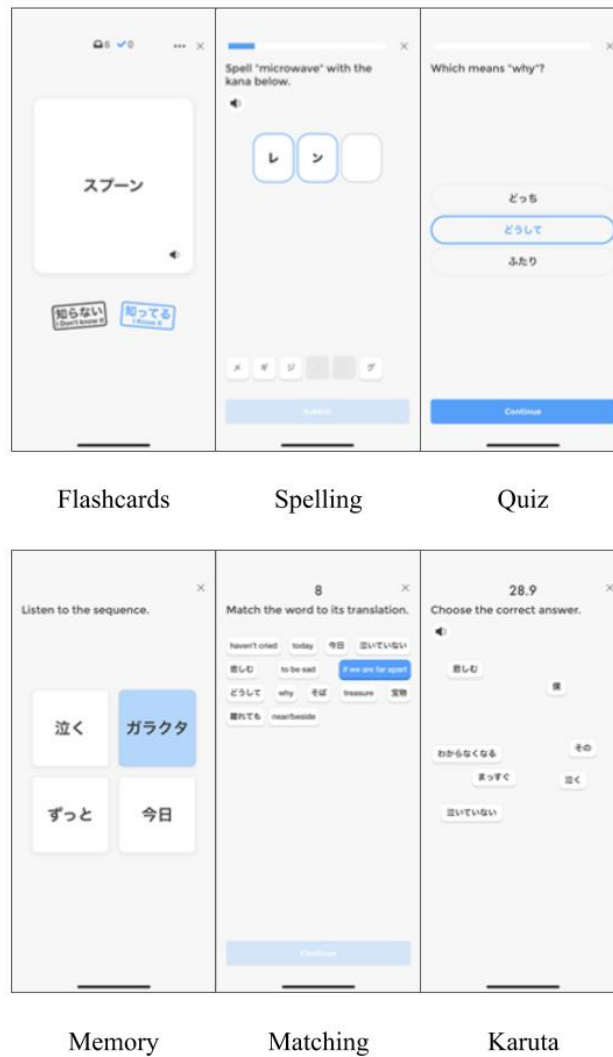
Matching. The matching activity requires users to match Japanese words to their English translations. Seven vocabulary words with their corresponding translations are displayed, and users must match the translations together as fast as they can. The audio for the word plays whenever the user taps on a Japanese word. The activity is timed, and the score is based on how fast the user completes the activity. Matching a word to an incorrect translation results in an

additional second being added to the countdown.

Karuta. In this game, several Japanese words are displayed randomly throughout the screen. the audio for one of the words plays, and the user must tap on the word as quickly as possible. The goal of the game is to tap on as many of the words as possible within a 30-second time limit. Choosing an incorrect word subtracts one second from the timer. Choosing an incorrect word subtracts one second from the timer.

Figure 4

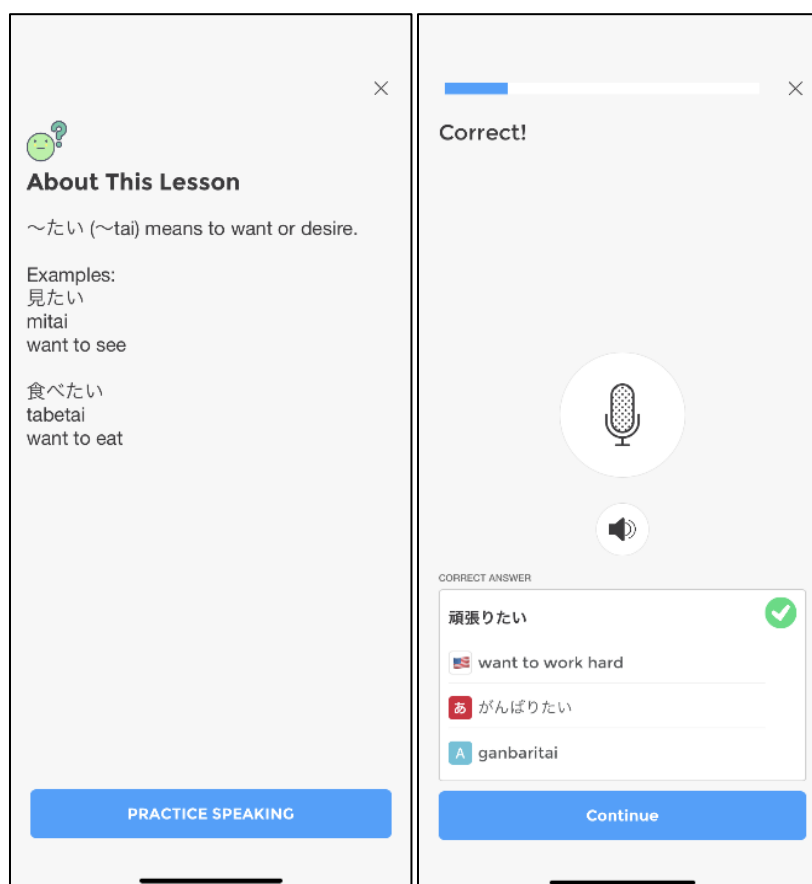
Vocabulary Games Screenshots



At the end of each game, the users are scored with stars depending on how well they performed. For example, if the user gets all seven questions correct on the quiz activity, three stars are awarded. This three-star scoring system is like that of popular mobile arcade games such as Angry Birds or Cut the Rope. The audio for the Japanese words in the games are generated via Japanese text-to-speech software.

Grammar Drills. The “Drills” tab displays a list of grammar drills that cover grammar structures relevant to the video. Each grammar drill begins with a simple grammar explanation of a grammar structure used in the video (see Figure 5). The user then performs five listen-and-repeat speaking exercises with various phrases that use the target grammatical structure. The app utilizes the device’s microphone and speech recognition software to mark the user’s speech as correct or incorrect depending on how closely they can pronounce the sentence. As with the vocabulary games, the audio segments for the grammar drills are generated via text-to-speech software.

Each video module has 5-12 grammar drills. The grammar explanations mostly cover structural patterns that would be helpful in understanding the videos. These topics include verb inflections, particles, and tenses. The drills in the more difficult video modules focus on traditionally higher-level vocabulary and grammar structure. The difficulty of grammar and vocabulary is based on the content assessed in the JLPT.

Figure 5*Grammar Drills Screenshots*

Monetization. The app is monetized via a “freemium” model. The app is free to download, but users have the option to pay a monthly subscription to access all features and lessons in the app. A premium subscription gives access to all games and grammar drills. Premium members also have access to *Google Wavenet* TTS, a more advanced and natural text-to-speech software. The app is also monetized partially through ads. A premium subscription removes all ads from the app.

Other Settings. In the Settings tab, users can view their account information and the *Terms of Use* and *Privacy Policy* of the app. Users also have control over whether to display

romanization throughout the app. Users can turn sound effects on or off, and they can control whether videos auto play when they load.

App Development

The *Nihongo Desu* iOS app was developed using the SWIFT programming language. All data including video metadata, captions, vocabulary words, and grammar drills were stored into the Google Firebase cloud. With each update, two versions of the app were developed – a version for public release and a version for admin access. The admin version of the app allowed input and revisions of content within the app. We are currently working toward creating a web-based version of the admin panel via third-party software.

Creating a video module involved finding an embeddable YouTube video, transcribing the audio, inputting key vocabulary terms, and creating grammar explanations and drills. Vocabulary terms were input manually into each video, and the app underlined each instance of the terms within the captions. The amount of time it took to create each module varied widely depending on the length of the video and the difficulty of the video. In general, more difficult videos included more vocabulary terms and grammar drills. To save time, we implemented a dictionary Application Programming Interface (API) that automatically translated vocabulary terms into English and made edits to unsuitable translations. In addition, grammar drills that applied to multiple videos were also recycled, as they were not adapted to fit the content of any specific video. In total, the app included 51 video modules, over 3300 vocabulary terms, around 90 grammar lessons, and approximately 140 minutes of runtime. Note that there may be overlap of vocabulary terms between modules as each term and translation were inputted manually for each video.

Video categories in the library were based on popular video categories on YouTube such as beauty, gaming, music, and food. Videos were selected for each category using popular search terms in the respective categories. Videos that had closed captions available were given priority to save time on transcription. Also, videos with a Creative Commons copyright license were prioritized over videos with a standard license.

App Analysis

The *Nihongo Desu* app contains genuine authentic content from YouTube, as the videos are made by native speakers and for native speakers. In developing the app, we followed Shrum and Glisan's (2016) best practices for scaffolding content to make the video content comprehensible for the users.

Vocabulary Building Activities. The app provides captions underneath the videos, where users can tap on individual vocabulary words and view the translations. The words can be saved into a list for review. The app also features six different vocabulary building activities to practice the vocabulary words they saved from the video captions.

Bottom-up and Top-down Processes. The authentic content in the app elicits top-down processes. Users can use the timestamps to relisten to clips from the video and jump to a desired part of the video. The app also features explicit grammar explanations and isolated vocabulary practice to support bottom-up processes.

Topics familiar to the Learner. The video library contains several different categories of videos that learners can choose from according to their interests. Categories include topics such as music, food, beauty, anime, and gaming. Users can sort and browse through these topics to find video modules to fit their interests.

Overall, the *Nihongo Desu* app not only contains genuine authentic content, but it also incorporates scaffolding techniques based on pedagogical principles. The app provides a convenient resource for Japanese learners as it can be accessed on any mobile iOS device. This app can be utilized by those who are self-learning the language or by those taking a class but would like additional listening and reading practice outside of the classroom.

Feedback

Students studying Japanese were recruited to test the app and give feedback on their experience. They downloaded and used the app for 20 minutes and took a brief 10-15 minute survey. Their responses helped give us an idea of things that can be improved and new features that can be added in future updates.

Participants. The participants in this study were students taking Japanese classes at Brigham Young University. Participants were recruited via an email that was sent out to all students that were enrolled in at least one Japanese class. Participants were recruited from multiple levels to get feedback from a variety of perspectives. A total of 18 participants volunteered to take part in the study - five beginner learners (less than one year of study), five intermediate learners (one to three years of study), and eight advanced learners (three or more years of study). Participants were asked to download and experiment with the app for 20 minutes then fill out a survey about their experience with the app. They were also given a test account to access the premium features of the app.

Instrumentation. Feedback was gathered via an online survey. The survey that the participants filled out consisted of the following questions:

- Describe your experience with the Japanese language (Japanese classes, years living in Japan, Japanese heritage, etc.)

- Have you used mobile apps in your Japanese studies? If so, which ones?
- What were things you liked about the *Nihongo Desu* app?
- What were things that could be improved about the app?
- On a scale of 1-5, how likely are you to recommend this app to a friend?
(5 – Extremely Likely; 1 – Extremely Unlikely)
- Any additional comments about the app?

As seen in this list, most of the items were open-response questions that could be used to get a general idea of features that the students felt were useful and how the app could be improved.

The responses were considered to develop a plan of action on how to improve the app in future updates. Specifically, we looked at what suggestions were brought up the most by the participants and which changes would be feasible based on budget and resources.

Chapter 4: Findings and Discussion

The participants provided detailed feedback on their experience using the *Nihongo Desu* app via an online survey. In creating the survey, we purposefully focused on open-ended questions to see what was most salient to the users rather than directing their attention to specific features. This chapter will discuss the responses from the participants regarding their experience with language-learning mobile apps, things they liked about the *Nihongo Desu* app, and suggestions on how to improve the app. A specific plan of action on how to improve the app will be discussed in the following chapter.

Experience with Japanese and Mobile Apps

The participants provided information about their experience with the Japanese language including coursework, heritage, and years living in Japan. The participants were categorized as either beginner, intermediate, or advanced learners based on the length of their experience with the language. Their responses are summarized in the Table 3.

Table 2

Participant Japanese Levels

Number of Years of Japanese Experience	Participants
Less than one year (Beginner)	S4, S6, S11, S14, S17
1-3 years (Intermediate)	S3, S9, S13, S15, S16
More than 3 years (Advanced)	S1, S2, S5, S7, S8, S10, S12, S18

All 18 of the participants responded that they had experience using mobile apps in their Japanese studies. Eight of the participants reported using a dictionary such as *imiwa?*, *Japanese*, *yomiwa*, *Shirabejisho*, *Weblio*, and *Moji 辞書 (Moji jisho)*. Nine of the participants reported

using a language-learning app such as *Duolingo*, *LingoDeer*, or *Rosetta Stone*. Two of the participants reported using a flashcard app such as *Anki* and *Memrise*. Other apps mentioned by the participants included *Jaccent*, an app that focuses primarily on pitch accent; *Kanji Tree*, an app for reading and writing kanji; *LingQ*, an app that focuses on learning Japanese through authentic video; and *Easy Japanese (NHK)*, an app where users learn Japanese through news articles and videos.

Benefits of the *Nihongo Desu* app

Overall, the participants had a positive reaction toward the *Nihongo Desu* app. The participants listed features that they liked about the app in response to the questions “What were things you liked about the *Nihongo Desu* app?” and “Any additional comments about the app?” (see Appendix C). In general, features that stood out to the participants include the authentic content, video transcripts, contextualized vocabulary learning, and the design of the app. Note that responses included below have been edited to correct spelling and grammar errors. For unedited responses, refer to Appendix C.

Authentic Content. Several respondents commented that they enjoy learning through authentic Japanese video regardless of their Japanese level. Participants responded that having a variety of content was beneficial in finding content that was interesting and relatable. Some students even responded that the authenticity of the content made it more interesting or entertaining. Even S11, who had taken only one semester of Japanese, commented on enjoying the authenticity of content. These findings suggest that students enjoy being exposed to real-life conversations from native speakers regardless of their language level.

S1: “I loved it! There are not many apps like this that teach real-world Japanese through videos.”

S6: “I really liked the idea of using Japanese YouTube videos to teach the language. Watching these videos and reading a transcript at the same time provided a good way to expand vocabulary and really get a feel for how native Japanese speakers actually speak.”

S7: “There are various types of videos so people can learn something they are interested in. The videos show situations that people really come across in Japan, so they can learn relevant information.”

S11: “I also really liked how its learning through watching Japanese videos because it has more real-life conversation scenarios.”

S18: “I liked how there were examples of real Japanese conversation.”

S5: “I liked that it has videos of actual Japanese people speaking actual Japanese! The subtitles were amazing too and provided a lot of learning options. It also seems like a really fun way to learn Japanese because it's entertaining, not just matching words or studying like school.”

Video Transcripts. Nearly all the participants commented that they found the Japanese transcripts to be helpful. Even beginner learners (S4, S11, S16) with little experience with the Japanese writing systems found the transcripts helpful to follow along. One advanced learner (S12) specifically pointed out that the transcript is helpful in catching words that are difficult to discern just by listening. Several participants also mentioned that the timestamps were helpful in replaying specific clips of the video. These responses suggest that learners use video transcripts in a variety of ways to learn new vocabulary words and practice listening.

S2: “I really liked the transcription for the videos as well as the ability to pick out specific words to study. Subtitles on YouTube aren't always accurate, so it was nice to have a timestamped and correct audio transcription.”

S3: “I love having the script written out and you can see all of the vocab immediately.”

S14: “I also really love that I can follow along the script as I watch the video and if I encounter a word that I don't know I can just click on it, and it shows me the meaning and the reading which is very convenient. I also find it so helpful that I can just click on a sentence that I want to listen to again to catch some of the words and it just takes me right there.”

S12: “I love the idea of this. I often try to practice Japanese by watching Japanese media, but sometimes it's impossible to catch what they're saying. Having everything typed out at the bottom was really helpful with understanding what they're saying.”

Vocabulary Activities. Participants of all levels commented that they found the vocabulary learning features of the app to be helpful. Several of the participants who commented about the transcript also mentioned that they found the vocabulary translations to be helpful. One participant (S14) commented that being able to look up a word while reading the transcript was convenient. Some participants mentioned they found the vocabulary lists and games to be useful features, but few commented specifically on which activities were the most interesting. Out of all the games that the participants did comment on, the flashcards, quiz, and spelling game seemed to be the most popular. Perhaps the participants found the simpler vocabulary games to be more helpful in reviewing vocabulary, or they may not have had enough time to experience all of the vocabulary games available.

S7: “Adding words to the vocabulary list is easy and set up in a way that helps users only study words that they need to so they can learn a lot no matter what their background knowledge is.”

S9: “Being able to immediately look up a word that was said and being able to save that to a list to study”

S15: “I love the spelling and the captions! Spelling practice really helps me remember the correct reading of kanji.”

App Design. Participants mentioned liking the design of the application, even those who had experience with other Japanese-learning apps. They commented on the simplicity and intuitiveness of the design. While some of the design elements of the app were purely aesthetic, other aspects of the design help the users easily navigate through the app. Based on the

responses, participants were able to use the app to find content relevant to them. These results may suggest that the app designed well compared to other Japanese-learning apps.

S1: “It was easy to use and navigate, easy to find words I didn't know and save them, and very fun.”

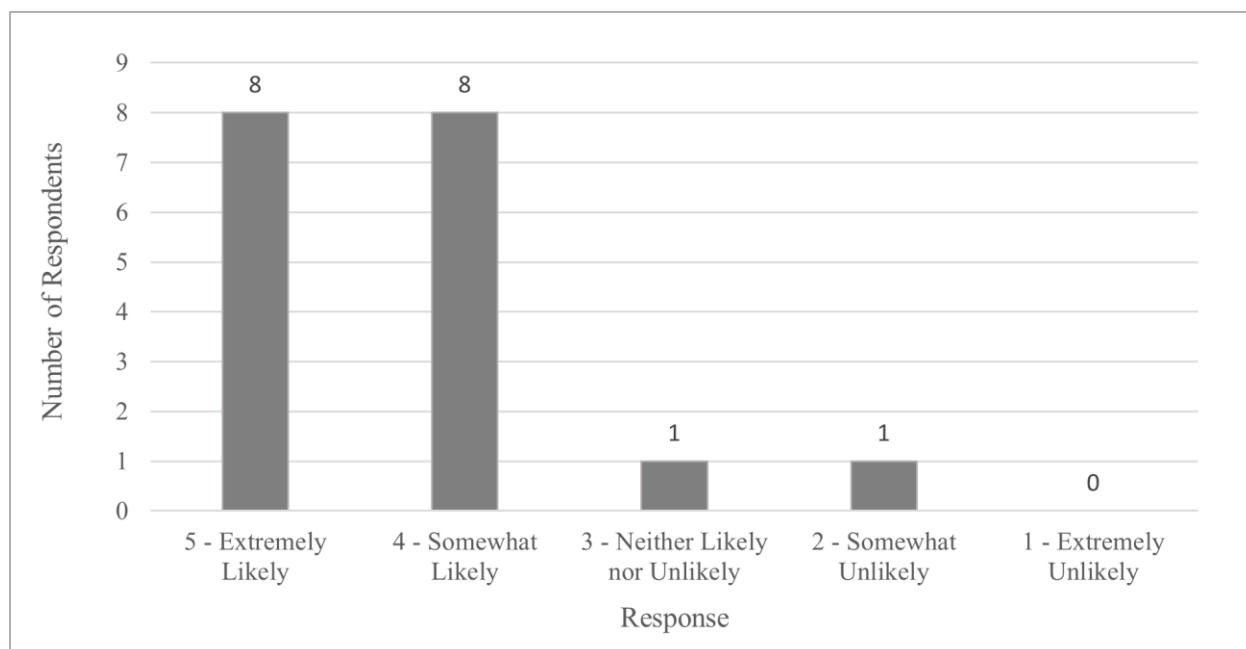
S14: “I loved that the app was easy to navigate, I can see the difficulty levels very easily and find the content that I would be interested in.”

S15: “I love the icons and designs in the app, especially the sushi!”

Overall Reaction. Most participants responded that they would likely recommend the app to a friend, as represented in the graph below. Overall, the participants responded positively to the app, as shown in Figure 6, and mentioned several features that could be beneficial to their Japanese studies.

Figure 6

How Likely Participants were to Recommend the App to a Friend



The participant who responded with “2-Somewhat Unlikely” (S8) encountered a bug in one of the vocabulary games. The participant also suggested using native Japanese audio rather than text-to-speech software. This response suggests that one frustrating experience can make a significant impact on a user’s experience with an app. The participant who responded with “3-Neither Likely nor Unlikely” (S10) commented that they would more likely recommend the app to a friend if there was more content.

Improvements

The participants mentioned some improvements that could be made to the app in their responses to the survey questions “What were things that could be improved about the app?” and “Any additional comments about the app?” (see Appendix C). The participants talked about bugs or issues they experienced while trying out the app, and they suggested features that would help improve the app. Some of the common suggestions included adding more content, including search functions and filters, adjusting speed settings, and exporting vocabulary lists.

Additional Content. One of the most common suggestions was to add more content to the app. One intermediate participant (S9) suggested adding popular media such as TV shows, terrace house, and anime. Another intermediate participant (S13) specifically pointed out the limited amount of anime content in the app. Several participants even mentioned that they would more likely recommend the app to a friend if there was a greater selection of videos. Having a greater variety of videos will likely help learners find more content that is related to their interests and appropriate for their language level. While it was already our intention to continue releasing content, these responses emphasized the importance of having a large selection of content in a language-learning app.

S13: “There should be more videos in each category. Some categories have a lot more videos than others. Such as the anime category which only has two at the moment.”

S5: “If it had more videos, I would definitely recommend it, 5/5!”

S10: “I think the app has a lot of potential and if the video selection was greater and there was greater flexibility with the vocabulary lists that you could make, then I would be more likely to recommend the app.”

S9: “Lots of potential. I would definitely use more if there were more options for entertaining Japanese tv shows to watch, such as terrace house, anime, etc.”

Search and Filters. Some participants responded that a search function would help them find relevant content. Others also suggested adding the ability to filter the videos by difficulty as well as category. Participants have expressed that being able to sort the videos based on difficulty would help them find content appropriate to their Japanese level, and one intermediate-level learner (S3) suggested including an assessment to help users determine the appropriate level. The search function was suggested specifically by advanced learners (S1, S18), which could suggest that they prefer to search for specific content rather than browse through a video library.

S1: “A separate filter to list videos based on difficulty would be useful.”

S3: “I wish things were organized as beginner/medium/advanced. Because right now I just scroll through to find all the medium rated videos. I also think it could be helpful to have a quiz/questionnaire when you set up an account to guide you to what level you would be.”

S18: “I think having a search function for the videos could be helpful.”

Speed Settings. Some users requested the ability to adjust the speed of videos. They expressed that they would find it helpful to be able to slow down the videos since they had a hard time keeping up with native-level speech. It is worth noting that both participants who suggested

adding speed settings were beginner-level Japanese learners, which may suggest that genuine authentic texts may need to be adapted to fit lower listening levels.

S17: “I would probably like to have had an option to slow the videos down in order to catch pronunciation better”

S14: “I think to improve the app I think maybe a feature to adjust the speed of the video might help. Sometimes native speakers do speak really fast so it would be helpful to be able to adjust the speed so that the user can follow along better and absorb the knowledge easier.”

Vocabulary Features. The participants gave several suggestions regarding learning vocabulary from the videos. Some participants (S7, S9) suggested either implementing a spaced-repetition system to learn and review vocabulary or allowing users to export vocabulary lists to external flashcard apps like *Anki*. Note that these respondents were either intermediate- or advanced-level learners who had experience with other Japanese-learning applications. Higher-level learners may already have an individual self-study plan in place, so they may consider how to integrate new apps into their current learning resources. Another vocabulary recommendation included the ability to add vocabulary words to a comprehensive list rather than individual lists by video. One participant (S4) also suggested adding more words to the memory game, and another (S8) suggested adding a keyboard input option on the spelling game.

S7: “I’m not sure if the spaced-repetition principle of learning is implemented or not because I have only used this app once, but I thought it would be good to try to create a review schedule for each word the people add to their lists to help space out their learning and help with remembering words long term. The review schedules could be based on things such as how many times a word has been reviewed, how much time has passed since the last review, and whether the user answered correctly about the word the last time. However, this change might take a ton of work, and I do like the way students can choose when they want to review things.”

S10: “I also think it would be good to be able to get a comprehensive list of the words you

want to study, rather than just the words from a single video.”

S9: “Having a feature where you can export saved words into other applications like *imiwa?*, *Yomiwa*, *Anki*, etc. would be really convenient. Also having a central location for all saved words, instead of having to go the video itself to find the words you saved.”

Beginner-friendly Content. A couple of the beginner learners commented that the app may not be suitable for those just starting to learn Japanese. One beginner learner (S11) mentioned that some of the grammar principles may be confusing to those without much background in the language. Another beginner participant (S6) pointed out that the app might be more suitable for those who want to supplement their Japanese learning rather than learn it from scratch. These comments suggest that learning vocabulary and grammar incidentally from authentic content alone may be unrealistic for someone with no background in a language.

S6: “One thing I would say is that I think people with some background in speaking Japanese would benefit the most from this app. I feel like it is best for people who want to expand their vocabulary and learn how to implement Japanese grammar patterns in their daily conversations. I don't think it would be the best tool to learn Japanese from scratch.”

S11: “I don't know how beginner friendly it is. As I took a semester of Japanese, I was able to pick up some of the grammar points and was able to apply what I already learned. For those just beginning to learn the language they might find the app overwhelming or find certain grammar principles confusing.”

Other Improvements. Participants suggested several other improvements and features for the app. A few participants (S4, S6) suggested adding an auto-scroll feature so that the captions would scroll automatically as the video progresses. Others (S11, S12) also suggested adding some form of tutorial on how to use some of the features within the app. Another

participant (S8) suggested replacing the automatic text-to-speech audio with targeted audio recordings by native speakers.

S6: “I think one thing that could be improved is the way the video transcripts would interact with the video itself. As the videos would play, I had to scroll to keep up with the transcript, and it was a bit annoying. I think a feature that scrolls through the transcript as the YouTube video plays would certainly bring a bit more utility to this app. Further, I think a bit more variety, and maybe some organization would benefit this app's user interface.”

S11: “At the beginning I was confused on how to use the app or the features such as needing to add vocab to a vocab list. I think if you added a section in the profile section of all the vocab you saved would be helpful. Also, an introduction to the app, like steps on how to use it and what you can do on it.”

S12: “I was rather confused at first as to how everything worked. It didn't take long to figure it out, but having some sort of guide or some prompts would be useful in learning how to get the most out of this app.”

S8: “I would recommend that the automated voice be replaced with actual recordings of words. This could be done by connecting it with *Forvo*. That way learners can hear native pronunciation. Additionally, making the spelling portion a user-input experience (meaning typing the answer in) will likely decrease chances of the wrong kana popping up (as it seemed random).”

Bugs and Issues. Several participants reported issues with some of the functionality of the app. Participants reported problems with the text-to-speech audio and the romanization of some of the characters. One participant in particular (S8) expressed frustration with the spelling game not working properly.

S9: “Some of the words with a "chiisai tsu" showed up in the English translation as "tsu" instead of a double consonant.

S8: “The voice reading words needs to be improved, especially in the spelling exercise. Words were read incorrectly, and there was no “correct” kana to select. I was able to guess what it was looking for, but it was not enjoyable, and quite frustrating.”

S12: “I also found that the computer pronounced the small つ (tsu) in ぜったい (zettai) when I

was studying with the flashcard function.”

S16: “There were some words where “っ (small tsu)” was read as “っ (tsu)”, so maybe that’s an error?”

The participants gave valuable feedback on things that were good about the app and things that could be improved. Several of the participants responded that they enjoyed the context that the authentic videos provided and found the transcripts with the vocabulary translations helpful in making the videos more comprehensible. Many also commented on the helpfulness the vocabulary activities and provided suggestions on how they could be improved. Their feedback provided useful direction on what specific actions will make the app more accessible, effective, and enjoyable for the users. The specific plan of action will be discussed in the following chapter.

Study Limitations

Limitations in the sample may affect the generalizability of the findings in this study. The sample in this study consisted of students with iOS devices and internet access. The participants were also enrolled in at least one Japanese class at Brigham Young University and were recruited on a volunteer basis. Due to these sampling limitations, the findings of the study may not be generalizable to the population of Japanese learners who self-study the language or do not own an iOS mobile device. In addition, all the students had some experience with the Japanese language and had a basic understanding of the Japanese character system and grammatical terms. Those without a Japanese background may have reacted differently to the app had they been included in the sample. Although currently, the *Nihongo Desu* app is tailored more toward learners with a basic understanding of the Japanese language, including content for first-time learners could potentially broaden the appeal of the app.

Regarding the study design, no additional demographic information outside of Japanese experience was collected to give context to the responses. In addition, users did not indicate the device on which they used the app. Because several of the design aspects change depending on the model of the iPhone or iPad, the device that the participants used may have affected their experience with the app. Users also had only 20 minutes to experience the app. Very few of the participants commented on the grammar drills and the premium vocabulary games. The participants may have provided more feedback if they had more time to explore the features in the app. Further research would be required to get a better picture of what types of vocabulary activities learners enjoy and find effective.

Chapter 5: Plan of Action

Future Updates

The *Nihongo Desu* app will receive continued updates to improve performance, fix bugs, and add features. Updating the app will likely enhance user experience and increase the marketability of the app. Based on the user feedback we received, we will consider several updates over the course of upcoming months and years.

Sort by Difficulty. Several participants requested adding the ability to sort videos based on difficulty. Being able to sort or filter the videos based on difficulty will help users quickly find videos that are appropriate to their language level. Currently in the app, users can sort the videos based on category only. Adding additional filters will require a restructuring of the backend database. The timing for when this feature can be added largely depends on budget and resources. *Projected Release: October 2021*

Content. Based on the survey responses, the participants enjoyed the authentic Japanese videos and requested a larger selection of content. Adding more video content to the app will be an ongoing process, which requires transcribing videos, defining terms, and creating lessons. Since adding new videos does not require the app to be updated in the app store, we plan to add new content on a regular basis. *Projected Release: Ongoing*

Search Function. As more content is added to the app, a search function will help users find specific videos based on their interests. A basic search function will be relatively easy to program into the app but is not a priority until the app has significantly more content. We plan on adding a search function once the video library reaches around 100 videos. *Projected Release: January 2022*

Vocabulary List. Participants responded with several suggestions regarding the vocabulary list. These suggestions include the ability to save all vocabulary words to the list, a comprehensive vocabulary list, and the option to export words into external flashcard apps. Adding these features will likely help learners better integrate the *Nihongo Desu* app into their current study materials. These features will be considered based on development costs and resources. *Projected Release: July 2021 - February 2022*

Video Speed. Several users suggested adding the ability to adjust the speed of videos. Adding speed functionalities will allow users to adjust the content to fit their listening levels. Since YouTube currently provides options to slow down or speed up videos, the feature may be integrated into the embedded videos within the app. Further research will be required to determine how to implement video speed into the *Nihongo Desu* app. *Projected Release: June 2021*

Tutorials. While many participants found the app design to be intuitive, others were confused on how to use all the features in the app. Many apps give users a tutorial on the basic functions of the app for first-time users. We are planning on adding a tutorial to help users better navigate the interface when they first download the app. Adding an on-screen tutorial to *Nihongo Desu* can provide users with an introduction to the app so that they can start learning right away. *Projected Release: August 2021*

Lessons Tab. Some participants mentioned that the app may not be suitable for those who have little to no background knowledge of the Japanese language. While the main concept of the *Nihongo Desu* app is to provide incidental vocabulary and grammar instruction through authentic content, adding explicit grammar lessons may help those who are just beginning to learn Japanese. Grammar lessons can also provide learners with more opportunities to learn

using “bottom-up” processes. We are planning on adding a “Lessons” tab with videos that provide animated Japanese lessons. These lessons include grammar lessons based on the JLPT and skill-based lessons based on ACTFL’s Can-do Statements. Providing these lessons will likely increase the marketability and audience of the application. *Projected Release: June 2021, Ongoing*

Android Version. Currently the *Nihongo Desu* app is available only for iOS devices. Developing an Android version of the app will expand the reach of the market to those who use Android devices. Developing a native Android app will require a significant amount of programming and development costs. *Projected Release: April 2022*

App Limitations

Several participants recommended features that would no doubt be helpful to learners but would not be possible to implement due to limitations in budget, skill, and copyright policy. One such feature is the auto-scroll feature, which was suggested by a few different participants. During development, we attempted to have the captions scroll automatically with the video, but the programmer was unable to successfully implement the feature. We are also limited to the types of content that can be added to the app due to copyright policies. Content such as TV shows and anime episodes would likely not be accessible without the appropriate licenses.

From a pedagogical standpoint, one might argue that not all user input reflects good language pedagogy. For example, some researchers argue that the speed of authentic texts should not be slowed down or adapted for the learner. Regarding listening and reading activities, Shrum and Glisan (2016) urge to “edit the task, not the text” (p. 194). However, in the case of the *Nihongo Desu* mobile app, most users are likely self-learners, using the app independent of a structured curriculum. In the absence of an instructor, users are likely to quit using the app when

the contents do not fit their learning preferences. In such circumstances, we chose to prioritize a good user experience.

Chapter 6: Conclusion

Incorporating authentic content into a language curriculum can provide meaningful contexts to instruction and increase student motivation (Shrum & Glisan, 2016; Shirai, 2013). Studies have shown that contextualized learning is generally more effective than isolated vocabulary and grammar instruction alone (Godwin-Jones 2018; Arikan & Taraf, 2010; Ghaderpanahi, 2012). Over the past several years, mobile applications have become increasingly popular in providing language curriculum and materials. In the past, researchers have analyzed the pedagogy behind several language-learning mobile applications in the market, but the authenticity of the content of these mobile apps have been mostly unexamined (Gangaiamaran & Pasupathi, 2017; Heil, et al., 2016; Kim & Kwon 2012). The purpose of this project was to analyze the authenticity of Japanese-learning apps in the current market and to develop a new mobile app, *Nihongo Desu*, which incorporated authentic Japanese YouTube videos into an iOS mobile application.

A content analysis of 25 popular Japanese-learning applications in the Apple App Store showed that very few mobile apps in the current market contain genuine authentic content. A further look showed that apps that do contain authentic content lacked a variety of vocabulary-learning activities. This content analysis provided a justification for a new mobile app that not only incorporated authentic Japanese content, but also featured a variety of vocabulary games and activities.

The *Nihongo Desu* app features a video library with authentic Japanese YouTube videos. Each video displays the transcript of the video, where users can tap words directly on the captions and view the English translations of the words. Users can then save the words into a vocabulary list, where they can later review the words through various vocabulary activities such

as flashcards, quizzes, matching, and spelling. Each video also includes brief grammar lessons and speaking drills relevant to the language used in the video. The various features in the app help scaffold the material so learners can successfully understand the videos.

Several students enrolled in Japanese courses at Brigham Young University during Winter Semester 2021 were selected to test out the app and give feedback on their experience through an open-response survey. In their responses, participants commented on what they liked about the app and what could have been improved. Overall, the participants reacted positively to the authenticity of the content in the app. They also found the video transcripts to be particularly helpful for looking up unfamiliar words and practicing their listening. In the survey, participants reported any bugs they encountered and suggested improvements that could be made to the app. Common suggestions included allowing users to sort the videos by difficulty, being able to adjust the video speed, including more content, and adding the option to export vocabulary lists to external flashcard apps. The feedback offered by the participants were considered in future updates of the app.

Based on the participants' responses, learners seem to respond favorably to learning vocabulary and grammar through authentic content. It is important to note that all participants in this study had taken at least one semester of Japanese prior to experiencing the app. Those who have little to no background in the Japanese language may react differently to authentic content compared to those with a higher degree of proficiency. In addition, participants did not provide much feedback on the six different vocabulary games that the apps offered; however, this may be because they had only 20 minutes to experience the app. It may be worth getting input on what types of vocabulary activities that users prefer in a future study.

Implications for Instructors and Materials Developers

The findings of this project provided several insights regarding the use of authentic materials and mobile applications in foreign language instruction. The survey responses suggested that students of all levels can enjoy and benefit from authentic videos, although some beginner-level learners may find it helpful to adjust the speed of the audio. Crossley et al. (2007) raised concerns about authentic material being overwhelming for beginner learners, but the findings of this project suggest that instructors and materials developers should not hesitate to implement authentic materials into a curriculum, even in earlier levels. In addition, most of the respondents of the survey found video transcripts helpful in the app, even beginner learners with little experience with the Japanese writing system. Scaffolding procedures such as leveraging transcripts and vocabulary activities can mitigate concerns and anxiety regarding the use of authentic content in language instruction.

Instructors and materials developers should also consider the time and effort required to incorporate authentic text into a lesson or curriculum. One of the difficulties with the *Nihongo Desu* app was choosing content that would be relevant and appropriate for users. Providing the scaffolding needed to understand the authentic content also took a significant amount of time and resources. Transcribing audio, adding vocabulary lists, and writing grammar explanations took several hours per video. On the other hand, working with authentic videos saved time because we could use existing videos rather than creating videos from scratch. YouTube provided an extensive selection of authentic content that could be incorporated into a language-learning mobile app. Instructors and materials developers can also utilize YouTube's vast content library to find authentic videos that would fit their curriculum.

Mobile apps are a relatively new piece of technology, and only in recent years have developers begun creating apps for language learning. Instructors can take advantage of the functionality and convenience of mobile apps to help students study language outside of class. Dictionary apps allow learners to look up unfamiliar words quickly and conveniently. Learners can use telecollaboration apps to connect with native speakers and get feedback on their language. Apps with audio and visual content can provide language input for students outside of the classroom so that teachers can focus on more communicative activities during class. Such mobile applications can be incorporated into language curriculums to enhance language learning outside of the classroom.

The *Nihongo Desu* app is a unique addition to the various Japanese-learning resources for learners and instructors. Compared to the apps that we examined in our content analysis, the *Nihongo Desu* app not only includes authentic content, but also several vocabulary activities. The content allow users to learn language in context rather than studying vocabulary and grammar in isolation as well. In addition, the app features grammar activities, speaking drills, and full video transcriptions to help better scaffold the video content. Several users have already responded positively to the concept and content of the app. Future updates will add features and improvements to the app that will greatly enhance the learner experience and make the app more accessible to learners. Overall, the *Nihongo Desu* app fulfills its purpose of providing language instruction through authentic video content and will continue to provide language-learning experiences with new content and updates.

References

- Abrams, Z. (2019). Interpersonal communication in intracultural CMC. In N. Arnold & L. Ducate (Eds.), *Engaging Language Learners through CALL* (pp. 267-308). Equinox.
- Arikan, A., & Taraf, H. U. (2010). Contextualizing young learners' English lessons with cartoons: Focus on grammar and vocabulary. *Procedia - Social and Behavioral Sciences*, 2(2), 5212–5215. <https://doi.org/10.1016/j.sbspro.2010.03.848>
- Arndt, H. L., & Woore, R. (2018). Vocabulary learning from watching YouTube videos and reading blog posts. *Language Learning & Technology*, 22(1), 124–142. <https://doi.org/10125/44660>
- Crossley, S. A., Louwrese, M. M., McCarthy, P. M., & McNamara, D. S. (2007). A linguistic analysis of simplified and authentic texts. *The Modern Language Journal*, 91(1), 15–30. <https://doi.org/10.1111/j.1540-4781.2007.00507.x>
- Elola, I. & Oskoz, A. (2019). Writing between the lines: Acquiring writing skills and digital literacies through social tools. In N. Arnold & L. Ducate (Eds.), *Engaging Language Learners through CALL* (pp. 240-266). Equinox.
- Galloway, V.B. (1998). Constructing cultural realities: “Facts” and frameworks of association. In J. Harper, M. Lively, & M. Williams (Eds.), *The coming of age of the profession* (p. 133). Boston: Heinle & Heinle.
- Ghaderpanahi, L. (2012). Using authentic aural materials to develop listening comprehension in the EFL classroom. *English language teaching*, 5(6), 146-153.
- Glisan, E. W., & Donato, R. (2017). Enacting the work of language instruction: High leverage teaching practices. Alexandria, VA: ACTFL.

- Godwin-Jones, R. (2011). Mobile apps for language learning. *Language Learning & Technology*, 15(2), 2-11.
- Godwin-Jones, R. (2018). Contextualized vocabulary learning. *Language Learning & Technology*, 22(3), 1–19. <https://doi.org/10.125/44651>
- Hadley, A. O. (2001). *Teaching language in context* (3rd ed.). Thomson Heinle.
- Heil, C. R., Wu, J. S., Lee, J. J., & Schmidt, T. (2016). A review of mobile language learning applications: Trends, challenges, and opportunities. *The EuroCALL Review*, 24(2), 32-50. <https://doi.org/10.4995/eurocall.2016.6402>
- Helgesen M. & Brown S. (2007). *Practical English language teaching: Listening*. McGraw-Hill ESL/ELT.
- Kim, H. & Kwon, Y. (2012). Exploring smartphone applications for effective mobile-assisted language learning. *Multimedia-Assisted Language Learning*, 15(1), 31-57.
- Melvin, B. S. & Stout, D. F. (2010). Motivating language learners through authentic materials. In W. M., Rivers (Ed.), *Interactive language teaching* (pp. 44-56). Cambridge Univ. Press.
- Perez, M. M. (2019). Technology-enhanced listening: How does it look and what can we expect?. In N. Arnold & L. Ducate (Eds.), *Engaging Language Learners through CALL* (pp. 141-178). Equinox.
- Rosell-Aguilar, F. (2017). State of the app: A taxonomy and framework for evaluating language learning mobile applications. *CALICO JOURNAL*, 34(2), 243-258.
- Shirai, A. (2013). Authentic or artificial materials: The effects of material-types on L2 motivation. *Chinese Journal of Applied Linguistics*, 36(4), 422–441. <https://doi.org/10.1515/cjal-2013-0029>

Shrum, J. L., & Glisan, E. W. (2016). *Teachers handbook: Contextualized language instruction* (5th ed.). Cengage Learning.

Tomlinson, B. (2012). Materials development for language learning and teaching. *Language Teaching*, 45(2), 143-179. doi:10.1017/s0261444811000528

Vogely, A. J. (1998). Listening comprehension anxiety: Students' reported scores and solutions. *Foreign Language Annals*, 31, 67-80.

Appendix A

Content Analysis Data

Name of App	Level of Authenticity	Video	Audio	Written	Vocabulary	Grammar	Communicative
Learn Japanese!!	Inauthentic Text	No	Yes	Yes	Yes	Yes	No
Duolingo	Inauthentic Text	No	Yes	Yes	Yes	Yes	No
Learn Japanese!!!	Inauthentic Text	No	Yes	No	Yes	No	No
Bunpo: Learn Japanese	Inauthentic Text	No	Yes	Yes	Yes	Yes	No
Drops: Fun Language Learning	Inauthentic Text	No	Yes	Yes	Yes	No	No
Busuu: Language Learning App	Simulated Text	Yes	Yes	Yes	Yes	Yes	Yes
LingoDeer - Learn Languages	Simulated Text	Yes	Yes	Yes	Yes	Yes	Yes
Eggbun: Chat to Learn Japanese	Simulated Text	No	Yes	Yes	Yes	Yes	Yes
kawaiiNihongo - Learn Japanese	Inauthentic Text	No	Yes	Yes	Yes	Yes	No
Onigiri : Learn Japanese (日本語)	Inauthentic Text	No	No	Yes	Yes	No	No
Rosetta Stone: Learn Languages	Simulated Text	No	Yes	Yes	Yes	Yes	No
Infinite Japanese	Inauthentic Text	No	Yes	Yes	Yes	No	No
Japanese Grammar : Coban	Inauthentic Text	No	Yes	Yes	Yes	Yes	No
Japanese Dungeon: Learn J-Word	Inauthentic Text	No	Yes	Yes	Yes	No	No
Lirer: Learn Japanese	Inauthentic Text	No	Yes	Yes	Yes	No	No
Memrise: Fun Language Learning	Adapted Text	Yes	Yes	Yes	Yes	Yes	Yes
Kaizen Languages: Japanese	Simulated Text	No	Yes	Yes	Yes	Yes	Yes
HelloTalk - Language	Genuine Text	No	Yes	Yes	Yes	Yes	Yes

Learning							
Learn Japanese Dialogues	Simulated Text	No	Yes	Yes	No	No	Yes
Innovative 101 Learn Languages	Genuine Text	Yes	Yes	Yes	Yes	Yes	Yes
Learn Japanese: Sensei	Inauthentic Text	No	No	Yes	Yes	Yes	No
Japanese Language Quest	Inauthentic Text	No	Yes	Yes	Yes	No	No
Learn Japanese Words	Inauthentic Text	No	No	Yes	Yes	Yes	No
Pimsleur - Learn Language Fast	Simulated Text	No	Yes	No	Yes	Yes	Yes
Learn Japanese Online	Simulated Text	Yes	Yes	Yes	Yes	Yes	Yes

Appendix B

Survey Questions and Recruiting Details

Survey Questions

1. First Name
2. Email address (to send your Amazon gift card)
3. Describe your experience with the Japanese language (Japanese classes, years living in Japan, Japanese heritage, etc.)
4. Have you used mobile apps in your Japanese studies? If so, which ones?
5. What were things you liked about the Nihongo Desu app?
6. What were things that could be improved about the app?
7. On a scale from 1-5, how likely would you recommend this app to a friend?
8. Any additional comments about the app?

Recruiting Details

Hi, my name is Andy Watabe. I am a graduate student studying Second Language Teaching at BYU. For my master's project, I have developed a Japanese-learning iOS app. I am looking for participants to test out and give feedback on the app.

The research study will take approximately 30-45 minutes, and you will receive a \$10 Amazon gift card for participating. You must have an iOS device to participate.

For this research study, you will download and test out the app 'Nihongo Desu' from the Apple App Store. After using the app for 20 minutes, you will fill out a survey about your experience (approximately 10-15 minutes)

Email me at andywatabe@gmail.com with your NAME and JAPANESE CLASS if you're interested or have any questions.

Andy Watabe

Appendix C

Survey Responses

Note that responses are left as is and may include spelling or grammar errors.

	Describe your experience with the Japanese language (Japanese classes, years living in Japan, Japanese heritage, etc.)
S1	I have the Japanese minor and have taken a few more classes towards the Japanese major at BYU. I have also lived in Japan for two years and am half-Japanese.
S2	I served a mission in Tokyo, and after that I continued studying Japanese at BYU. I have taken all of the Japanese minor classes as well some others: JAPAN 411, 441, 444, and 326. I am a research assistant to Dr. Moody at BYU, and I am also a Japanese linguist in the Utah Army National Guard.
S3	Japanese Classes, working at a sushi bar
S4	I have just taken two semesters of Japanese at BYU (Japan 101 and 102). My boyfriend's mom is also Japanese.
S5	2 years of Japanese class in high school, 2 year mission in Kobe from 2016-2018, Japanese Minor in college, started watching anime since coming back from mission, married a Japanese girl a few months ago
S6	I lived in Japan for about 6 years as a child. I went to yochien, sho-gakkou during that time and became relatively fluent in Japanese. moved back to the US at the age of 10, and over time lost my ability to speak. This school year I took Japanese 101 and 102 and was able to re-learn a lot of basic Japanese.
S7	2 years as a missionary in Japan, 4 semesters in college, 8 months of marriage to a Japanese woman, and plenty of studying on my own.
S8	I have been studying Japanese for 8 years. I have studied in various places, including by myself.
S9	Mother is from Japan, could not speak very well at all growing up, took some classes in high school, served a mission in Japan for 2 years, taking classes at BYU
S10	I served as a mission for 2 years in Japan and have taken Japanese 301, 302, and 321.
S11	I took Japanese 101 this semester.
S12	Japanese heritage, Japanese classes, visits to Japan, and a mission to Japan.
S13	I've been taking classes and self studying Japanese for 3 years
S14	I currently just completed JAPN 102. I haven't had too much experience, but my native language is Chinese so I have had more experience with writing and understanding Kanji.
S15	I have relatives living in Japan and I started watching anime in Japanese since kindergarden so I could understand some vocabs before but not after Japan 202 I learned more.
S16	I took four semesters of Japanese language classes here at BYU.

S17	Japanese 101
S18	I am a senior in the Japanese major and I lived in Japan for two years.

	Have you used mobiles apps in your Japanese studies? If so, which ones?
S1	I have used imiwa, HiNative, and Weblio 国語辞典 (kokugo jiten).
S2	Yes! Imiwa, Easy Japanese (NHK), Duolingo, Japan Radio, and AnkiApp.
S3	Yes, Rosetta Stone, Duolingo
S4	I have sometimes used Jaacent to help me with me pitch intonation
S5	Japanese, imiwa, Duolingo
S6	I have used the dictionary app "imiwa" but otherwise nothing.
S7	Yes. "Japanese" (Dictionary with a red icon), アルク (aruku), and Duolingo
S8	Yes, LingQ. Memrise in the beginning. Now Anki
S9	Yes, Yomiwa
S10	Kanji Tree, Shirabejisho, EOC, Jaccent
S11	I have used Duolingo.
S12	Yes, I have used Duolingo and the Japanese app by renzo Inc.
S13	A little bit of Duolingo
S14	I have used Duolingo for mobile apps.
S15	Yes, I am "Japanese" and "MoJi 辞書 (jisho)"
S16	I've used Duolingo, but I've looked at other apps like Embark. Didn't use that last one as much.
S17	Yes, LingoDeer
S18	Yes. I use Nihongo and Imiwa

	What were things you liked about the 'Nihongo Desu' app?
S1	It was easy to use and navigate, easy to find words I didn't know and save them, and very fun. It was a more interactive app than most out there. I enjoyed the videos that provide real-world Japanese and not

	"textbook" Japanese.
S2	I really liked the transcription for the videos as well as the ability to pick out specific words to study. Subtitles on youtube aren't always accurate, so it was nice to have a timestamped and correct audio transcription. I also liked the study tool options, like flashcards and quizzes.
S3	I love having the script written out and you can see all of the vocab immediately. I like the content of the videos. I like the look of it as well.
S4	I really liked how the captions for each video were categorized to their definition. I think it was really helpful for me to just click the words that I didn't know. I also like the majority of the activities and drills that went along with each video were helpful for me!
S5	I liked that it has videos of actual Japanese people speaking actual Japanese! The subtitles we're amazing too and provided a lot of learning options. It also seems like a really fun way to learn Japanese because it's entertaining, not just matching words or studying like school.
S6	I really liked the idea of using Japanese youtube videos to teach the language. Watching these videos and reading a transcript at the same time provided a good way to expand vocabulary and really get a feel for how native Japanese speakers actually speak.
S7	The captions below the video are highlighted as they come up in the video. Adding words to the vocabulary list is easy and set up in a way that helps users only study words that they need to so they can learn a lot no matter what their background knowledge is. The varying level of difficulties among the videos help people choose something at their level. There are various types of videos so people can learn something they are interested in. The videos show situations that people really come across in Japan, so they can learn relevant information. I didn't look into this a lot, but from what I could tell, it seemed like there were good explanations of grammar structures used in videos.
S8	It was relatively well designed. I liked how you can select words you don't know. It's structured like LingQ in that way. I thought the flash cards could be good as well.
S9	Being able to immediately look up a word that was said and being able to save that to a list to study
S10	I like being able to study the exact words that I heard in the video I watched and knowing that after I study the words I can go back and rewatch the video, listening for the words that I missed.
S11	I liked how you could read what was being said and when you didn't know a word you could find out. I also liked how you could add the unknown word to a vocabulary list to study later. I also really liked how its learning through watching Japanese videos because it has more real life conversation scenarios.
S12	I enjoyed the wide variety of content it offered, I feel like there's something interesting for everyone. I liked how it had the Japanese used in the video at the bottom and that I could tap on the words to learn and study them. The study features were nice and since you see the words and grammar being used by actual Japanese speakers, it helps you get a better understanding of how to use them yourself.
S13	I like that there are a variety of videos. The different kinds of practice are nice. I really like that there are transcripts of the videos and you can select words out of them to review. I think that can help with learning new phrases

S14	I loved that the app was easy to navigate, I can see the difficulty levels very easily and find the content that I would be interested in. I also really love that I can follow along the script as I watch the video and if I encounter a word that I don't know I can just click on it and it shows me the meaning and the reading which is very convenient. I also find it so helpful that I can just click on a sentence that I want to listen to again to catch some of the words and it just takes me right there.
S15	I love the spelling and the captions! Spelling practice really helps me remember the correct reading of kanji.
S16	I liked how there were timestamps for the video, so you could go back to a specific section and review the vocabulary. I like the idea of using videos to learn Japanese, as well.
S17	The variety of videos, the romaji being included, the option to play certain parts of the video, adding vocab
S18	I liked how there were examples of real Japanese conversation. The design of the app was super easy to look at and intuitive too.

	What were things that could be improved about the app?
S1	A separate filter to list videos based on difficulty would be useful. Also, there may be videos where people have less than 6 vocabulary words they want to study so the minimum number required may be a hassle for some people. Finally, as more videos are added, a search function could be beneficial.
S2	The only real suggestion I have would be an automatic scrolling feature for the transcriptions. It's nice that the clips are bolded depending on which one is showing, but it's difficult to follow along by manually scrolling. When I tried to scroll, it glitched a little and I couldn't find the current transcription. If they could be synced somehow so that the screen scrolled automatically to the current transcription line, that would be really helpful!
S3	I wish things were organized as beginner/medium/advanced. Because right now I just scroll through to find all the medium rated videos. I also think it could be helpful to have a quiz/questionnaire when you set up an account to guide you to what level you would be. I like the spelling feature, but this could be even more helpful to learn kanji!
S4	I think that I didn't like the memory drill. It was kind of annoying. I think that if there was the ability to choose more than four vocab, then the exercise would probably be more effective. Also, I think that it might be helpful to make an option to make all of the vocab from the video apart of a flash card set. I feel like it was a little tedious to go back and hand select each vocab term when I feel like there could be one button that copies all of the words for the flash cards.
S5	More videos! There were also a few words that I was not able to click, mostly onomatopoeias.
S6	I think one thing that could be improved is the way the video transcripts would interact with the video itself. As the videos would play, I had to scroll to keep up with the transcript, and it was a bit annoying. I think a feature that scrolls through the transcript as the youtube video plays would certainly bring a bit more utility to this app. Further, I think a bit more variety, and maybe a some organization would benefit this app's user interface.

S7	I'm not sure if the spaced-repetition principle of learning is implemented or not because I have only used this app once, but I thought it would be good to try to create a review schedule for each word the people add to their lists to help space out their learning and help with remembering words long term. The review schedules could be based on things such as how many times a word has been reviewed, how much time has passed since the last review, and whether the user answered correctly about the word the last time. However, this change might take a ton of work, and I do like the way students can choose when they want to review things.
S8	The voice reading words needs to be improved, especially in the spelling exercise. Words were read incorrectly, and there was no "correct" kana to select. I was able to guess what it was looking for, but it was not enjoyable, and quite frustrating.
S9	Some of the words with a "chiisai tsu" showed up in the English translation as "tsu" instead of a double consonant. Having a feature where you can export saved words into other applications like Imiwa, yomiwa, anki, etc. would be really convenient. Also having a central location for all saved words, instead of having to go the video itself to find the words you saved.
S10	The transcript beneath the videos is very jumpy and difficult to follow along with. I also think it would be good to be able to get a comprehensive list of the words you want to study, rather than just the words from a single video.
S11	At the beginning I was confused on how to use the app or the features such as needing to add vocab to a vocab list. I think if you added a section in the profile section of all the vocab you saved would be helpful. Also a introduction to the app, like steps on how to use it and what you can do on it.
S12	I was rather confused at first as to how everything worked. It didn't take long to figure it out, but having some sort of guide or some prompts would be useful in learning how to get the most out of this app. I also found that the computer pronounced the small つ (tsu) in ぜったい (zettai) when I was studying with the flashcard function.
S13	There should be more videos in each category. Some categories have a lot more videos than others. Such as the anime category which only has two at the moment. A couple times the speech recognition didn't correctly identify what I said. There was also a typing question where the word said didn't match what was supposed to be typed. Maybe some more drills could be opened to free users. Having about 90% locked is a bit much.
S14	I think to improve the app I think maybe a feather to adjust the speed of the video might help. Sometimes native speakers do speak really fast so it would be helpful to be able to adjust the speed so that the user can follow along better and absorb the knowledge easier.
S15	It would be great if there could be a section for writing practice(kanji practice)? I am using an ipad so maybe it'll be fun if it can turn to horizon view with captions on the side like the comment area on youtube? This not that necessary though.
S16	There were some words where “っ (small tsu)”was read as “つ (tsu)”, so maybe that’s an error?
S17	I would probably like to have had an option to slow the videos down in order to catch pronunciation better, an option to filter the videos based on difficulty would be nice.

S18	I think having a search function for the videos could be helpful.
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	On a scale from 1-5, how likely would you recommend this app to a friend?
S1	5 - Extremely likely
S2	4 - Somewhat likely
S3	5 - Extremely likely
S4	5 - Extremely likely
S5	4 - Somewhat likely
S6	4 - Somewhat likely
S7	5 - Extremely likely
S8	2- Somewhat unlikely
S9	5 - Extremely likely
S10	3 - Neither likely nor unlikely
S11	4 - Somewhat likely
S12	4 - Somewhat likely
S13	4 - Somewhat likely
S14	5 - Extremely likely
S15	5 - Extremely likely
S16	4 - Somewhat likely
S17	4 - Somewhat likely
S18	5 - Extremely likely

	Any additional comments about the app?
S1	I loved it! There are not many apps like this that teach real-world Japanese through videos. It's also great that listening practice is so incorporated in the learning process.
S2	This is awesome! It's great to see an app that uses visual media for study materials.

S3	
S4	
S5	If it had more videos, I would definitely recommend it, 5/5!
S6	Overall, I think this app brings a great, original form of learning to the Japanese scene. One thing I would say is that I think people with some background in speaking Japanese would benefit the most from this app. I feel like it is best for people who want to expand their vocabulary and learn how to implement Japanese grammar patterns in their daily conversations. I don't think it would be the best tool to learn Japanese from scratch.
S7	
S8	I would recommend that the automated voice be replaced with actual recordings of words. This could be done by connecting it with Forvo. That way learners can hear native pronunciation. Additionally, making the spelling portion a user-input experience (meaning typing the answer in) will likely decrease chances of the wrong kana popping up (as it seemed random). Harder content would also make the app more useful to more intermediate-advanced speakers. As it is now, there is really no incentive for me to use the app as an advanced speaker.
S9	Lots of potential. I would definitely use more if there are more options for entertaining Japanese TV shows to watch, such as Terrace House, anime, etc.
S10	I think the app has a lot of potential and if the video selection was greater and there was greater flexibility with the vocabulary lists that you could make, then I would be more likely to recommend the app.
S11	I don't know how beginner friendly it is. As I took a semester of Japanese I was able to pick up some of the grammar points and was able to apply what I already learned. For those just beginning to learn the language they might find the app overwhelming or find certain grammar principles confusing.
S12	I love the idea of this, I often try to practice Japanese by watching Japanese media, but sometimes it's impossible to catch what they're saying. Having everything typed out at the bottom was really helpful with understanding what they're saying.
S13	If it's possible maybe adding subtitles to videos that don't have them.
S14	I actually really love this app. I love that there are so many types of content on there and they are mostly content that are fun and easy to engage and learn. And with more exposure to the vocabulary I can better remember their meaning and how to use them. I would definitely keep using the app I think it is a wonderful study help.
S15	I love the icons and designs in the app, especially the sushi!
S16	It's a well-designed and easy to navigate app. I said this before but I really do like the idea of learning languages with watching videos.
S17	Good concept and I really enjoyed watching the videos and learning at the same time.

S18	I was crazy impressed with the app. It was really fun.
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