Podcasting to enhance pronunciation in second language learning

by

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Abstract

Studies on using digital devices to improve, enhance, and supplement second language (L2) learning have emerged over the last decade. A focus on speaking and specifically pronunciation is addressed in very few studies. This study is framed by research on CALL (computer assisted language learning) and MALL (mobile assisted language learning) with a specific focus on podcasting as a method of L2 pronunciation instruction and enhancement. This study used iPods to enhance L2 pronunciation in grade 8 beginner French students. In a quasi-experimental design, participants in the experimental group experienced teacher modeling, peer practice and used an iPod Touch to record and listen to their pronunciation in weekly podcasts. The control group experienced only teacher modeling and peer practice prior to their weekly podcasts. Results showed pronunciation improved in both groups, however, the experimental group improved more.

Keywords: Podcast; Pronunciation; Second language learning; MALL; CALL

Dedication

"Those who dream by day are cognizant of many things
which escape those who dream only by night."

- Edgar Allan Poe, *Eleonora*

I dedicate my Thesis to all of those who thought they were never capable of following their dreams. To them I say that it is possible when you do not fear what you dream for in life. I also dedicate this to my parents and sister who have always encouraged me to pursue my education. Thank you for all of your support throughout this process. Without you, this would have merely been a dream.

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List of Acronyms

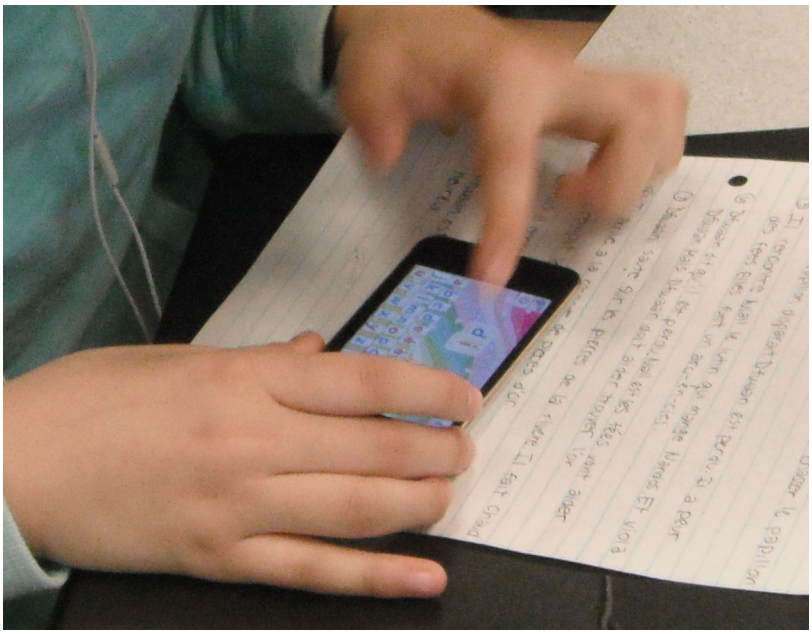
CALL	Computer assisted language learning
FSL	French as a second language
L1	First language
L2	Second language
MALL	Mobile assisted language learning
NS	Native speaker
NNS	Non-native speaker

Glossary

Grapheme	A term in the field of language and linguistics. It is “the smallest meaningful contrastive unit in a writing system”. These are the letters we use to spell words.
Phoneme	A term in the field of phonetics. It is “any of the perceptually distinct units of sound in a specified language that distinguish one word from another.”

* All terms were referenced with the Oxford English dictionary

Introductory Image



1. Introduction

The 21st century has seen many advances in technology. The influx of social media, digital devices and the Internet has led to the ability to communicate with people from around the world with the click of a button. Today, exposure to foreign languages knows no physical boundaries. Whereas, prior to the Internet one had to travel to where a foreign language was spoken, today, searching YouTube often returns videos narrated in many different languages. The ability to communicate in another language has become much more than an amusing pass time. It has become integral to this century.

Second language learning has always been present in the Canadian public education system. However, the options now available extend far beyond studying the traditional German, French and Spanish languages. In some British Columbian school districts, secondary school students have the option of studying Mandarin, Cantonese, Punjabi, Japanese as well as a variety of other languages. The curricular goals of these second language courses focus on communication in four areas: reading, writing, listening and speaking. However, it is often observed that in actual practice, students learn more about reading and writing rather than listening and speaking.

It is unfortunate that other second language elements take precedence in language learning over speaking. In fact, many beginner French students often express that despite their training since Grade 5, they are unable to carry on a basic French conversation with a native speaker.

Second language speaking begins with proper pronunciation. This is often considered a difficult aspect to instruct as other areas of the language overshadow this training. However, technological tools available to learners today enable pronunciation practice to occur in a new way. The study reported here investigates how the iPod Touch can improve pronunciation among beginner French as a second language (FSL) students.

2. Review of the literature

The words food [food], foot [foot], flood [fluhd], and floor [flohr] contain the same two letters (oo), yet have four different sounds. These words illustrate four of the possible sounds of the grapheme 'oo' and help highlight the importance of pronunciation. Take the word, flood, for example. Try to pronounce the other words using the pronunciation of [fluhd], "Where is the [fuhd]?" The message being conveyed in this instance becomes skewed as pronunciation is not correct; the listener does not interpret the speaker's information as [food]. Comprehension and pronunciation are inherently linked. One cannot fully acquire a second language by purely studying it graphically. To communicate means to do so not only graphically but orally as well. There have been many studies conducted involving second language (L2) learning and the role that technological tools can play in facilitating the acquisition of L2 (Levis, 2008; Ducate & Lomicka, 2009; Abdous, Camarena, & Facer, 2009). These studies have mainly focused on how technological tools affect student motivation and attitudes in L2 learning (Ducate & Lomicka 2009). Some, however, focus on the role technology tools play in the acquisition and enhancement of language skills in L2 (Abdous, Camerena & Facer, 2009; Derwing & Munro, 2005; Ducate & Lomicka, 2009). Others call for a need for specific pronunciation instruction with the use of computers to assist in L2 learning (Ducate & Lomicka, 2009; Demouy & Kukulska-Hulme, 2010). Despite what has been done, there is a lack of empirical evidence in the area of pronunciation and speaking skills in L2 with a particular focus on French and how these can be acquired effectively with digital devices. In an overview of computer-assisted and mobile-assisted language learning tools (CALL and MALL), a discussion of their limitations led to a research design that uses iPods to improve pronunciation skills in beginner French students. Before delving into the technological aspect, it is important to acknowledge the history behind French language education in British Columbia.

French Language Learning in British Columbia

In Canada, and specifically British Columbia, as of 1997, every student from Grades 5-8 is required to take French as a second language (Ministry of Education, British Columbia). There are four main components to learning French as a second language (FSL): reading, writing, listening and speaking. All of these aspects are to be taught in a rich and contextual manner. The many programs used all over the province to teach core French as a second language combine linguistics and culture to provide a context for French language learning that heighten a students' learning experience. Many of the learning outcomes for French insist upon communication, which involves speaking. Speaking skills require a base knowledge of proper pronunciation. As illustrated above in the introduction, the word *food* is pronounced in a particular way. If it is pronounced incorrectly, applying a different sound to the same two letters of 'oo' (saying [fuhd] rather than [food]), the communicative power of the message is lost. Acquiring French-speaking skills is paramount to communication but poses several difficulties to learners.

Challenges in learning to speak a second language

Immersion. One of the main challenges that hinders the FSL learner's ability to acquire French speaking skills is that students in BC are not immersed in the language (Swain, 1985). Students need to be able to practice their speaking skills outside of the classroom in real-life contexts (Swain, 1985; Carr, 1999). The acquisition of speaking skills requires learners to problem solve and express themselves in oral situations with newly learned vocabulary, grammar and colloquial expressions. Students are learning French in an English milieu; there are a few French restaurants, cafés and films, but not enough to benefit all of the students currently enrolled in FSL courses. Thus, students have little to no chance of using their French language skills in their daily lives (Abdous, Camerena, & Facer, 2009). Not being immersed in a foreign language can inhibit learners' speaking skills. As well, the lack of instruction in speaking and pronunciation is becoming a growing concern.

French instruction competency. Unfortunately, speaking skills are often forgotten or are rarely touched on in many FSL classes. Students are asked to read

aloud French vocabulary and sentences without being instructed on how to do so properly with the rules of French pronunciation in mind. In fact, much of the instruction in French courses is done through text-based exercises involving reading and writing such as: notes, texts, questions, tests and quizzes. Many students indicate that their instructors only focused on vocabulary recognition through written exercises and rarely worked on speaking skills (Derwing & Rossiter, 2002). There are several reasons for this lack of French speaking and pronunciation instruction. For example, some educators view other parts of the language such as grammar or vocabulary as more important, while others are not experts themselves and are not confident speaking French (Carr, 1999). Many FSL teachers are non-specialists, meaning they are often not formally trained to teach FSL (Carr, 1999). The Canadian Association of Second Language Teachers (1990) suggests that to teach a language, a teacher should be fluent or at least comfortable communicating in the target language. Yet, this standard is not met nation-wide. Carr (1999) explains that the College of Teachers in other provinces such as Ontario and New Brunswick certify teachers for French language proficiency before teachers are eligible to teach core French in elementary schools. She further goes on to illustrate that the British Columbia and Alberta College of Teachers considers elementary teachers capable of teaching all subject areas, including French (Carr, 1999). Thus, some elementary teachers are not trained to teach French but are expected to do so. Although this applies to some teachers, it does not apply to all. Another reason for the lack of pronunciation training in French classes is that there is little research supporting how to incorporate it into the curriculum effectively and its value to language learning.

Research in Second Language Pronunciation

Language classes, including FSL, do not always receive pronunciation and speaking instruction (Levis 2008). There has been very little research into L2 pronunciation and speaking skills when compared to the empirical studies of L2 grammar and vocabulary acquisition (Derwing & Munro, 2005; Stockwell, 2007). Foreign language teachers do not teach pronunciation because, quite simply, they have no formal training in teaching pronunciation and have difficulty incorporating it into the curriculum (Derwing & Munro, 2005). Research has shown that for students to gain speaking skills, ideally, they should be immersed in the language and have an instructor

who can speak the language (Swain, 1985; Carr, 1999). However, the complex nature of speaking and pronunciation creates challenges to research.

Limitations to pronunciation research

Assessing pronunciation. Derwing and Munro (2005) suggest that there is little research in the area of L2 pronunciation as it is difficult to assess in L2 learners without some amount of bias and subjectivity. If the researcher is the instructor, they may notice an improvement in pronunciation since they desire an improvement (Derwing and Munro, 2005). As well, in observing L2 learners' speech errors, instructors may not be aware of their pronunciation difficulties because students may only speak with vocabulary they know well rather than using a variety of vocabulary that could cause a mispronunciation (Derwing & Munro, 2005; p. 281). Derwing and Munro (2005) point to a way of combatting bias by having independent listeners judge pronunciation rather than the instructor. However, having a different listener comes with some amount of subjectivity and bias also. The listener could be either a native speaker (NS) or nonnative speaker (NNS) of the target language. Both are experts in the language, however, they both acquired it differently. Thus, they might each judge student speaking patterns and errors differently. Native speakers listening to student pronunciation might judge them based on native-like speech such as accent. Whereas a nonnative speaker of French is fluent yet might judge learners regardless of accentedness (Major, Fitzmaurice, Bunta, & Balasubramanian, 2002; Smith & Bisazza, 1982). However, the question of whether pronunciation when linked to native-like speech should be studied still comes into question.

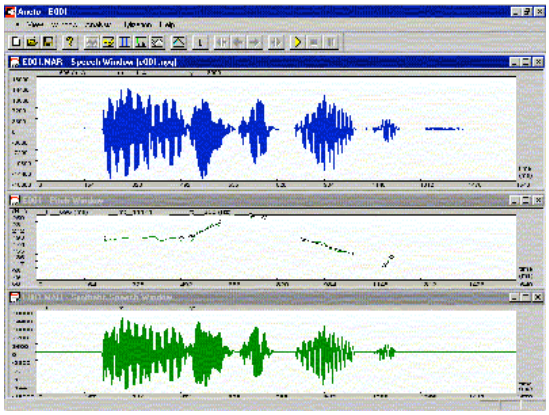
Native-like speech. Pronunciation has been overlooked as a research field and as a second language teaching practice in part because acquiring a second language after the early childhood years results in "nonnative patterns of pronunciation" and never reaches native-like speaking status (Derwing & Munro, 2005; p. 383). Thus, pronunciation instruction is viewed as less important than other aspects of the language such as grammar since older students could never achieve the type of speaking skills achieved by a NS. However, it has been argued that we should not deny students the opportunity to achieve native-like accent as long as educators are providing realistic speaking goals (Derwing & Munro, 2005). Research shows that pronunciation instruction

can improve pronunciation regardless if it matches the pronunciation of a NS (Couper, 2003; Derwing, Munro, & Wiebe, 1997, 1998; Macdonald, Yule, & Powers, 1994). Jenkins (2000, 2002) explains that L2 learners do not need to emulate NS pronunciation, as it is not necessary for communication. In Canada, we are a nation of NSs and NNSs of English and, for the most part, we are able to communicate orally with each other. Although native-like speech is not completely necessary for communication, Derwing and Munro (2005) argue that some amount of technical skills in pronunciation or accent need to be attained for L2 speakers to be understood by NSs and NNSs alike. The debate of whether pronunciation should be taught in second language classes has led to a lack of evidence supporting its value. Arguments against the instruction of pronunciation in L2 classrooms holds that it is too difficult to assess in an unbiased manner and that High School students learning a beginner second language could never attain native-like speaking patterns. The former can be alleviated by having several people (other than the instructor) judge pronunciation. The latter could be discounted as a concern since having native-like speaking patterns is not necessary for communication. Therefore, "if we accept that pronunciation instruction can make a difference, the next step is to identify ways to tailor it to the students' needs" (Derwing & Munro, 2005; p. 388). They suggest that computer-assisted language learning could be an answer to providing individualized pronunciation learning to students.

Computer-assisted language learning - CALL

In recent years, advancements in technology have provided opportunities for second language acquisition. Computer programs used to improve pronunciation in L2 include technologies such as automatic speech recognition (Levis 2008; Machovikov, Stolyarov, Chernov, Sinclair & Machovikova 2002), and online multimedia and audiocassettes (Weinberg & Knoerr 2003). The majority of popular CALL programs use waveforms and spectrograms to enable learners to visualize their speaking patterns and prosody. Prosody are the elements of rhythm, stress and intonation with which we speak (Levis, 2008). Learners speak into a microphone repeating a modeled sentence in the target language, often produced by a NS. The program receives the audio input and translates it into sound waves. These visualizations (see Figures 1 and 2) of sounds can be compared against the examples given of NSs so that language learners can see exactly where their pronunciation matches and areas where it does not (Ducate &

Lomicka, 2008; Ehsani & Knodt, 1998; Hardison, 2004; Pennington, 1989). For students to be able to improve their pronunciation based on the areas that did not match the native speaking patterns, they would have to be trained by the instructor on how to identify errors and correct them. There are other programs that focus specifically on pronunciation instruction known as computer-aided pronunciation training or (CAPT), which use similar visualization methods (Levy, 2009; Levis, 2008). Despite the perceived benefits to using these programs, there are several limitations.



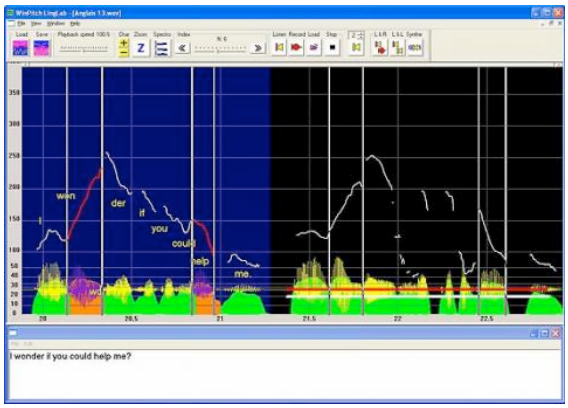


Fig. 1 & Fig. 2 – CALL pronunciation visualization programs

Theoretical Limitations of CALL

Exploration of various speech and pronunciation visualization programs found that they have not fostered improvement in second language pronunciation. The most pertinent limitation of CALL is that many of its early systems were not user friendly and could only be operated and analyzed by someone trained in phonetics (Weinberg & Knoerr 2003). As well, technical errors occur with these programs. For instance, at times, not all recorded speech was received by the program and so students could not interpret their errors (Pennington, 1999). A more important limitation of CALL is that language learning is occurring out of context and not in life-like situations (O'Brien, 2004). Using foreign language visualization programs to improve pronunciation skills in L2 does not necessarily foster transferability to spontaneous speaking situations (O'Brien, 2004). These types of programs have only been shown to be effective in

vocabulary recognition (Weinberg & Knoerr 2003). However, they lack specific methods for enhancing pronunciation (Levis 2008). However, qualitative analysis indicates that a combination of these visual types of programs with immediate instructor feedback did improve student pronunciation in French (Levis, 2008; Weinberg & Knoerr, 2003). New tools tend to be used without having a clear idea of learning objectives in mind and as such they cannot be used effectively to improve pronunciation skills (Levis, 2008). If there are no clear learning objectives, the tool cannot be used effectively (Hardison, 2004). Along with these limitations come more practical considerations for using CALL programs.

Practical limitations of CALL

The cost of purchasing licenses of such programs could pose a problem to lower income schools and districts. Logistically, in a secondary school setting, this type of program would require a computer lab with computers for each student as well as headphones with microphones. The difficulty lies not with the availability of computer labs, for most schools today have multiple labs, but the frequency with which they may be accessed. Typically, schools in British Columbia offer computer and information technology courses that take place daily, so having a lab available for all L2 classes may not be feasible. And, accessing a lab a few times over a semester would not likely benefit to pronunciation as the program would be used too infrequently to have any real effect. One way around this would be to have students work at home with a speech visualization program. However, students would need extensive instruction from the teacher on how to notice and correct errors. The limitations of CALL have shifted educator's focus to mobile-assisted language learning.

MALL - Mobile-assisted language learning

An emerging learning trend known as MALL is a possible response to the issues surrounding CALL. Mobiles are defined as anything portable, which include: MP3s, iPods, cell phones, digital cameras and small handheld computers (Kukulska-Hulme & Shield 2008). Mobile devices are becoming more prevalent in our society. Due to their abundance, portability, connectivity and convenience, many researchers have studied

their uses as an educational tool, which is often referred to as m-learning (Abdous, Camarena, & Facer, 2009; McGarr, 2009; Thorne & Payne, 2005; Mianagh, & Nezarat, 2012). Many of these mobile devices now have the ability to access the internet and applications that pertain to a particular subject area. This newfound access coupled with the portability of the devices enables learners to access information any time and anywhere (Mianagh & Nezarat, 2012). There is emerging research in the field of m-learning to facilitate language acquisition. Second language learners with mobile devices now have access to language applications such as dictionaries, translators and websites in the target language (Demouy & Kukulska-Hulme, 2010). Although much of the research focuses primarily on mobile devices as a means of delivering content, Kukulska-Hulme and Shield (2008) looked at ways in which they could facilitate language learning. In particular, they reviewed how mobile technology could support speaking activities. Mianagh and Nezarate (2012) point to several affordances of the mobile device that pertain specifically to pronunciation: self-created recordings (known as podcasts), the ability to re-record and the potential for immediate audio feedback (Mianagh & Nezarate, 2012).

Podcasting

Under the MALL umbrella is podcasting, which is, basically, a digital audio recording. Anyone can create their own podcast with simple, user-friendly programs, and basic equipment: a computer or digital device and a microphone (Abdous, Facer & Yen, 2012). Instructors create Podcasts of course lectures, vocabulary, discussions and review material, which are then uploaded to the Internet via iTunes (Abdous, Facer & Yen, 2012). Students are able to acquire information via their mobile device anywhere and at any time to accommodate their specific learning needs. Despite the many conveniences of using iPods and podcasts, there is still much debate surrounding their effectiveness as educational tools in a second language context as they have been mainly employed as a tool for content review (Demouy & Kukulska-Hulme, 2010). However, podcasting can be divided into three categories proposed by McGarr (2009): substantive podcasting (where the teacher provides essential course content via podcast), supplementary podcasting (additional materials), and creative podcasts (student-created), the latter of which is considered to provide a richer learning experience. These categories help us define different ways in which podcasting can be

used as an educational tool to enhance language skills and especially pronunciation.

Instructional uses. In recent years, podcasting has become more prevalent in educational settings (Abdous et. al, 2009). Much of the literature points to podcasting as a supplemental instructional resource rather than a tool for enhancing the learning experience (Bongey, Cizadlo & Kalmbach, 2006; Huntsberger & Stavitsky, 2007; Kukulska-Hulme & Shield 2008; Abdous, Facer & Yen, 2012). Yet, there has been little research looking at the "effectiveness of different instructional uses of podcasts in language acquisition" (Abdous, Camerena & Facer 2009, p. 78). Abdous, Camarena and Facer (2009) found that podcasting and the use of podcasts have been used by teachers in language learning primarily as a method of providing material for final exam review, which falls into McGarr's second category of supplementary podcasting (Abdous, Facer, & Yen, 2012). However, to investigate this, they conducted research at the post-secondary level with students enrolled in upper-level language courses such as French, Japanese, German, Spanish and English. Specifically, they looked at two different methods of instructional uses of podcasts: PIC (podcasts integrated into the curriculum) that ask students to use podcasts as assignments and PSM (podcasts as supplemental material) such as vocabulary review and lectures notes. Surveys and interviews conducted with students and instructors show that PIC were most effective in language acquisition. It was found that when podcasts were integrated into the curriculum and linked to specific outcomes, they were effective in improving vocabulary, language acquisition, oral and aural skills (Abdous et. al 2009). To integrate podcasting into the curriculum of a second language classroom, educators must focus their attention on how to utilize podcasting to promote oral communication and improve pronunciation skills. As previously mentioned, instructors use podcasts to provide students with lectures, vocabulary, discussion topics and review material that can be accessed any time and anywhere, which promotes individualized learning (Vess, 2006; Abdous et. al, 2009). Palmer and Devitt (2007) disagree with such instructional uses of podcasts and explain that this "is associated with passive learning" as it is not student-created content. If educators follow McGarr's (2009) third category of podcasting (creative podcasts) these are integrated into the curriculum and will enhance the learning experience, which could be applied to language learning for pronunciation and speaking skills.

Fostering Creativity. In moving towards active learning, it has been suggested

that students become the content creators. A study by Dale (2008) produced positive results that linked their creative experience with deeper learning. The study challenged the passive learning associated with podcasting and m-learning by moving towards creative podcasts. Students are often not the creators of podcasts, which limits their educational gains (Abdous et. al, 2009). To use podcasting as an active learning tool, it has been important to think about using it in different manners. A Podogogy project was initiated to promote creativity and enrich the learning experience (Dale, 2008). Post-secondary students involved in the project were from different educational backgrounds including: music, dance and performance (Dale, 2008). Students were to create their own podcasts for their particular subject areas using their iPods / MP3 devices (Dale, 2008). Podcasting in this instance was effectively integrated into the curriculum asking students to create their own content. These principles worked effectively in several different subject areas and could be applied to a language context.

Enhancing L2 pronunciation. Prior studies suggest that podcasting can support language learning (Kurtz, Fenwick, & Ellsworth, 2007; Copley, 2007; Evans, 2008). Despite some research in the field of language acquisition, Ducate and Lomicka (2008) found that there is a lack of empirical studies that specifically deal with podcasting to support L2 pronunciation. Thus, they designed a study to look at how podcasting could improve pronunciation skills in a foreign language. Participants were post-secondary students, whose first language is English, and who were enrolled in intermediate language courses of French and German. Students created 8 podcasts in total: 3 scripted, 2 self-created and 3 extra podcasts. These podcasts were rated using a 5 point scale by one NS and one NNS of each language. The raters looked at comprehensibility and accentedness. As well, students completed a pre- and posttest survey called a PAI (pronunciation attitude inventory) (Ducate & Lomicka 2008). Despite the efforts of the study, the results showed no difference in comprehensibility or accentedness, which could be due to the fact that pronunciation was not explicitly taught in the course (Ducate & Lomicka 2008). Another study involving podcasting and pronunciation conducted by Demouy and Kukulska-Hulme (2010) found that students' oral skills improved. This occurred because the activities were 'authentic', meaning, students were responding to information orally, and spontaneously using the grammar, syntax and vocabulary learned, which enabled a deeper understanding of the L2 and produced better

pronunciation and speaking skills (Demouy & Kukulska-Hulme, 2010). Although the research field of MALL and podcasting are gaining momentum, there are still several hesitations.

Limitations of Mall and Podcasting

As with CALL, many instructors choose the technology first and consider learning objectives later (Chinnery 2006). Despite the multitude of available applications for language learners on mobile devices, the most commonly used language tools have been the translator applications and programs (Chinnery 2006). These, of course, are useful. However, they simply perform the same task as physical dictionaries found in the classroom. There are interactive applications that are not utilized to their fullest such as to practice grammar, listening and pronunciation - activities that cannot be offered by a book. So a disconnect exists with what the tool offers and what language instructors and learners use to achieve their language goals. Implementing and using podcasts does require some technical skill and familiarity with technological systems (Abdous et. al, 2009). This can often be a deterrent for some users. Producing, uploading, and downloading podcasts necessitates knowledge of the tool to do so. However, todays' tools are becoming increasingly simple and user-friendly. As well, podcasting can also overwhelm learners with limited time and other tasks to complete. If the tool only provides supplemental and not essential activities, learners may be dissuaded from using podcasting as a learning tool (Abdous et. al 2009).

Conclusion

After several years of French instruction, students should be able to communicate at a basic level both in written form and orally. Unfortunately, this is not always the case. Although speaking is one of the four main components of language acquisition, it is addressed too infrequently in classrooms. The deficiency of pronunciation instruction is due to several factors including: lack of teacher training, various learner needs, other foreign languages and first languages (L1s) competing with the acquisition of L2, and other parts of the language that are seen as more important (Levis 2008). However, in recent years, technological tools such as CALL, MALL and specifically podcasting have become a focus for improving language acquisition and

specifically pronunciation. The 21st century digital tools available to us such as mobile devices could help this language goal. We need to look beyond CALL programs towards devices that students carry with them every day. There is a lack of research in using iPods and podcasting in language learning, especially in a secondary setting. This stems from the perception that iPods are purely for entertainment (Abdous et. al, 2009). People have difficulty seeing them as powerful learning tools. In order for podcasting to be viewed as educational, the methods of instruction and the types of podcasts used in second language instruction need to be further developed. Thus far, we take new technologies and couple them with current methods of instruction, often without having specific learning objectives in mind. For instance, French speaking and pronunciation skills need to be improved. So, one must choose a tool that could facilitate this need: the iPod. The affordances of the tool itself promotes speaking and pronunciation skills as it provides immediate audio feedback so students can hear and judge their pronunciation as well as develop the ability to correct themselves. This study aimed at honing pronunciation skills through the use of mobile devices and simple user-friendly applications that provide the language learner with an ear for the language.

Research Purpose and Questions

The purpose of this study was to investigate the use of the iPod Touch and podcasting as a vehicle for pronunciation improvement through immediate audio feedback in beginner French 8 High School students. Without reverting to phonetics training or computer-based speech visualization programs, teachers can use simple features of handheld mobile devices to assist students in identifying and correcting their own pronunciation errors to improve communication skills. The study focused on two main research questions:

1. Can daily use of the iPod Touch to record and playback audio recordings improve students' pronunciation more than teacher modeling and practice with a peer alone by enabling students to identify and correct their pronunciation errors after listening to their recordings?

2. Did error rate improve from pre- to posttest in both groups?

3. Did error rate of the posttest differ across the experimental and control groups?

3. Methods

Research Methodology and Design

To investigate whether the iPod Touch and podcasting could facilitate improvements to French pronunciation through the use of immediate audio feedback for beginner language students, a quasi-experimental design was implemented for six weeks. It included a convenience sampling of two intact classes of French 8 students, who completed two questionnaires, a pre- and posttest and weekly speaking tasks. One class received the iPod intervention while the second served as a control group. A class set of iPod Touches from the school district were obtained for this study. The instructor created a pretest, which was a script that incorporated familiar vocabulary and grammatical structures from the course curriculum. The pretest was given to all participants in the study. This served as a baseline of participant pronunciation. Afterwards, all students were given weekly speaking tasks to practice and hone their pronunciation skills daily and to practice their weekly scripts with peers and the instructor. Teacher modeling for all students not only included the correct pronunciation of vocabulary, but also how to discern a mispronunciation and self-correct to mimic the instructor's pronunciation. To help with further pronunciation, participants were also assessed on their weekly speaking tasks by the instructor using a rubric. In addition to peer practice and teacher modeling, the experimental group used the district iPod Touches daily to practice pronunciation, thus, providing opportunity to record and playback their practice podcasts, listen to their pronunciation and assess whether is was correct or incorrect. The control group did not have access to the iPod Touches. After six weeks, all students completed a posttest podcast. The pre- and posttest podcasts generated audio data that was transcribed phonetically to examine participant pronunciation for identification of mispronunciation. The results of the pre- and posttest were compared within each group and across groups. The full scope and details of the study are further described.

DETAILED METHODS

Participants

Participants, selected using convenience sampling, were in two intact beginner French 8 classes from a High School in Surrey, BC. These are semester courses that meet daily for five months. They were selected because they were available, both being taught by the author. These classes were also chosen due to the author's familiarity with using podcasting as a part of the regular classroom activities. The grade 8 level was chosen as this is the beginner level of French where pronunciation is new and typically begins with learning the French alphabet. Each class served as a treatment group. The experimental group consisted of 31 students divided evenly among gender with 16 boys and 15 girls and was chosen as such as their class was conducted in a classroom in the school. The control group comprised of 28 students with 15 boys and 13 girls and was chosen since it was conducted in a portable and transporting a 150 pound iPod cart was not feasible on a daily basis and strongly advised against due to technology thefts in portables. Students in both groups are of similar ages ranging from 13-14 years. Participant names were not used in the study. To preserve participants' anonymity, each was assigned a random number.

Instruments

iPods. A class set of 20 iPod Touches was acquired for a period of 7 weeks from the school district along with 20 microphones/headphones, 1 syncing laptop and 1 mobile cart. These iPod touches were used daily by the experimental group to practice pronunciation for the weekly speaking tasks. Participants in the experimental group recorded and played back their speech to receive immediate audio feedback. Since there were only 20 iPods in the cart, many students used one iPod between two or three people. A detailed description of how this worked is provided in subsequent sections. The control group did not have access to iPods. Each iPod Touch was outfitted with the podcasting applications iTalk and French Word Wizard to assist in pronunciation practice. iTalk is a voice recording application students used during the week to record and immediately listen to their practice podcasts. Students' iPods also were equipped

with French Word Wizard. This application had a moveable alphabet that students could use to spell French words. Once the word was spelled, there is a microphone icon that students touched and the word was pronounced for them. Due to the size of these classes, this application was chosen to aid in pronunciation. Students were instructed to use this application for any words they were not sure of how to pronounce and if they could not get assistance from the instructor. So, while practicing for their weekly podcasts using iTalk, if they came across a word of particular difficulty, or if they had forgotten how to pronounce a particular word, they could listen to authentic francophone pronunciation and mimic its pronunciation.

iTalk is a voice recording application that was installed on the instructor's iPod. It was used to record all the students' weekly podcast, and the pre- and posttest

Assessment sheets. Between the pre- and posttest, participants weekly speaking tasks were assessed by the instructor and graded for the course. Participants' grades were not included in the study, as these do not pertain to the purpose of this study. However, the assessment sheets provided to participants after each weekly speaking task are pertinent to this study as they provided participants with the ability to identify their pronunciation errors for future corrections. Figure 3 illustrates the assessment sheets students received after the weekly podcasts.

The assessment sheets were filled in by the instructor every Friday for students in both groups after the weekly podcast and were returned to students on the following Monday. The assessment sheet included one area of strength, where the instructor could mention a particular word or phrase students pronounced very well; one area for improvement, where the instructor wrote a particular phoneme (sound) or an entire word or phrase students were having difficulty with; and a mark based on a rubric, which required students to correct previous pronunciation errors in order to receive full marks on the following weekly podcast.

Date: Podcast #:	Date: Podcast #:	Date: Podcast #:
Are the weekly elements fulfilled ? Pronunciation strengths: Focus for next podcast:	Are the weekly elements fulfilled ? Pronunciation strengths: Focus for next podcast:	Are the weekly elements fulfilled ? Pronunciation strengths: Focus for next podcast:

Assessment Rubric

10	8	6	4
All weekly elements are fulfilled. It is evident that the student worked on and mastered their weekly focus. The podcast is grammatically accurate. The pronunciation is completely accurate.	There are missing elements. The student worked on their focus but did not completely master it. The podcast has some grammatical errors. The pronunciation is somewhat accurate.	There are missing elements. The student did not work on their weekly focus. The podcast has many grammatical and pronunciation errors.	The podcast is incomplete. The student did not work on their weekly focus. The podcast has an abundance of grammatical and pronunciation errors.

Fig. 3 – Weekly podcast assessment sheets

Laptop. The instructor's laptop served as a database for data collection so that the audio files would not be accidentally deleted by students recording the weekly podcasts.

Podcasting. Podcasting has often been used by instructors to deliver course material such as vocabulary in language classes and course content in other subjects (Derwing & Munro, 2005). Here, podcasting was the vehicle for daily work on pronunciation and provided immediate audio feedback on beginner French pronunciation. For the experimental group, there were two types of podcasting: daily practice podcasting on district iPods and assessment podcasts on Fridays using the instructor's iPod. The goal of the practice podcasts was for the experimental group to practice recording and re-playing their recordings so they could listen and receive immediate audio feedback about their pronunciation skills to, identify and plan to correct mispronunciation. The audio files from the practice podcasts were not kept as these were merely for student practice. Some students recorded several times each day to ensure they had perfected their pronunciation. While it took others the entire allotted

class time to record one single practice podcast as they were busy using the French Word Wizard application to assist them in pronunciation. The control group did not use iPods for daily practice. Instead, they practiced for the weekly assessment podcast orally with peers and the instructor. The weekly assessment podcasts occurred every Friday for both groups. These consisted of student- and teacher-created scripts. Weekly podcasts were recorded by a volunteer from each group who played the role of 'Podcaster of the Week.' Using the instructor's iPod, this person was in charge of holding the microphone, recording each student's podcast, including their own, and saving each file to the iPod under student names. Students were chosen for podcaster of the week was a different volunteer each week to avoid bias or influence the instructor may have had on students during the podcast. After each week, all student podcasts were uploaded to the instructor's computer and kept in folders under each student's name. These audio files were collected as data and kept for analysis. At the end of the day, the teacher listened to each podcast while filling out the assessment sheet that was returned to students the following Monday.

Procedure

Consent forms. Once receiving permission from the principal of the secondary school, the school district as well as the Simon Fraser University ethics review board, students were given a parental permission form and a student assent form. Parents and students read, signed and returned their forms to the instructor. The main objective of the study and its procedures were explained to students. They were assured that their names and classroom percentages were not part of the study. Students were told that at any point they could withdraw from the study without penalty of any kind but, since the use of podcasting for aiding in pronunciation was a normal classroom procedure, if they chose not to take part in the study, they would still need to complete the weekly podcasting assignments. Students received feedback and a grade for each weekly speaking activity. They were told that that the research was concerned only with error rate across the pre- and posttest (see below for full description). Parents and students were invited to receive the results of this research from the instructor. Within the experimental group, 28 of 31 students submitted consent forms. In the control group, 18 of 28 students submitted consent forms.

Questionnaire. Before beginning the study, students answered a brief questionnaire, which included six questions asking about other languages students might speak at home and prior French instruction they may have had in their elementary schooling:

Background information

1. What was your first spoken language?
2. What language(s) do you mostly speak at home?
3. How many languages do you speak? (name them)

French language class

4. What grade did you start learning French?
5. How much French speaking practice did you do in French class before this year?
6. Not including this year, what was your attitude towards learning French.

The first two questions asked students of their first spoken language or if they speak a language other than English at home. The justification for this is that it was hypothesized that students in the district were plurilingual. Some may have learned English as a third and even fourth language, which raised several questions pertinent to this study. For students whose first language was not English or who predominantly speak another language at home, does this hinder, help, or not effect their French pronunciation? Which other languages dominate or assist their acquisition of French pronunciation? The next 4 questions asked students about their previous education in French.

Pretest. After the questionnaire, students in both groups were given a pretest the following day. The instructor created a pretest script that incorporated vocabulary, grammatical structures and phonemes that appear in the curriculum and FSL 8 course. Developing a script incorporating too many phonemes was not feasible given the timeline for this study and the language level of the students. Thus, seven phonemes were chosen from the curriculum to appear in the script, which include:

Consonants - [ʁ] (regarder) and [k] (Qu- as in Quel) and [ʒ] (j - je suis)

Vowels - [y] (tu) and [u] (vous) / [ɥ] (fruit)

Nasal vowel - [ã] (chambre, banque)

These phonemes appeared several times throughout the script and were incorporated into the weekly practice podcasts. The phonemes [ã], [k], [u] were chosen since their letter combinations appear in both French and in English, but are pronounced differently in each language. Often, students will use their first language to pronounce particular letter combinations rather than adopting the French pronunciation of the same letters. The phonemes of [ʁ], [y] [ɥ] and [ʒ] were chosen due to their uniqueness to the French language and their difficulty for beginners to emulate. These phonemes play a significant role as they appear frequently and were used to judge student pronunciation over the course of the study. Each of these phonemes appeared multiple times in the script to ensure that participants had more than a few chances to demonstrate their pronunciation of those phonemes and correct themselves. Also, the position of each phoneme can sound slightly different depending on where in the word it occurs. For instance, the word “nourriture” has two appearances of the phoneme [R]. The first occurs after the phoneme [u] and this can be easier for learners to pronounce than the second [R], which follows a difficult phoneme [y]. As well, the second [R] occurs within ...ture... which has a different pronunciation in English and students might revert. Participants did not pre-read or see the pretest script until they were podcasting. A grade 11 French Immersion female student was asked to be the podcaster for the pre- and posttest. This was done so that the instructor was not performing the pre- or posttests, which could have led to student anxiety. This also ensured that the instructor did not aid student pronunciation or re-record their podcasts for better results. This same student came to classes twice a week for three weeks prior to the commencement of the study for two reasons: 1) to be introduced to the students so they would feel comfortable with her and 2) so the senior student could better understand the scope of the project and learn to use the equipment. She was not instructed on how to assess pronunciation as this could have affected the findings. A desk with two chairs was set up outside of each classroom in a quiet hallway, or in the case of the portable class, in the adjacent empty portable. At the desk sat the senior student with the scripted pretest, the instructor’s iPod Touch and microphone as well as a list of student names. The order of students’ podcasts was predetermined by the instructor by choosing student names at random. Participants were instructed to go outside one-by-one and sit with the senior student and they were given the prepared script to read. Students were not nervous to do this and did not consider these actions to be out of the norm as this was a common

classroom practice. Each week the senior student would present to them a French passage or vocabulary list to read as a practice podcast, and I, as the instructor, would review their practice and give them guidance on their pronunciation. The only pronunciation they had gone through in the course was to learn the French alphabet, which they podcasted previously and one other podcast where they selected five sentences from their French booklets and podcasted these sentences onto the instructor's iPod Touch. Their pronunciation instruction and practice was limited to learning to sing the French alphabet in class with the aid of the instructor and the subsequent five sentences they had selected to record. Once students were outside with the senior student. Students were given the script and were allowed to read it through in their head once before recording. Then, the senior student would press record on the iPod Touch and hold the microphone up for the students to read aloud. Once the student was finished, the next student was asked to go into the hall for a podcasting. Students were not informed that this was a pretest. It was just explained that it was part of our speaking routine. I justify this mild deception, as I did not want students to be too concerned with how they did. I wanted them to read without stress or fear.The aim of the scripted pretest was to gain a baseline of student pronunciation without practice prior to commencing the treatment. Every student has had a different experience with regards to their French instruction and French pronunciation instruction. Thus, it was important to understand at what level every individual started. Both groups received the same conditions for the pretest with the exception that since the control group's class is located in a portable, the senior student set up the same podcasting station in a nearby empty portable as it was quite rainy outside. The pretests took between 2 and 3 minutes each to complete and all were completed within one class period. Once the pretests were completed, the audio files were uploaded to the instructor's computer and filed in each student's file and labeled as *pretest*. During the next few weeks after the pretest, students were engaged in creating their own podcasts to improve their pronunciation.

Weekly podcasts. After completing the pretest, students in both groups began pronunciation practice. Each Monday, all students wrote a 10 sentence French script based on teacher instructions that required particular vocabulary, grammatical structures and specific phonemes. It was noticed early on that students were selecting to write very short sentences that did not include the assigned phonemes. Thus, in subsequent

weeks, students were assigned 5 sentences to include and invited to create another 5 themselves. The instructor checked and corrected all written scripts prior to student practice to ensure students practiced particular pronunciation. Once the scripts were written, the instructor modeled correct pronunciation of vocabulary words, grammatical structures and phonemes. And, if a portion of the sentences were part of a mandatory script, these sentences were first modeled by the instructor and afterwards, students would repeat in unison several times. Then, all students were given 5-10 minutes at the beginning of each class during the week to practice reading their scripts aloud to themselves, a peer, the instructor, and in the case of the experimental group, recording them using an iPod Touch before podcasting on Friday. At times, students asked each other how a particular word or phrase was pronounced. However, for the most part this was not the case. Students were not instructed on how to assess their peer's pronunciation, as these students are beginners having just learned the French alphabet a month prior. It seemed unjust to request that students peer assess at this level. During the time allotted to practice with peers, the instructor circulated to correct, model and reinforce pronunciation. Thus, both groups received teacher modeling and peer practice.

Aside from teacher modeling and peer practice, students in the experimental group used an iPod Touch to practice by recording and listening to their podcasts. Since there were only 20 iPods, the students sat with partners and practiced recording and listening to each other's practice podcasts. On Fridays, after having practiced reading aloud their scripts, both groups recorded their podcast of the week to be assessed outside the classroom with the 'Podcaster of the Week', a volunteer from the class. This podcasting assessment was part of the regular classroom procedures and not part of the study. However, these data are included in this report as they directly relate to how students gained awareness of their pronunciation and developed ability to recognize error and self-correct, which will have an influence over their pronunciation for the posttest. Below, Figures 4 and 5 illustrate the daily procedures of each group for the weekly podcasts:

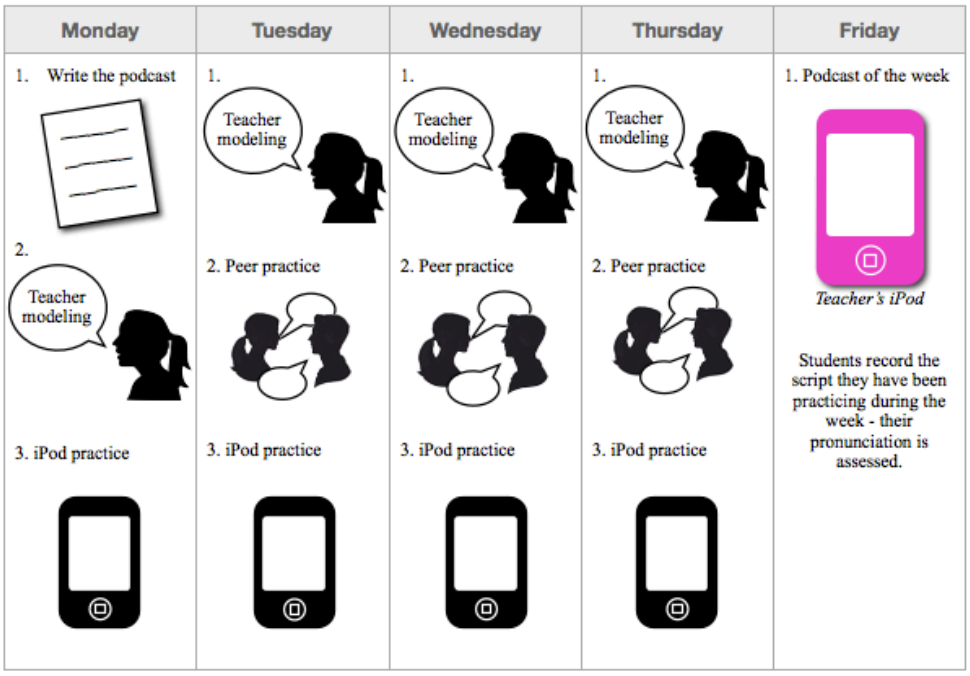


Fig. 4 – Experimental group weekly schedule

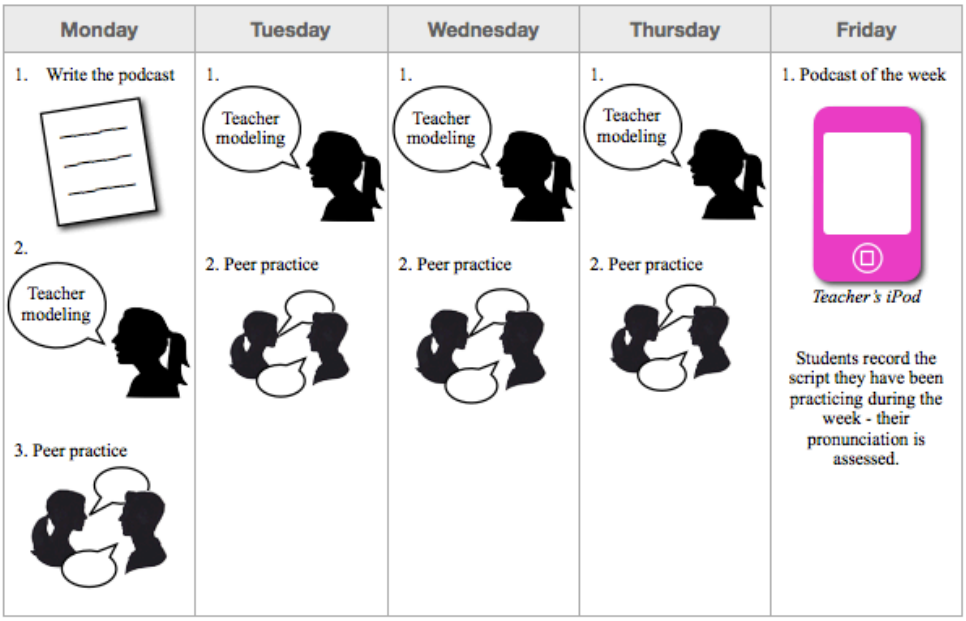


Fig. 5 – Control group weekly schedule

The weekly assessment podcasts were uploaded to the instructor's computer and kept as a reference for the mid-point assessment with students. Mid-way through

the study, both groups had a one-on-one session with the instructor. Students sat next to the instructor with two sets of headphones connected to the instructor's computer. Students listened to the scope of their pronunciation up until that point beginning with their alphabet song, to their pretest to each of their subsequent weekly podcasts. The instructor pointed out pronunciation areas of strength and also a few areas needing work. It was deemed important to do this so that all students would have a chance to have one-on-one instructor feedback while listening and receiving audio feedback from all of their podcasts. During this process, the instructor could directly pinpoint areas of weakness to work on for classroom assessment.

Posttest. After 6 weeks of practice podcasts, the posttest was administered in the same way as the pretest with a senior student. Students were given the same script they had read for the pretest. Again, they sat outside the regular classroom, in the hallway or an adjacent portable for the control group. The senior student recorded the posttest podcasts. The students did not have access to the script during the 6 weeks of pronunciation practice. The day of the pretest and posttest, they were allowed to read it once to themselves prior to recording. All posttests were recorded in one class period with the exception of one participant in the control group who was absent due to a family funeral. This student recorded the posttest podcast three days later.

Final Questionnaire. A questionnaire seen in Figure 6 was developed to seek new information regarding the students' perceptions of the podcasting practices. I really wanted to know how students felt about podcasting in beginner French class and if they judged their pronunciation improved. Also, I wanted to gain new insight into other tasks we could perform in French class while using a digital device such as the iPod Touch to foster French language skills. Thus, four questions were developed for each group. Most of the questions were very similar with some variation due to the nature of each group's pronunciation practice experience. The final questionnaire was given on the last day of class after students completed writing their final exams for the course. Students participating in the study were told not to write their names on the survey to preserve anonymity. All students completed the survey, even those who had not submitted their permission forms, but these were kept out of the study and were only used as a reference for future beginner language course activities.

Experimental group final questionnaire:

1. Describe your experience of using iPods to practice French-speaking skills.
2. Did you enjoy or not enjoy using iPods to practice French-speaking skills? Explain.
1. Did you feel that using iPods and the weekly podcasts helped your French speaking skills? Why or why not?
4. How else would you use iPods for French language learning?
   (Suggestions for the future)

Control group final questionnaire:

1. Describe your experience of podcasting each week to practice speaking skills.
2. Did you enjoy or not enjoy podcasting almost each week to practice French-speaking skills? Explain.
3. Did you feel that podcasting each week helped your French speaking skills? Why or why not.
4. How else would you use iPods for French language learning?

DATA COLLECTION

Baseline Questionnaire

A baseline questionnaire was given to students prior to commencing the study. It was originally intended to get a base of knowledge regarding participant's educational backgrounds in French up until this point. It was also used as it is commonly perceived that the students in the area are plurilingual and the study aimed at looking at this plurilingualism as another variable in the study. For instance, many students will revert to English pronunciation of French if English is their first language. At times, first language pronunciation can interfere with the pronunciation while learning a new language. It was also essential to gain an idea of the students' French speaking practice up until that point as perhaps they would have received much speaking practice and that the independent variable in the study would not have worked as students had already a great base of pronunciation knowledge.

Final Questionnaire

A post-questionnaire was given to students on the last day of the class after the end of the study. The questionnaire centered around how students perceived their French pronunciation education. There were two questionnaires: one tailored to the experimental group and another for the control group. Both centered on asking

questions about the students' perception of French pronunciation training and whether they judged it had improved. Only four questions were asked on each questionnaire. This post-questionnaire was also given to students as the results would take time to process and the researcher felt that student perceptions of their pronunciation education, improvement, or lack of improvement was a valuable key to understanding pronunciation training in second languages.

Pre- and posttest data

The pre- and posttest were administered in each group by a grade 11 French Immersion student. This Grade 11 student entitled each podcast pretest as PRE+first name (e.g. PREsonya). The pretest required one class for each group. Once the Grade 11 student was finished recording all of the pretests, they came back into the classroom and uploaded the pretest podcasts to the instructor's computer.

Observations

I recorded anecdotal observations during the entire course of the study to characterize student behaviors and comments, the Grade 11 student comments and my own observations. These records provided subjective accounts of events during the study.

DATA ANALYSIS

Podcasts

The podcast audio files were divided amongst two folders on the instructor's computer: experimental group and control group. Within each of these folders there was a folder created for every student and labeled with the student's first name and a randomly selected number. The latter would be used in the report and during data transcription to avoid bias and preserve anonymity.

Transcription. Prior to the transcription of the pre- and posttest podcasts, the international phonetic alphabets (IPA) for both English and French were obtained and printed. These served as a point of reference for the transcription process. Beginner French students will attempt pronunciation in French, but will often revert back to English pronunciation as this is their L1 and default pronunciation for difficult and unknown

words as well as those that resemble English but are pronounced differently such as ‘moi’ is pronounced [mwa] in French but [mɔj] or [moi:] as in an English pronunciation of the grapheme ‘oi’. Transcription sheets were created corresponding to each line of the pre- and posttest written phonetically. It included the correct phonetic transcription of each sentence and a space left for the transcription of the students’ pronunciation. (See appendix for transcription sheet.) A few sample transcriptions were done to create a codebook that would simplify the transcription process, avoid discrepancies and help keep transcription consistent. Common student errors with pronunciation were recorded in the codebook. After the sample transcriptions were completed and the codebook created, all 90 audio files were transcribed phonetically. I listened to each audio file and transcribed each student’s pronunciation for the pre- and posttest using the IPA. (See appendix for the codebook). A transcription sheet for each participant, group and test was labeled prior to transcription. All of the sheets were selected at random from a pile to avoid favoritism and bias. After transcription, the total number of errors for each participant was manually counted for the pre- and posttest using the code book to verify.

The study scored on a full range of errors rather than focusing on particular phonemes. Errors were scored based on any phoneme mispronunciation and not simply the phonemes incorporated into the script. The study was interested in improving overall pronunciation rather than investigating certain phonemes. These were tallied and recorded in the statistics program SPSS, which was used to generate the results of the statistical analysis. The results describe the total number of errors made by participants.

Baseline questionnaire

The baseline questionnaire given at the beginning of the experiment was reviewed. Each answer was recorded and tallied. The results of this questionnaire are given in the following section.

Final questionnaire

The final questionnaire given at the end of the project was filled in anonymously by participants. The answers to the questions were read several times until themes emerged. These themes were recorded and participant responses were organized and recorded according to theme. The results are discussed below.

4. Results

Sample Description

In total there were 45 participants who had submitted their consent forms. There were 22 boys (49%) and 23 girls (51%); the mean age was 13 years. The control group had (n = 18) with 10 boys and 8 girls. The class size was already small, but many of the participants did not submit their consent forms after 6 weeks of the experiment with multiple reminders and emails home. The experimental group comprised of (n = 27) with 12 boys and 15 girls. The majority of this group submitted their consent forms. Gender was not a contributing factor in this study but could be further investigated.

Preliminary Analyses and Results

Standard descriptive statistics tests were performed. As well, visual charts including histographs, stem-and-leaf charts and box plots were generated to use as a visual comparison between groups. Afterwards, paired t-tests for the pre- and posttest of each group were performed. Separate independent t-tests were performed to compare data across control and intervention groups.

Pretest results

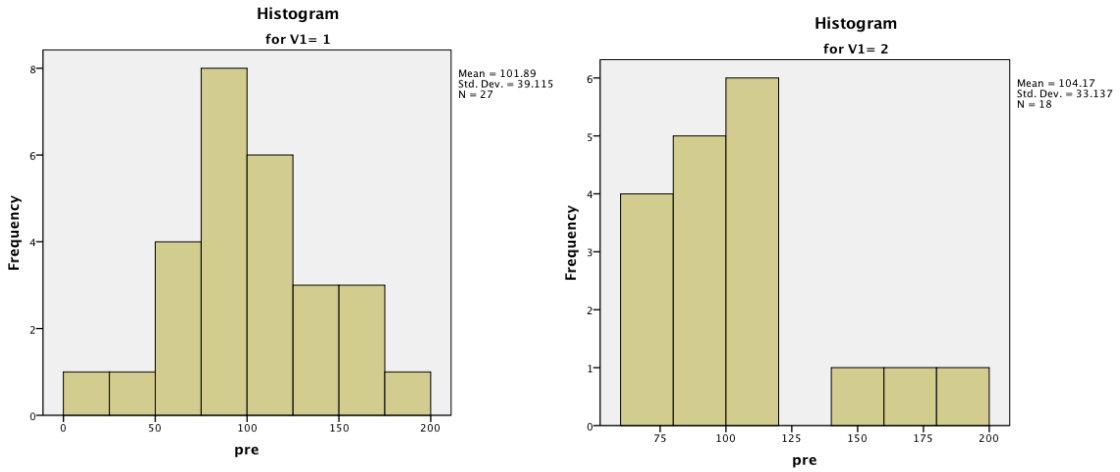
The pretest data was examined within each group with descriptive statistics. As shown in Table 1, the mean error count for both the experimental and control groups on the pretest was very similar. Thus, both groups are at similar levels prior to the experiment taking place.

Pretest						
	Mean	SD	Min	Max	Skew	Kurtosis
Experimental	101.9	39.12	24	199	0.403	0.584
Control	104.17	33.14	61	189	1.23	1.46

Table 1 – Pretest descriptive statistics

The histograms in Figure 6 of the pretest scores reveal a relatively normal shape for the experimental group but not, the control group. Nonetheless, skewness and kurtosis statistics did not indicate important departures from normality. Small group size likely gives rise to the visual effect of non-normality. A t-test comparing the groups on errors revealed there was no statistically detectable difference either in means or variances.

Fig. 6 – Pretest histograms



Posttest

Descriptive statistics were also used to analyze the posttest (See table 2). Means reveal a reduction in errors across both groups.

Posttest						
	Mean	SD	Min	Max	Skew	Kurtosis
Experimental	79.93	32.96	13	160	0.168	0.929
Control	95.72	25.97	61	143	0.678	-0.374

Table 2 – Posttest descriptive statistics

Comparison of posttest scores on the posttest showed the experimental group had fewer errors with a probability of type I error equal to .095. Traditionalists would typically not consider this a statistically detectable finding. However, as this was a small exploratory research study and cost of declaring a detectable difference is slight, I interpret the intervention led to a marginal improvement over the control group.

Below are the results explained in terms of the previously framed research questions:

1. Can daily use of the iPod Touch to record and playback audio recordings improve students' pronunciation more than teacher modeling and practice with a peer alone by enabling students to identify and correct their pronunciation errors after listening to their recordings?

Essentially yes. The experimental group had fewer pronunciation errors than the control group even though both groups saw improvement from the pre- to posttest.

2. Did error rate improve from pre- to posttest in both groups?

Error rate did improve from pre- to posttest in both groups based on the statistical analysis. In figures 7 and 8, a paired samples t-test illustrates that both groups saw a decline in error rate from pre- to posttest. The mean scores describe a decline in errors. However, the experimental group had a much larger decline with a mean of 21.96 decline in errors when compared to the control group who saw only an 8.44 reduction in mean score.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre	101.89	27	39.115	7.528
	post	79.93	27	32.956	6.342

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pre & post	27	.902	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	pre - post	21.963	17.021	3.276	15.230	28.696	6.705	26	.000

Fig. 7 – Experimental group t-test results comparing pretest to posttest.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre	104.17	18	33.137	7.810
	post	95.72	18	25.972	6.122

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pre & post	18	.922	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	pre - post	8.444	13.618	3.210	1.673	15.216	2.631	17	.018

Fig. 8 – Control group t-test results comparing pretest to posttest.

It is often thought that practicing anything on a regular basis will lead to an improvement. This investigation was no exception. Practicing French pronunciation on a regular basis led to an improvement in student performance of pronunciation.

3. Did error rate of the posttest differ across the experimental and control groups?

Error rate of the posttest differed from the experimental to the control group as seen in

Tables 1 and 2. As mentioned above, there was a decline in pronunciation errors across both groups. However, there was a marginally greater decline in pronunciation errors for the experimental group.

Baseline questionnaire

The baseline questionnaire results revealed that the majority of the participants are native English speakers. Only 8 students in the experimental group and 6 in the control spoke another language or two. It is a commonly believed that the majority of students in the school district do not have English as a first language. So, it was surprising to see these results. The majority of students reported they had begun their FSL education in Grade 5 with some participants beginning as early as Grade 4 or as late as Grade 7. Responses about how much instruction they had received in speaking and pronunciation were not surprising. As one student in the control group remarked, we "...didn't do much speaking practice." Some participants explained "...[they] did more reading and writing" (Participant, Experimental group). Participants also candidly expressed how much they had enjoyed their French education. Their reviews were mixed. Many participants explained they "... liked it … [it was] one of [their] favorite subjects." (Participant, Experimental group). Some expressed that French was: "boring, hate it, waste of time." (Participant, Control group.)

Final questionnaire

The final questionnaire was intended to gain a better understanding of participant experience of using iPods to enhance French pronunciation. Despite somewhat positive results, if students did not enjoy the activity, it would be fruitless to repeat it. Participant responses were organized by theme. It was important to understand what the experimental group found helpful, useful and not helpful about the use of iPods to practice pronunciation.

One participant from the experimental group commented on the alphabetized app that was used to help them pronounce words of which they were unsure. The participant wrote: "The thing I found very useful was that 1 app when you typed in your word and it would say it back, so you know how to say that word." Another participant commented

on how they saw the benefits of the project: “I enjoy using the iPods to practice my French because I get to hear myself saying words and if I need help with pronouncing the words, I just go on the app or ask my teacher.” This statement really struck me as students are typically quite shy when it comes to asking for pronunciation guidance or they are not interested in learning. This participant felt secure and supported by the available tools. Overall, the questionnaire responses from the experimental group revealed that the majority of participants enjoyed using iPods and weekly podcasts to improve French pronunciation. They expressed that they were now seeing their ‘toys‘ becoming learning ‘tools’. As well, some participants felt an increase in motivation to practice speaking and a sense of improvement in their French pronunciation and speaking abilities. The final questionnaire for the control group was slightly different than that of the experimental. This was due to the fact that the control group did not have daily practice with iPods. However, it was still important to gain their perspective on daily pronunciation practice and end of week assessed podcasts as an FSL activity. In these students’ responses, the feeling of improvement was a major theme. Many found that there were improvements in their pronunciation due to several elements such as consistent practice, assessment sheets that identified “what I do good and what I need to correct” (Participant, Control group). As well, students felt as though their pronunciation and speaking were improving “because every time [they] did it, [their] voice felt stronger speaking in French” (Participant, Control group). I conclude the control group benefitted from daily pronunciation practice and weekly speaking assessment. The abilities of the iPod Touch were of most importance in this study. Teacher modeling and peer practice are important in the acquisition of proper pronunciation as one student from the control group writes: “When you practice more, you get to speak more and you get better at pronunciation and speaking.” However, the advantages of the iPod Touch playback feature enabled students in the experimental group to hear themselves and not solely rely on the commentary of a secondary person that may not be able to recreate their original pronunciation to correct it. One participant from the experimental group explained that using the iPod playback feature “...helped because I could listen to what I was doing wrong.” Students were able to hear what they had said and recognize whether and how their pronunciation was incorrect, setting a stage for correcting it.

ANECDOTAL OBSERVATIONS

Observations of student comments and behaviors were made during the course of the study. While students were not instructed on how to assess each other's pronunciation during peer practice, it became apparent that they had developed a sort of discourse surrounding mispronunciation. When students recognized that they made an error in pronunciation during their practice podcasts, the group would erupt in laughter followed by the student who had recorded uttering: "I'm going to do that again." Interestingly, there were several groups who wished to record outside in the hall as it was quieter. A group of three girls would often opt to do this. They would take turns recording their practice podcasts and would listen to each others' recordings. By the end of the study, they would start critiquing each other by giving a positive comment about pronunciation: "I really liked how you said *champignon*" and something to work on: "You should make your 'R' more throaty". These comments are based on the style of comments given by the instructor on their assessment sheets each week. It is evident that these comments were not to be used to formally correct mispronunciations. However, they show that students were becoming aware of their pronunciation and that the metalanguage they used to describe pronunciation errors and corrections was developing independently of the goal of the study.

The podcasts of each week were assessed by the instructor using assessment sheets. Students were given weekly podcast assessment sheets on which the instructor recorded an area of pronunciation strength or an (some) area(s) for improvement as well as a mark based on a rubric included on the sheet. The weekly assessments and grades were not part of the study. However, they are important for students to be aware of the areas of pronunciation on which they need to focus. Moreover, the assessments serve as a practical classroom tool to ensure that all students receive feedback on pronunciation from the instructor, as this may not always occur in class orally with large classroom numbers. Students in the experimental group began emulating the assessment sheet feedback structure in class when practicing with a peer. For example, participants in the experimental group were observed during casual conversation correcting each other's pronunciation. In fact, during podcasting practice, participants were observed commenting on each other's pronunciation making statements such as: "You said that pretty good, but your 'R' isn't throaty enough." (Participant, experimental

group). This type of feedback was not seen in the control group. In fact, no peer feedback was noticed in the control group.

5. Discussion

The implications of this study for French, particularly it's pronunciation, are to show that teachers can utilize every day devices to improve student pronunciation. Pronunciation skills are often not fully pursued as they are considered difficult for beginner language students to truly master. And, the traditional equipment used to improve second language pronunciation is costly, time consuming and difficult to use. Thus, if teachers had a simpler more accessible tool option for improving pronunciation, perhaps this would be a bigger focus in second language classrooms. As well, correct pronunciation gives students the ability and confidence with which to carry out conversations in a foreign language and should be considered a very important aspect of the language and curriculum.

Although the choice to declare a statistically detected effect with p value of .095 is not conventional, it is appropriate to entertain in this study due to its sample size, timeframe and minimal costs incurred if a type I error is committed. Other conditions that were not examined in this study may have contributed to this size of effect. Pronunciation is something that encompasses many facets from age, phonology and speaking development to motivation and other competing languages. Many studies conducted around age and L2 learning often suggest that younger learners are better able to adopt pronunciation of an L2 than older learners (Cummins 1980). For instance, Oyama (1976) found that younger L2 learners (6-10) performed better "on both productive phonology and listening comprehension tests" than older L2 learners. Yet, Cummins (1980) cautions "generalization from these findings is that oral fluency and accent are the areas where older learners most often do not show an advantage over younger learners." (p. 180). He posits that older learners could perform better on "oral production" if there is "sufficient exposure to the L2 and motivation to learn L2" (Cummins, 1980, p. 180). Optimal age for L2 speaking development continues to question the necessity of pronunciation acquisition in beginner L2 courses. Overall, the research indicates that the earlier a learner is introduced to an L2, the better their

chances of acquiring it, especially in the domains of pronunciation. However, older language learners are also able to learn the language and acquire proper pronunciation of the L2 just as well as a younger learners due to other factors including motivation (Cummins, 1980, p. 180).

Motivation is an integral part of any learning, especially L2 acquisition. The information gathered by the baseline questionnaire from both groups provided a glimpse into participants' attitudes towards their FSL education up until this point. There were mixed reviews, but the majority disliked French. This leads to very little motivation to try. As well, many students speak second languages and did not see the point in having to learn French when they could already speak another language. This was evidenced in one student comment from the control group: "I found no need in learning a second language". As well, many students began with a negative attitude such as "I'm not going to do that good in French" (Participant, Control group), and "I am going to fail this class, just so you know" (Participant, Experimental group). These negative attitudes can lead to lack of motivation and this can have an effect on the results.

Another area that could have affected the results was teacher modeling. This provides participants with some pronunciation guidance that they attempted to mimic. However, when the teacher models pronunciation and the class repeats the pronunciation as a group, there are many students who do not participate in the activity. This hinders their ability to practice their pronunciation with a guide and thus, students are not reaping the benefits of the intended purpose of teacher modeling. Peer practice attempts to bridge that gap and allows for students to practice among themselves in a smaller setting. As students practice, the teacher circulates to correct pronunciation. However, this also has limitations. Students at this level are not able to fully correct themselves or their peers. And, the teacher can only correct one student at a time during peer practice and may not be able to correct every pronunciation error exhibited by students. The weekly practice podcasts allowed students to practice their pronunciation and give the teacher the opportunity to assess their pronunciation to provide each student with feedback. However, this feedback is written and given asynchronously, meaning on a different day. So, it is difficult for students to recall their pronunciation from a previous day. Yet, if there were any questions specific to the feedback, students are able to listen to their podcasts again. In fact, if this study were to be carried out for another iteration, as part of the feedback process, I would give written feedback while

having students listen to their podcasts from the previous week. Also, I would have them attempt to correct their mispronunciations. This would ensure that students are hearing their pronunciation accomplishments and mispronunciations while working on tangible and specific pronunciation areas.

The use of the iPod Touch and its playback ability gave participants an additional area of pronunciation support. They were able to record and listen to their pronunciation immediately. During peer practice, the experimental group modified the activity by creating a podcast and asking another student to listen to it. Then, the student would comment on the podcast and point out a couple of errors. This has its faults too, since beginner French students do not have the knowledge to always point out errors. However, the instructor was available and circulating at all times to monitor these conversations. As well, the instructor corrected pronunciation of students who had finished their practice podcasts early.

Future research

Due to budget and time constraints, this study used a very small sample of convenience. If future research were to be conducted in this area, it would be worthwhile to do so with a larger and random sample of participants. Future research should also look to using iPods/iPads or any digital device with audio playback features and pronunciation in the domain of self-correction and self-regulated learning. The idea of self-regulated learning and pronunciation is often overlooked, which is the ability to recognize error on their own and correct it. However, it was witnessed on several occasions in this study and may lead to a fruitful area for future research. Students able to self-correct are often those who understand the language the most as they are able to pinpoint their own errors and use a correction accordingly. Many of the students in this study were observed laughing when they played back their practice podcasts and recognized they had mispronounced a particular word or phrase. And, students often commented that “I totally said that wrong...I’m going to podcast again” (Participant, Experimental group) while engaged in non-assessed practice podcasts. This shows some participants automatically began understanding how to *hear* their own errors with the iPod and were able to correct themselves. Some students naturally began to see that the iPods helped “to solve [their] own pronunciation problems quite a bit.” (Participant, Experimental group). Another area of future research could involve looking

at French pronunciation of particular phonemes. It was too large an area for the current study. However, it would be intriguing to look at which phonemes pose particular difficulty to FSL learners and see if these could be improved. It might also be interesting to look into motivational factors with L2 pronunciation learning and how these can be positively affected by the use of iPods. The final questionnaire of the experimental group revealed that students were "more motivated to practice due to the iPods and weekly podcasts because they definitely improved [student] French speaking skills" (Participant, Experimental group). Whether this proved to be true or not, students felt that using iPods for pronunciation practice motivated them to do so because "it made practicing much more interesting" (Participant, Experimental group).

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Appendices

Appendix A.
Results

Experimental group - Baseline questionnaire results

4. What was your first spoken language

English x 25
Russian x 1
Bisaya x 1
Punjabi x 1
Spanish x 1
Tagalog x 2

1. What language(s) do you mostly speak at home?

English x 28
Italian x 1
Russian x 1
Spanish x 1
Tagalog x 2
Punjabi x 1

2. How many languages do you speak?

1 language x 23
2 languages x 7
(Russian, Eng) (Italian, Eng) (Punjabi, Eng) (Tagalog, Eng) (bisaya, Eng) (spanish, Eng)
3 languages x 1 (Greek, Austrian, English)

French Language Class

5. What grade did you start learning French

Grade 5 x 17
Grade 4 x 8
Grade 7 x 2
Grade 6 x1
Ex - French Immersion students x 2 (grade 1-3) (grades 1-4)

1. How much French speaking practice did you do in French class before this year ?

Not a lot. Simple words. No sentences
Not to much practice it was mostly worksheets.
Mostly singing French songs.
We practiced twice a week (approx.)
The basics.
I did a lot from Grade 5 up.
Not much.
Once a week
Twice a week
Not much/ a little
A little bit
Every day or sometime every second day

Not a lot, I did more when I was younger (grades 1-4 Frim)
I practiced speaking not that much
Every Wednesday and Friday
In elementary, we did it once or twice a week
A little, we did more reading and writing
Every other day in class
Not much
Not very much
Not much
Not very much, just a little
30-40 minute classes of French 1 to all days of the school week
Not much
A little bit
Not much
None
Alot because our teacher spoke French
Not alot
I would only speak French in French classes. I did simple things like: time, weather, date, color, etc.
I did a decent amount of French. Simple things like the date, weather, verbs and adjectives. I had oral practice everyday in Grade 7.

1. Not including this year, what was your attitude towards learning French?

So-so. I was pretty excited.
It was pretty positive because I wantd to know what it was like to speak/learn French.
Good about learning a new language. It was confusing, but I liked it.
I didn't like it...it's confusing.
It was ok
I like French
I wasn't a huge fan
I liked to learn a new language
I don't like French but people tell me I am good at it
My attitude is excited to be learning another language.
I loved learning French
I enjoyed it, and thought it was easy
I was happy to learn another language
It was fun(French)
Wasn't a huge fan
Boring waste of time
It was fine because I knew more French than other people (FRIM 1-3)
I thought it would be interesting to learn another language but hard to do. Overall I had a good attitude towards learning French.
Liked it, one of my favourite subjects
Not good - Wasn't looking forward to it
I did not enjoy French at all
I really didn't enjoy it, because I thought I'll never be the best, but I kind of enjoy it now
I don't like it
I like French and I don't think I have a problem with it and I wouldn't say it's my favourite, but it was fun
Honestly, I wasn't very positive about it even though I still tried to do my best

Control group - baseline questionnaire results

1. What was your first spoken language

English x 26
Punjabi x 2

1. What language(s) do you mostly speak at home?

English x 25
Punjabi x 6

1. How many languages do you speak?

1 language x 22
2 languages x 6 (eng, punjabi)

French Language Class

1. What grade did you start learning French

Grade 4 x 6 (2)
Grade 5 x 17
Grade 6 x 4
Grade 7 x 1

1. How much French speaking practice did you do in French class before this year ?

In grade 6 we did very little/barely any French, but in grade 7 we did more, but not as much, I didn't know very much about French until last year and this semester.
I did 3 times a week for my school.
Not much at all
We learned French twice a week in elementary.
yes I learned numbers, alphabet and certain French sentences.
None.
Not much.
Not very much. It was more learning basic things instead of speaking.
Not a lot.
Very limited.
I did lots of French speaking last year. Our teacher gave us many songs, and projects (notes) to keep and practice.
Once or twice a week.
Minimal
Limited alphabet, subjects, simple adjectives etc.
Like none.
Very little speaking.
We didn't do that much speaking practice.
None really.
In class. We had French grades 5-7 two days a week.
My teacher made us practice speaking French in Private school.
I didn't do much French in grade 5-6 but I learned a lot of French last year (grade 7).
Not much.
Not very much.
Barely any, only had French classes once a week.

A lot.
Hardly nothing
We did most of the basics
1 year

1. Not including this year, what was your attitude towards learning French?

I was very excited because I didn't learn very much french in elementary school, so I was excited to learn new things about French.
Good, since I have a French background, I wanted to learn French.
We did not really do it much.
It was good.
I wanted to learn French. I looked forward to it.
I'm not going to do that good in French.
I did not like it because of my French teacher.
I was excited. I liked it. I found it interesting.
I found no need in learning the second language.
I was open to learning.
I love learning French. I find learning languages fun.
Good because I know quite a bit.
I wanted to learn French in case it's needed for a job.
Willing but didn't really want to
Ok. Usually got A's.
I was excited to learn a new language.
French was one of my favourite subjects.
I really would like to learn another language to speak fluently.
It was really easy.
French was really difficult.
It was fun and one of my favourite classes.
Alright, not my fave.
It was BORING before.
Since we only did it once a week, very rarely so it wasn't a big deal but it wasn't my favourite.
Fun.
Boring, hate it, waste of time
It was going to be really hard
I was excited about learning a different language

Experimental Group - Final questionnaire

categorized by theme

1. Explanation / description of activity

Every week, we would make our write-up of our podcast and practice saying it on the iPods, and we would podcast it on Friday.
I think using the iPods was a good idea. The thing I found very useful was that 1 app when you typed in your word and it would say it back, so you know how to say that word.
We used a moveable alphabet to learn how to pronounce words, we used them to practice and record podcasts.

1. Utility

Learning proper pronunciation using the app

It helped with podcasts learning how to pronounce the words right.

It really helps so you know how your saying and how you should be saying it.
yes, it helped. It helped my pronunciation.
I enjoy using the iPods to practice my French because I get to hear myself saying words and if I need help with pronouncing the words, I just go on the app or ask my teacher.
I did enjoy it because its easier knowing how to say something versus guessing.
I think that doing the podcasts got us to kind of speak in that accent, and iPods helped improve our vocab by using the app to tell us how to say the word.

Playback feature

I enjoyed using the iPods because I liked that we could hear ourselves talking and improving.
I enjoy using the iPods to practice my French because I get to hear myself saying words and if I need help with pronouncing the words, I just go on the app or ask my teacher.
I think it was a good experience. It helped me hear myself better, and practice more.
yes, I enjoyed it. It helped me because I could listen to what I was doing wrong.
I enjoyed using iPods, because they were extra practice, and you could listen how to speak your French by recording it.
I did enjoy using them to practice because I could hear myself and hear what's wrong.
Yeat it was nice to hear how I sound.
Yes. I feel that it helped because we could listen to ourselves and other kids to see how we/they sound.
I enjoyed using the iPods to practice French because I could hear how I sound and make improvement. I could also hear how much I get better.
I did enjoy using it because you can listen to yourself speaking and correct yourself.
I did, being able to hear yourself on the iPods really helped me out to hear where I went wrong.
Yes, definately, because we were able to hear ourselves and then correct it.
Yes, it allowed me to hear myself speak.
Yes, because I heard myself on the iPod and I could have fixed it
Yes I think it helped alot because once you speak into the microphone you can play it back and correct yourself if you pronounce something wrong.
Yes. Because you could play your voice back and listen to your mistakes.
Yes because I can hear myself and figure out what I need to work on.

Recognition of errors

yes, I enjoyed it. It helped me because I could listen to what I was doing wrong.
I thought it was very useful and beneficial. It really helped me because it was easier to identify what I had to improve on.
It was fun using the iPods, getting to find out how good or needs improvement in speaking French.
I did enjoy using them to practice because I could hear myself and hear what's wrong.
I did enjoy using it because you can listen to yourself speaking and correct yourself.
I did, being able to hear yourself on the iPods really helped me out to hear where I went wrong.
Yes, definately, because we were able to hear ourselves and then correct it.
Yes it helped because I got more practice with different words. It also helped me understand words I should pronounce better.
Yes. Because you could play your voice back and listen to your mistakes.
Yes because I can hear myself and figure out what I need to work on.
Yes I think it helped alot because once you speak into the microphone you can play it back and correct yourself if you pronounce something wrong.

Noticing improvement

I thought it was fun and good lesson using the iPods because I got to record myself talking and seeing how much I changed over the months.

My experience using the iPods was good. It helped me improve and was a good way of practicing my French skills.
Also, listening to others we can improve too.
I enjoyed using the iPods to practice French because I could hear how I sound and make improvement. I could also hear how much I get better.
yes I thought so because going back to my first one then to how im doing now - it has changed a lot
Yes because you can hear an improvement each week.
yes, because when I compared a recent podcast to January's, I changed a lot for the better.
Yes, because practiciing for the podcast helped me remember the French alphabet ALOT!
Yes I do beleive it helped because if you here me from the start then at the end, I'm much better at the end.
Yes, I feel like if every week I got more persistant and better.
Everytime I start speaking into the iPods I sound nervous at first, I really enjoyed using iPods.
think that doing the podcasts got us to kind of speak in that accent, and iPods helped improve our vocab by using the app to tell us how to say the word.
They did help me be able to solve my own pronunciation problems quite a bit.

1. Issues
My experience was not so good because every time Sharan and I went to go get an iPod the headphones were always gone because people took more than one pair.
Yes I did enjoy doing the podcasts but sometimes, depending on who is holding the iPod it can change how you perform and it gets a little bit awkward.

1. Fun with a purpose (toy becoming tool) - tool vs toy debate
Using the iPods were fun and they were helpful because you get to use iTalk.
I use my iPod every day and thought it was fun to use it for a different reason other than texting haha
It was fun to use iPods for a learning purpose.
It was fun and I learned more because its an everyday tool we use.
Yes because its electronic and it is helpful at the same time.
Yes because the apps were fun and easy to use.
It was cool because other teachers are so against using technology for learning

5. Motivation
Yes, it did because I was more motivated to practice due to the iPods and the weekly podcasts definately improved my French speaking skills.
It was cool. I like using electronics.
It was cool because other teachers are so against using technology for learning
It was a very fun experience to be able to use iPods in class. I wish all classes were like this one.
I enjoyed it, it made practicing much more interesting.
I enjoyed it and I liked how you let us write our own material.
I enjoyed using the iPods because it was better than average classroom activities.

I actually found it alot more fun than the old traditional style of learning on a chalkboard. It also gets you to interact more with French than other ways. I know this because I absolutely hated learning French, but the iPods made it a lot more fun!

Control group - Final questionnaire
categorized by theme

1. DESCRIPTION OF ACTIVITY
Fairly simple, I wrote a small paragraph or so and just read it out.

2. LEARNING VOCABULARY
Each week I seem to improve and learn more on pronunciation for different words.
It has helped me with my pronunciation and writing. It makes French easier.
I enjoyed podcasting because I improved on my speaking skills and I learned new words
Yes because it made me say words that I have never seen, and improved me in that area.
Yes I did enjoy it because it helped a lot with speaking and writing.

3. Pronunciation

PRACTICE MAKES PERFECT
I found that podcasting each week to practice speaking skills helped my French speaking abilitly alot. When you practice more, you get to speak more and you get better at pronunciation and speaking.
Yes because it let me practice and improve my speaking skills for French.
Yes it has helped my speaking skills because otherwise we wouldn't have gotten as much practice speaking French.
yes because it gave me practice talking in French.
yes because normally in French you just learn out of a book and never speak out loud, so with this you got to hear yourself and see what needed to be worked on.
Yes I did. The more you say things in French the more practice you get.
I think so because it is easier to say the words and not just hear them.
Yes because it made me say words that I have never seen, and improved me in that area.
Yes I think it helped because practice makes perfect
Sometimes I enjoyed it because I find it easier to learn stuff by saying it
Yeah, more practice and at things I wrote myself.

PRONUNCIATION OF DIFFICULT WORDS
I thought it was hard sometimes to speak some of the words. And I'm not a big fan of speaking in front of people so that part was really hard.

PRONUNCIATION
It was fun because we got to just say it how we thought it was said.
yes because it helped with the different sounds.

ASSESSMENT SHEETS
I enjoyed because [the assessment sheet] has shown what I do good and what i need to correct.
yes because [the assessment sheet] helps me practice pronunciation and tells me what I need to correct
yes because normally in French you just learn out of a book and never speak out loud, so with this you got to see what needed to be worked on.

FEELING OF IMPROVEMENT
With each podcast I feel my pronunciation has gotten better.
I think that podcasting every week has made my French speaking skills better.

I think I improved over the weeks of doing the podcasts.
I thought podcasts really helped me with my pronunciation.
It was fun but hard to do. I guess I improved a lot.
It got harder and harder but it helped me speak French.
I liked podcasting. It helped me speak French a lot better.
I did enjoy them because i think its easier to speak French than to write it
I enjoyed podcasting each week because it helped me with my speaking.
Yes I did enjoy it because it helped a lot with speaking and writing.
Yes, because every time I did it, my voice felt stronger speaking in French.
Yes podcasting did help, because I heard a difference when I spoke in French
Yes it helped me improve on my speaking.
yes because my pronunciation got better.
Each week I would practice and I would learn from my mistakes because of podcasts, it also improved my pronunciation.
Each week I seem to improve and learn more on pronunciation for different words.

4. BETTER THAN REGULAR CLASSROOM ACTIVITIES

It wasn't bad but it wasn't fun.
It was boring but I didn't mind.
It's not how I want to spend my own time or anything but it was certainly way better than doing other standard work.
I enjoyed podcasting every week because it is helpful and is a break from normal work.
I enjoyed it because its better than reading the words.

5. ISSUES

Very bad, I don't like to speak French in front of people I don't really know.
But the other times I don't like speaking in front of people.
I didn't enjoy it sometimes. Like when it was cold outside.

6. FEELINGS OF NEGATIVE ACHEIVEMENT IN FRENCH

Not really because I sound bad in French.
Not really because I felt like I did really bad so I never thought it helped me.
I didn't enjoy podcasting because I don't like messing up.

7. CREATIVE PODCASTS

Yeah, more practice and at things I wrote myself.

8. IDEAS FOR FUTURE USE

to listen to myslef speak
i would use it to listen to my own pronunciation and correct myself.
If there was an app that helped with pronunciation that would be good

Appendix B.
Forms and documents

Parental permission and student assent form:

Dear parents, guardians and students,

For the past three years, I have been implementing speaking and pronunciation practice into my French classes to promote oral communication. Students complete a weekly speaking task by creating an audio recording, called a podcast, on a computer or digital device, such as an iPod. Every Monday, students write or are given a few short sentences that use vocabulary and grammar we have learned and practiced in class. I correct their sentencesfor spelling and grammar. Then, throughout the week, students practice reading their sentences to a partner and to me. They receive feedback on how to improve pronunciation. Every Friday, a volunteer is chosen to hold the role of the 'weekly podcaster.' This volunteer holds the microphone, operates the podcasting software, and records each student's voice and name. To assess the podcasts, students receive a yellow sheet on which I include pronunciation successes and one or two things to improve for next time such as: a particular word, sound or a whole sentence. Students receive these sheets with feedback and a mark out of 5 or 10 for each podcast.

I provide all of the equipment necessary for completing this task. If any student is uncomfortable completing the task, s/he may read their sentences to me rather than onto the iPod.

I am currently completing my Master's degree at SFU in the Educational Technology and Learning Design program. As part of my degree, I will be completing research based on an in-class study. I have chosen to research how student pronunciation improves using iPods. The study will involve students practicing as outlined above with one addition. Students will read a paragraph I have prepared for them onto the iPod *without* practice. The paragraph will be short and use vocabulary, grammatical structures and sounds we have learned in class. My aim is to identify mispronunciations. Afterwards, we will continue with our weekly podcasting routine. Over the N weeks of the study, students will also have the opportunity to listen to their past podcasts to identify errors and improve pronunciation one on one. After 3-4 weeks of pronunciation practice and podcasting, students will reread the same paragraph they first read, but this time with one week to practice with peers, myself and the audio recording of their original podcast. Students will ***not*** be graded on these paragraphs. The only information recorded formy research will be a transcription of their pronunciation and the number of mispronunciations and the type of pronunciation made. An example is provided on next page.

I request your permission to collect and publish anonymous data from the weekly podcasts. Please keep in mind that student names and grades are ***not*** being recorded for the study. If you have any questions or concerns, please do not hesitate to contact me at woloshen_s@sd36.bc.ca. Please fill out the form on page 3 and return to Mme Woloshen at your earliest convenience.

Study Schedule

Week 1 - survey of French studies up until this point (5-6 questions)
- students podcast a prepared paragraph on Friday - no practice

Week 2 - weekly podcast

Week 3 - weekly podcast

Week 4 - weekly podcast

Week 5 - students podcast the same paragraph from week 1 - with one week of practice and access to the original podcast to review errors

Example of data to be collected:

Student	Student wrote	Student pronunciation	French pronunciation	# or mispronunciations	Type of pronunciation
1	Q**u**el p**ag**e?	[kwel] [page]	[kɛl] [paʒ]	2	1
2	J'aime la pizza.	[jem] [la] [peetza]	[ʒ ɛm] [la] [pidza]	0	4
3	P**uis-j**e alle**r** aux toilettes?	[pwej] [all] [er] [o] [twalɛt]	[pɥi] [ʒal] [ale] [o] [twalɛt]	3	2

	Pronunciation Rubric
4	Pronunciation is comparable to native speech
3	Pronunciation nears native speech with *minor errors**
2	Pronunciation is influenced by first language with many errors.
1	Pronunciation is dominated by first language with many errors.

Please check the appropriate box:

☐ I give permission for my (my child's) podcasts to be collected as data and published in the study.

☐ I **do not** give permission for my (my child's) podcasts to be collected as data and published in the study.

Parent/Guardian signature:

_____ Date: _____

Student name: (print)

_____

Student signature:

_____ Date: _____

Pre- and Posttest Script:

Bonjour, comment ça va?
Je m'appelle lucie.
Quel est ton nom?
J'aime rencontrer de nouveaux amis.
Mon anniversaire est le trente septembre.
Quand est ton anniversaire?
Pendant les vacances, je vais jouer au basket.
Aussi, je vais jouer du piano.
Qu'est-ce que tu vas faire?
Est-ce que tu joues aux sports?
Est-ce que tu joues d'un instrument ?
J'adore la nourriture.
Je mange beaucoup de sucre comme les fraises et les champignons.
Quelle est ta nourriture préférée?
Moi, j'aime le gâteau parce que je mange beaucoup de sucre.
Est-ce que tu aimes la crème glacée?
Au revoir, à plus tard!

Phonetic Pre- and Posttest Script:

bɔ̃ʒuʀ kɔmɑ̃ sa va
ʒə mapɛl lysi
kɛl ɛ tɔ̃ nɔ̃
ʒɛm ʀɑ̃kɔ̃tʀe də nuvoz- ami
mɔ̃n- anivɛʀsɛʀ ɛ lə tʀɑ̃t sɛptɑ̃bʀ
kɑ̃ ɛ tɔ̃n- anivɛʀsɛʀ
pɑ̃dɑ̃ le vakɑ̃s ʒə ve ʒue o baskɛt
osi ʒə ve ʒue dy pjano
kɛskə ty va fɛʀ
ɛskə ty ʒu o spɔʀ
ɛskə ty ʒu dœ̃n- ɛ̃stʀymɑ̃
ʒadɔʀ la nuʀityʀ
ʒə mɑ̃ʒ boku də fʀɥi kɔm le fʀɛz e le ʃɑ̃piɳɔ̃
kɛl ɛ ta nuʀityʀ pʀefeʀe
mwa ʒɛm le gɑto paʀskə ʒə mɑ̃ʒ boku də sykʀ
ɛskə ty ɛm la kʀɛm glase
o ʀəvwaʀ a ply taʀ.

Transcription sheets

Transcription
Group: _____ Participant: _____ Pre-test / Post-test

bɔ̃ʒuʀ kɔmɑ̃ sa va
ʒə mapɛl lysi
kɛl ɛ tɔ̃ nɔ̃
ʒɛm ʀɑ̃kɔ̃tʀe də nuvoz- ami
mɔ̃n- anivɛʀsɛʀ ɛ lə tʀɑ̃t sɛptɑ̃bʀ
kɑ̃ ɛ tɔ̃n- anivɛʀsɛʀ
pɑ̃dɑ̃ le vakɑ̃s ʒə ve ʒue o baskɛt
osi ʒə ve ʒue dy pjano (piano)
kɛskə ty va fɛʀ
ɛskə ty ʒu o spɔʀ
ɛskə ty ʒu dœn- ɛ̃stʀymɑ̃
ʒadɔʀ la nuʀityʀ
ʒə mɑ̃ʒ boku də fʀɥi kɔm le fʀɛz e le ʃɑ̃piɳɔ̃

kɛl ɛ ta nuʀityʀ pʀefeʀe
mwa ʒɛm le gɑto paʀskə ʒə mɑ̃ʒ boku də sykʀ
ɛskə ty ɛm la kʀɛm glase
o ʀəvwaʀ a ply taʀ.
Total Errors:

Questionnaires

Baseline questionnaire for both groups:

Background information

1. What was your first spoken language?
2. What language(s) do you mostly speak at home?
3. How many languages do you speak?

French language class

4. What grade did you start learning French?
5. How much speaking practice did you do in French class before this year?
6. Not including this year, what was your attitude towards learning French?

Final questionnaire - Experimental group questions:

1. Describe your experience of using iPods to practice French-speaking skills.
2. Did you enjoy or not enjoy using iPods to practice French-speaking skills? Explain.
3. Did you feel that using iPods and the weekly podcasts helped your French speaking skills? Why or why not?
4. How else would you use iPods for French language learning? (Suggestions for the future)

Final questionnaire - Control group questions:

1. Describe your experience of podcasting each week to practice speaking skills.
2. Did you enjoy or not enjoy podcasting almost each week to practice French\-speaking skills? Explain.
3. Did you feel that podcasting each week helped your French speaking skills? Why or why not.
4. How else would you use iPods for French language learning?

Appendix C.
Codebook

Phonemes of focus:

Grapheme:	r	qu	ou	j	u	en/em/an
Phoneme:	[ʀ]	[k]	[u]	[ʒ]	[y]	[ɑ̃]

Counting errors:

1. If [ɑ̃] [ɔ̃] are pronounced as: [an] [ɛn] [ɛm] = 2 errors since the original phoneme is not being pronounced and two phonemes are replacing it. This type of pronunciation does not indicate any adoption of French pronunciation.

2. If [ɑ̃] [ɔ̃] are pronounced as: [ɑ̃n] [ɔ̃n] [ɑ̃m] [ɔ̃m] = 1 error since the original phoneme is being pronounced but an additional phoneme is being added. This type of pronunciation illustrates a semi adoption of French pronunciation with English as well.

3. If the phoneme [k] (grapheme 'qu') is pronounced as: [kw] it will be counted as 1 error. The originial phoneme in this case is being pronounced along with an addition. It could be argued that this would constitute 2 errors since the phoneme is being pronounced in the English pronunciation rather than the French. However, the correct phoneme is being pronounced with an additional phoneme for our purposes be counted as 1 error.

4. If [ʒ] is pronounced as [dʒ] = 1 error. Much like [k] the addition of the [d] is something that follows English pronunciation. It could be counted as 2 errors, but much like the example above, the correct phoneme is being pronounced but has an added phoneme that will thus be counted as 1 error.

5. Addition of a phoneme = 1 error for every phoneme added

6. Omission of a phoneme = 1 error for every phoneme omitted

7. Omission of the liaisons [z-] [n-] = 0 error This was only modelled orally by the instructor but never explicitly taught or explained. It is covered in later curriculums and was not explicitly taught to avoid learner confusion. Many students pronounce the liaison for certain sentences such as: "*Mon anniversaire...*" [mɔ̃n- anivɛʀsɛʀ], because this was how it was learned in the beginning through teacher modelling. Participants are not penalized for having or not having the liaison.

8. The phoneme [sɛptɑ̃:bʀ] (grapheme: septembre) or [sykʀ] is being pronounced as [sɛptɑ̃:bʀə] and [sykʀə] and is counted as 0 error. When the instructor models single word pronunciation, her speech is slowed and often, the final grapheme 'e' is over enunciated. As such, the participants would pronounce in a similar fashion and are not penalized for adding the additional [ə]. Over enunciating the final 'e' of certain words is common for beginners and I did not correct them for this. However, if

students added an extra pronunciation other than [ə] such as: [e] this was counted as an error.

9. If [ʒɛm] was pronounced as [ʒeIm] = 1 error as it is listed as 1 phoneme on the IPA English phonetic alphabet.

10. If 1 phoneme is *replaced* with an English or another phoneme that resembles the original it is counted as 1 error. For instance: if the [ɛ] in [baskɛt] is pronounced with the English phoneme [I] as in [baskIt], this is counted as 1 error. Or, if [dy] is pronounced with a phoneme that resembles the original [d^] it is counted as 1 error and not as 2 (for adding a phoneme and omitting another).

11. If 1 or 2 phonemes are replaced with phonemes that do not resemble the original, each phoneme added and missed will be counted as errors. For instance: if the word [vakɑ̃s] is pronounced [vakIne], the speaker has not demonstrated sufficient pronunciation and has thus added phonemes that do not resemble the original and has also omitted 2 important phonemes. So, the error count in this example is [Ine] + [ɑ̃s] = 5 errors.

Transcription:

The French phoneme [ɛ] is shorter than the English IPA phoneme of [eI]. The latter of which was used in transcription when students used a longer 'ay' pronunciation. For example in the word "J'aime" should be pronounced as [ʒɛm] but participants often say [ʒeIm] combining both French and English pronunciation.

If a participant corrects their own pronunciation, the correction is transcribed rather than the first pronunciation. The goal of any language class is for students to transfer knowledge of pronunciation practice to every day speaking tasks. Thus, if students have pronounced something incorrectly, realize it and then self-correct, the goal of any language class has been met.